Appendix A: Detailed Electronic Database Search Strategies

Diagnostic Key Questions (KQ1 and 2)

PubMed Strategy

((((((((("Kidney Neoplasms"[Mesh] OR ((Kidney [tiab] or renal[tiab]) AND (cancer [tiab] or carcinoma [tiab] or neoplasm [tiab] or tumor [tiab] or malignancy [tiab] or adenocarcinoma [tiab])) OR “RCC” [tiab] OR “renal mass”[tiab] OR “renal masses”[tiab]OR “Hypernephromas”[tiab] OR “grawitz tumor”[tiab] OR ((Carcinoma[tiab]) AND (Renal Collecting Duct[tiab] OR Hypernephroid[tiab] OR nephroid[tiab]))))

AND (Biopsy, Fine-Needle [mh] OR ((percutaneous[tiab] OR needle[tiab] OR aspiration[tiab] OR core [tiab] OR tru-cut[tiab]) AND (biopsy [tiab] OR sampling[tiab])) OR "FNA"[tiab] OR nomograms[mh] OR nomograms[tiab] OR nomogram[tiab] OR Urinalysis [mh] OR Urinalyses [tiab] OR urine[tiab] OR Blood Cell Count [mh] OR "Blood Cell Count" [tiab] OR WBC [tiab] OR leukocyte[tiab] OR leukocytes[tiab] OR RBC[tiab] OR erythrocyte[tiab] OR thrombocyte[tiab] OR platelet[tiab] OR Blood Coagulation Tests [mh] OR blood coagulation [tiab] OR Thromboplastin Time [tiab] OR Coagulation Time [tiab] OR Prothrombin Time [tiab] OR Thrombotest [tiab] OR quick test [tiab] OR Russell Viper Venom Time [tiab] OR Blood Sedimentation [mh] OR blood Sedimentation[tiab] OR "Sedimentation rate*"[tiab] OR "Diagnostic Imaging"[Mh] OR "Computerized tomography"[tiab] OR "Computed tomography"[tiab] OR "CT"[tiab] OR Ultrasonography[tiab] OR Sonography[tiab] OR ultrasound [tiab] OR "magnetic resonance" [tiab])) AND (Accura*[tiab] OR diagnosis [ti] OR Sensitivity and specificity[mh] OR Sensitivity[tiab] OR Specificity[tiab] OR False positive reactions[mh] OR false positive*[tiab] OR False negative reactions[mh] OR False negative*[tiab] OR Predict*[tiab] OR predictive value of tests[mh] OR score[tiab] OR scores[tiab]))) NOT (((animals[mh] NOT humans[mh]))))) NOT ((("Case Reports"[pt] OR “case report” [ti] OR "Clinical Conference"[pt] OR Comment[pt] OR comment[ti] OR comments [ti] OR Editorial[pt] OR News[pt] OR "Newspaper Article"[pt] OR review[ti] OR review[pt] OR letter[pt] OR meta-analy* [ti] OR metaanaly*[ti] OR meta-analysis[pt]))))) AND ("1997/01/01"[PDat] : "2014/12/31"[PDat]))) NOT (((((((kidney neoplasms [mh] OR ((Kidney [tiab] or renal[tiab]) AND (cancer [tiab] or carcinoma [tiab] or neoplasm [tiab] or tumor [tiab] or malignancy [tiab] or adenocarcinoma [tiab])) OR “RCC” [tiab] OR “renal mass”[tiab] OR “renal masses”[tiab]OR “Hypernephromas”[tiab] OR “grawitz tumor”[tiab] OR ((Carcinoma[tiab]) AND (Renal Collecting Duct[tiab] OR Hypernephroid[tiab] OR nephroid[tiab])))) AND (Nephrectomy [mh] OR Nephrectomy [tiab] OR “Nephron sparing surgery”[tiab] OR Peritoneoscopy[tiab] OR Celioscopy[tiab] OR ((cryoablation [tiab] OR radiofrequency [tiab]) AND (renal[tiab] OR kidney [tiab])) OR Cryosurgery [mh] OR Cryosurgery [tiab] OR cryotherapy [tiab] OR "thermal ablation" [tiab] OR surveillance [tiab] OR Watchful Waiting [mh]))) NOT ((animals[mh] NOT humans[mh]))))) NOT (("Case Reports"[pt] OR “case report*”[ti] OR "Clinical Conference"[pt] OR Comment[pt] OR comment[ti] OR comments [ti] OR Editorial[pt] OR News[pt] OR "Newspaper Article"[pt] OR review[ti] OR review[pt] OR letter[pt] OR meta-analy* [ti] OR metaanaly*[ti] OR meta-analysis[pt]))) AND ("1997/01/01"[PDat] : "2014/12/31"[PDat]))

Management Key Questions (KQ3a and 3b)

PubMed Strategy

kidney neoplasms [mh] OR ((Kidney [tiab] or renal[tiab]) AND (cancer [tiab] or carcinoma [tiab] or neoplasm [tiab] or tumor [tiab] or malignancy [tiab] or adenocarcinoma [tiab])) OR “RCC” [tiab] OR “renal mass”[tiab] OR “renal masses”[tiab]OR “Hypernephromas”[tiab] OR “grawitz tumor”[tiab] OR ((Carcinoma[tiab]) AND (Renal Collecting Duct[tiab] OR Hypernephroid[tiab] OR nephroid[tiab]))
AND
Nephrectomy [mh] OR Nephrectomy [tiab] OR “Nephron sparing surgery”[tiab] OR Peritoneoscopy[tiab] OR Celioscopy[tiab] OR ((cryoablation [tiab] OR radiofrequency [tiab]) AND (renal[tiab] OR kidney [tiab])) OR Cryosurgery [mh] OR Cryosurgery [tiab] OR cryotherapy [tiab] OR "thermal ablation" [tiab] OR surveillance [tiab] OR Watchful Waiting [mh]
NOT
(animals[mh] NOT humans[mh])
NOT
("Case Reports"[pt] OR “case report*”[ti] OR "Clinical Conference"[pt] OR Comment[pt] OR comment[ti] OR comments [ti] OR Editorial[pt] OR News[pt] OR "Newspaper Article"[pt] OR review[ti] OR review[pt] OR letter[pt] OR meta-analy* [ti] OR metaanaly*[ti] OR meta-analysis[pt])

Appendix B: Forms

Figure B1: Abstract Review Form

Submit Form and go to This Form - Next Reference or Skip to Next

Does this article POTENTIALLY apply to ANY of the key questions?

- ○ No
- ◉ Yes-Include article for full text screening
- ○ Unclear-No abstract or cannot tell from abstract alone --- get it for full-text screen

---

Key Questions

Key Question 1: In patients that undergo surgery for a renal mass suspicious for stage I or II renal cell carcinoma, how does the pathologic diagnosis compare to the likelihood of malignancy predicted by using a pre-operative composite profile of patient characteristics including demographics, clinical characteristics, blood/urine markers, and/or imaging?

For the purpose of this question and further key questions, a renal mass suspicious for stage I or II renal cell carcinoma includes all solid renal masses and cystic renal masses with a solid component.

Key Question 2: In patients with a renal mass suspicious for stage I or II renal cell carcinoma who are selected for active surveillance, what is the ultimate risk of malignancy as defined by subsequent (greater than six months from diagnosis) biopsy, surgery, metastases or death and how does this compare to a pre-operative composite profile of patient characteristics including demographics, clinical characteristics, blood/urine markers, and/or imaging?

Key Question 3: What is the accuracy (i.e., sensitivity, specificity, positive and negative predictive value) of percutaneous renal mass sampling (fine needle aspiration or core biopsy, with cytopathology or surgical pathology) in the diagnosis of a renal mass suspicious for stage I or II renal cell carcinoma?

Key Question 4: In patients with a renal mass suspicious for stage I or II renal cell carcinoma, what are the adverse effects associated with using renal mass sampling (see KQ2) to estimate the risk of malignancy, including direct complications (e.g., pain, infection, hemorrhage, radiation exposure) and harms related to false positives, false negatives, or non-diagnostic results?

Key Question 5a: In patients with a renal mass suspicious for stage I or II renal cell carcinoma, what is the effectiveness and comparative effectiveness of the available management strategies on adverse effects and final health outcomes?

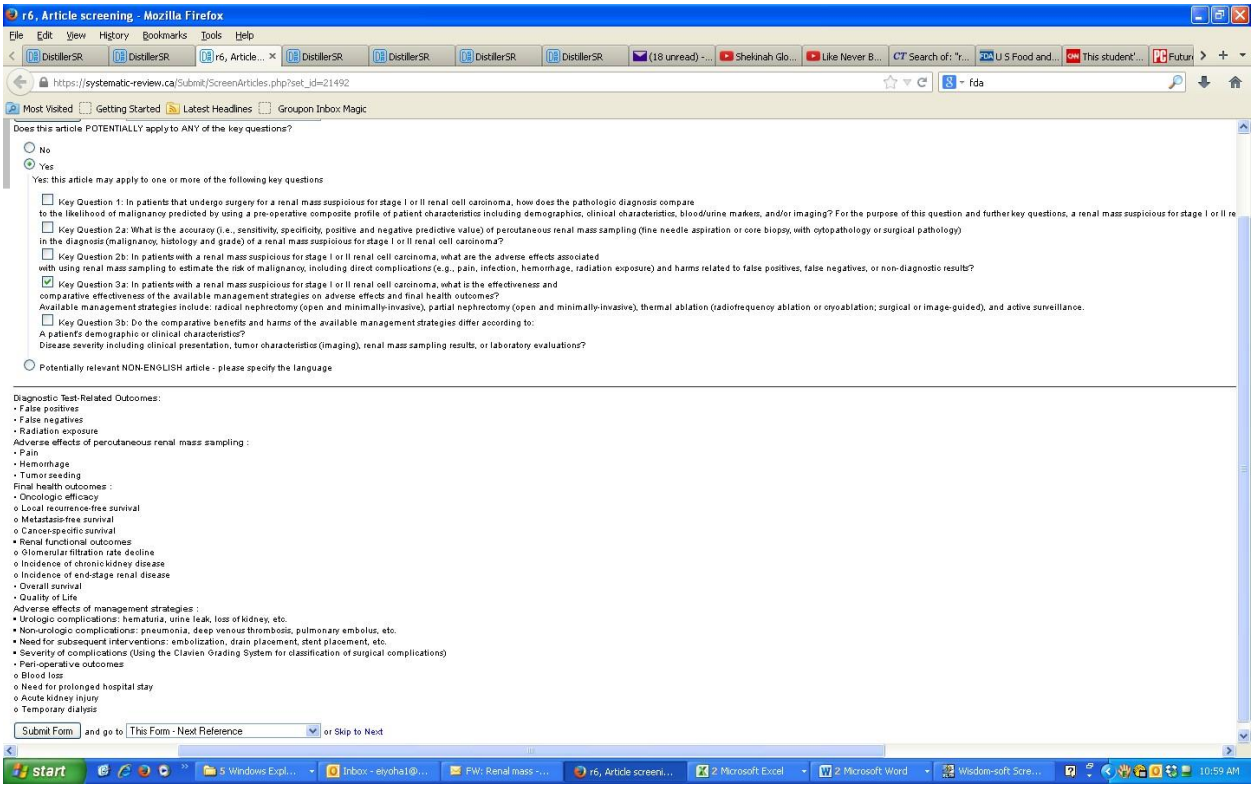
Available management strategies include: radical nephrectomy (open and minimally-invasive), partial nephrectomy (open and minimally-invasive), thermal ablation (radiofrequency ablation or cryoablation; surgical or image-guided), and active surveillance. The adverse effects and health outcomes of interest include all of the potential benefits and harms listed under outcomes in the PICOTS framework below.

Key Question 5b: Do the comparative benefits and harms of the available management strategies differ according to:

- A patient's demographic or clinical characteristics?
- Disease severity including clinical presentation, tumor characteristics (imaging), renal mass sampling results, or laboratory evaluations?

Submit Form and go to This Form - Next Reference or Skip to Next

Figure B2: Article Review Form



r6, Article screening - Mozilla Firefox

File Edit View History Bookmarks Tools Help

https://systematic-review.ca/Submit/ScreenArticles.php?set_id=21492

Most Visited | Getting Started | Latest Headlines | Groupon Inbox Magic

Does this article POTENTIALLY apply to ANY of the key questions?

- No
- Yes

Yes: this article may apply to one or more of the following key questions

- [ ] Key Question 1: In patients that undergo surgery for a renal mass suspicious for stage I or II renal cell carcinoma, how does the pathologic diagnosis compare to the likelihood of malignancy predicted by using a pre-operative composite profile of patient characteristics including demographics, clinical characteristics, blood/urine markers, and/or imaging? For the purpose of this question and further key questions, a renal mass suspicious for stage I or II re
- [ ] Key Question 2a: What is the accuracy (i.e., sensitivity, specificity, positive and negative predictive value) of percutaneous renal mass sampling (fine needle aspiration or core biopsy, with cytopathology or surgical pathology) in the diagnosis (malignancy, histology and grade) of a renal mass suspicious for stage I or II renal cell carcinoma?
- [ ] Key Question 2b: In patients with a renal mass suspicious for stage I or II renal cell carcinoma, what are the adverse effects associated with using renal mass sampling to estimate the risk of malignancy, including direct complications (e.g., pain, infection, hemorrhage, radiation exposure) and harms related to false positives, false negatives, or non-diagnostic results?
- [x] Key Question 3a: In patients with a renal mass suspicious for stage I or II renal cell carcinoma, what is the effectiveness and comparative effectiveness of the available management strategies on adverse effects and final health outcomes?
  Available management strategies include: radical nephrectomy (open and minimally-invasive), partial nephrectomy (open and minimally-invasive), thermal ablation (radiofrequency ablation or cryoablation; surgical or image-guided), and active surveillance.
- [ ] Key Question 3b: Do the comparative benefits and harms of the available management strategies differ according to:
  A patient's demographic or clinical characteristics?
  Disease severity including clinical presentation, tumor characteristics (imaging), renal mass sampling results, or laboratory evaluations?

- Potentially relevant NON-ENGLISH article - please specify the language

Diagnostic Test-Related Outcomes:
- False positives
- False negatives
- Radiation exposure

Adverse effects of percutaneous renal mass sampling :
- Pain
- Hemorrhage
- Tumor seeding

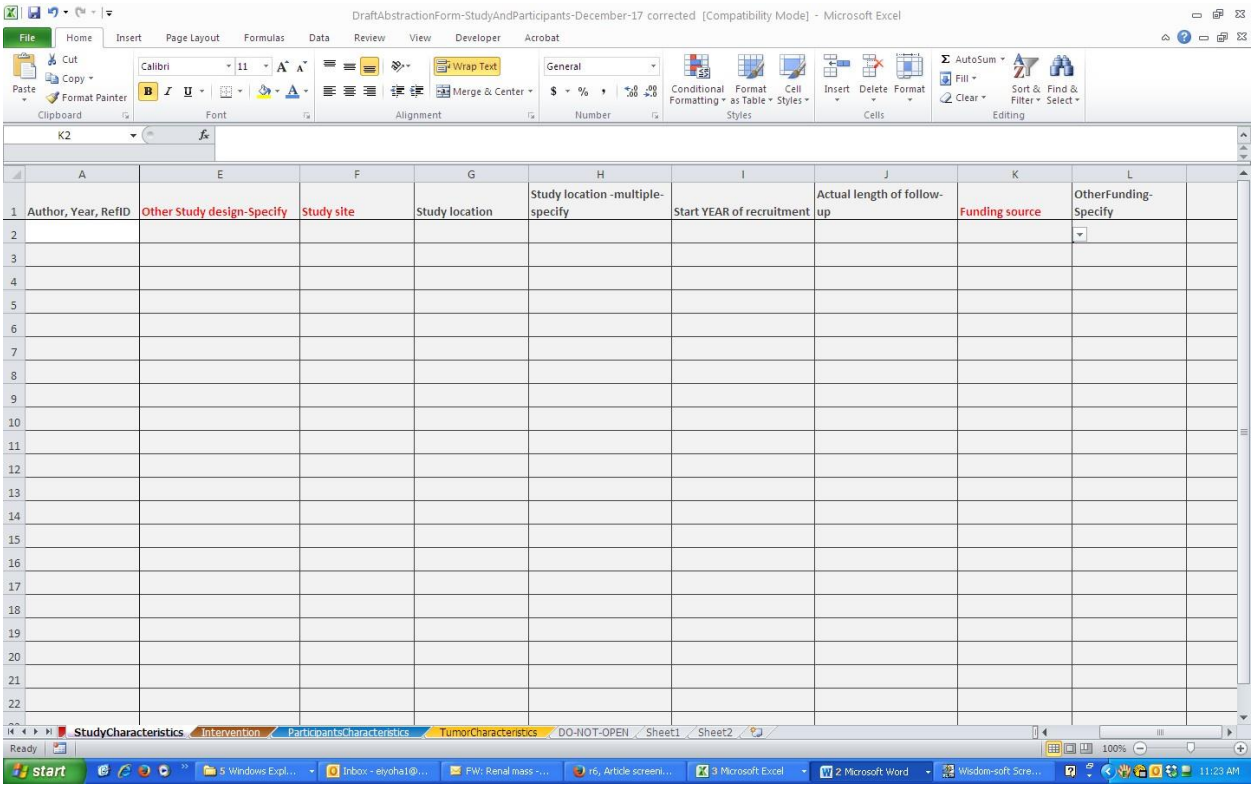
Final health outcomes :
- Oncologic efficacy
  - o Local recurrence-free survival
  - o Metastasis-free survival
  - o Cancer-specific survival
- Renal functional outcomes
  - o Glomerular filtration rate decline
  - o Incidence of chronic kidney disease
  - o Incidence of end-stage renal disease
- Overall survival
- Quality of Life

Adverse effects of management strategies :
- Urologic complications: hematuria, urine leak, loss of kidney, etc.
- Non-urologic complications: pneumonia, deep venous thrombosis, pulmonary embolus, etc.
- Need for subsequent interventions: embolization, drain placement, stent placement, etc.
- Severity of complications (Using the Clavien Grading System for classification of surgical complications)
- Peri-operative outcomes
  - o Blood loss
  - o Need for prolonged hospital stay
  - o Acute kidney injury
  - o Temporary dialysis

Submit Form and go to This Form - Next Reference or Skip to Next

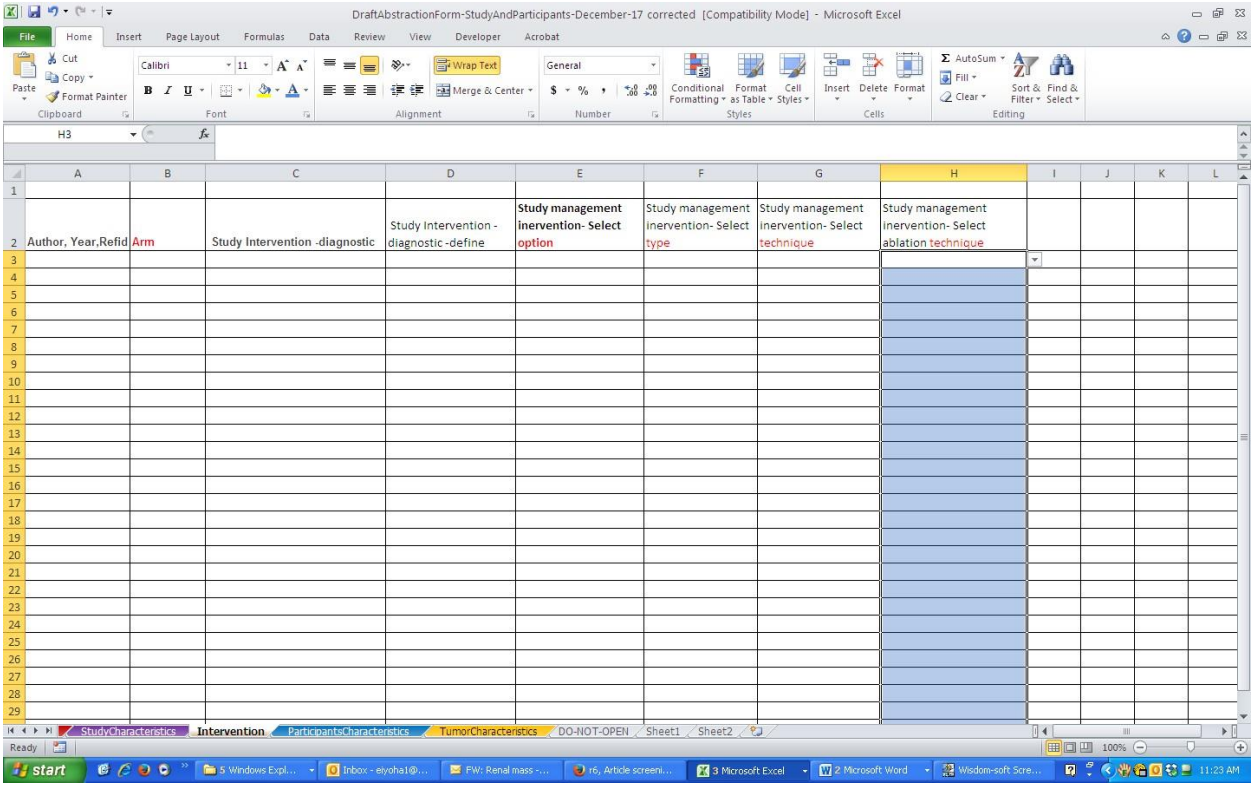
Data Abstraction Forms

Figure B3: Study characteristics



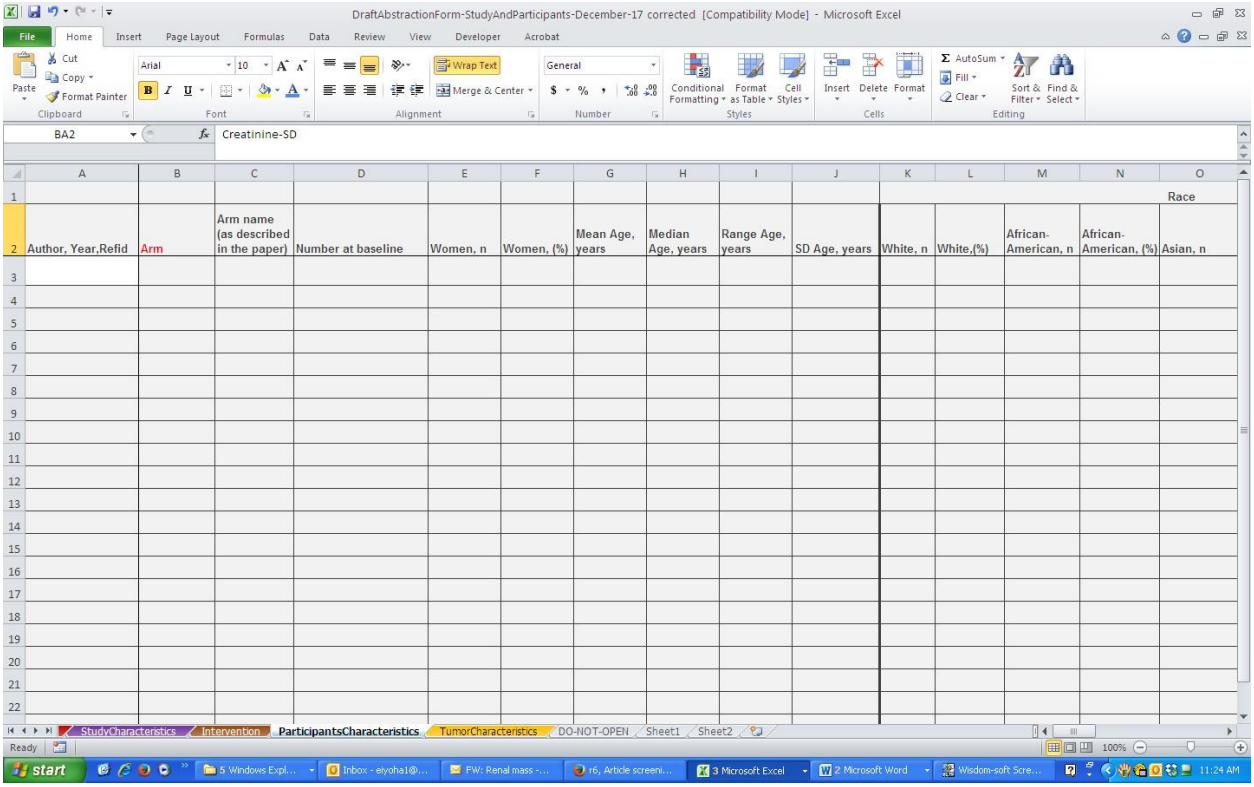
Author, Year, RefID	Other Study design-Specify	Study site	Study location	Study location -multiple-specify	Start YEAR of recruitment	Actual length of follow-up	Funding source	OtherFunding-Specify

Figure B4: Intervention



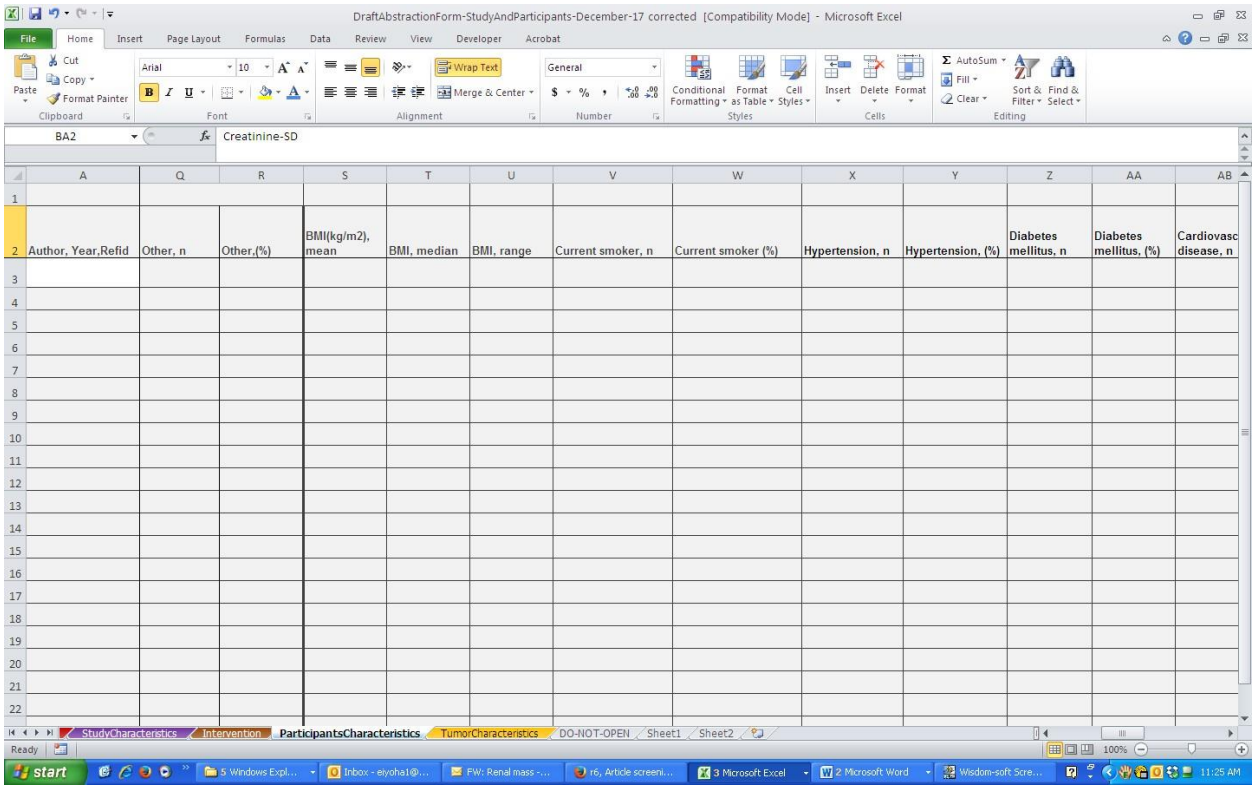
Author, Year,Refid	Arm	Study Intervention -diagnostic	Study Intervention - diagnostic -define	Study management inervention- Select option	Study management inervention- Select type	Study management inervention- Select technique	Study management inervention- Select ablation technique

Figure B5: Participants characteristics



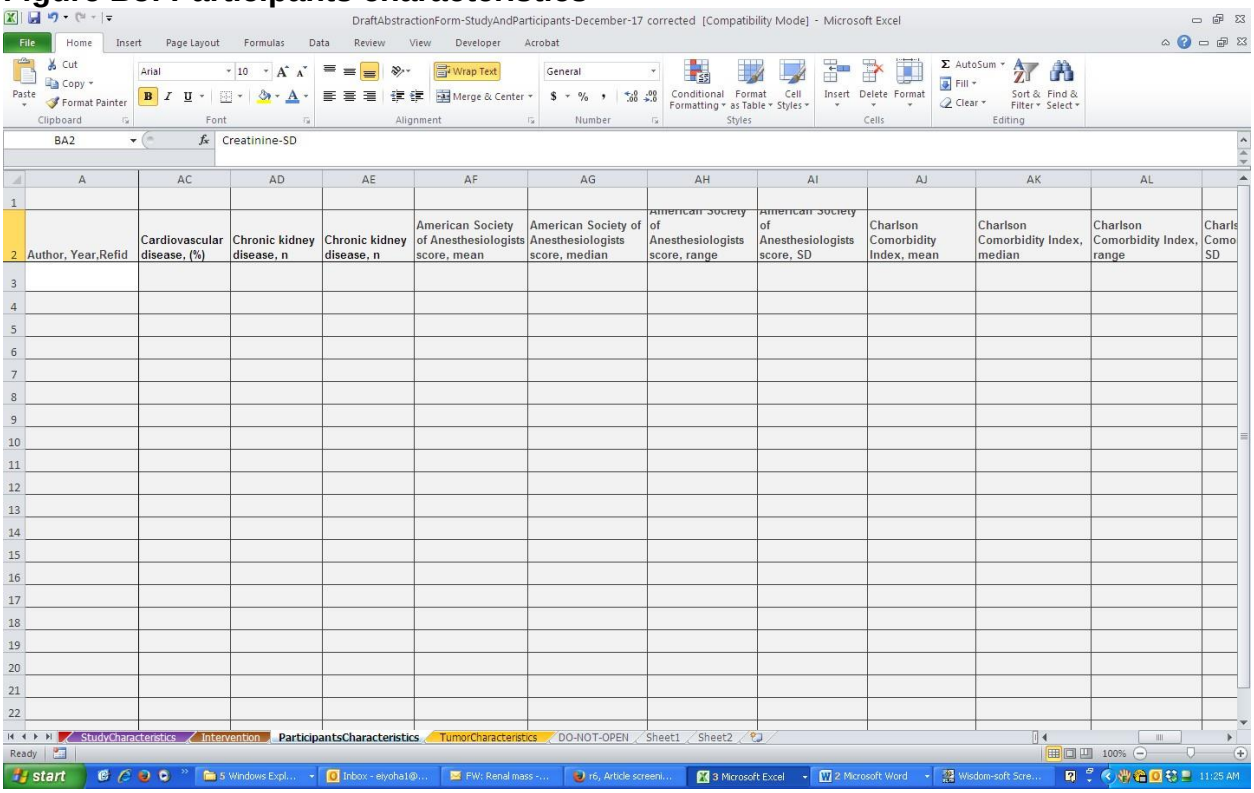
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1															Race
2	Author, Year,Refid	Arm	Arm name (as described in the paper)	Number at baseline	Women, n	Women, (%)	Mean Age, years	Median Age, years	Range Age, years	SD Age, years	White, n	White,(%)	African-American, n	African-American, (%)	Asian, n
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															

Figure B5: Participants characteristics



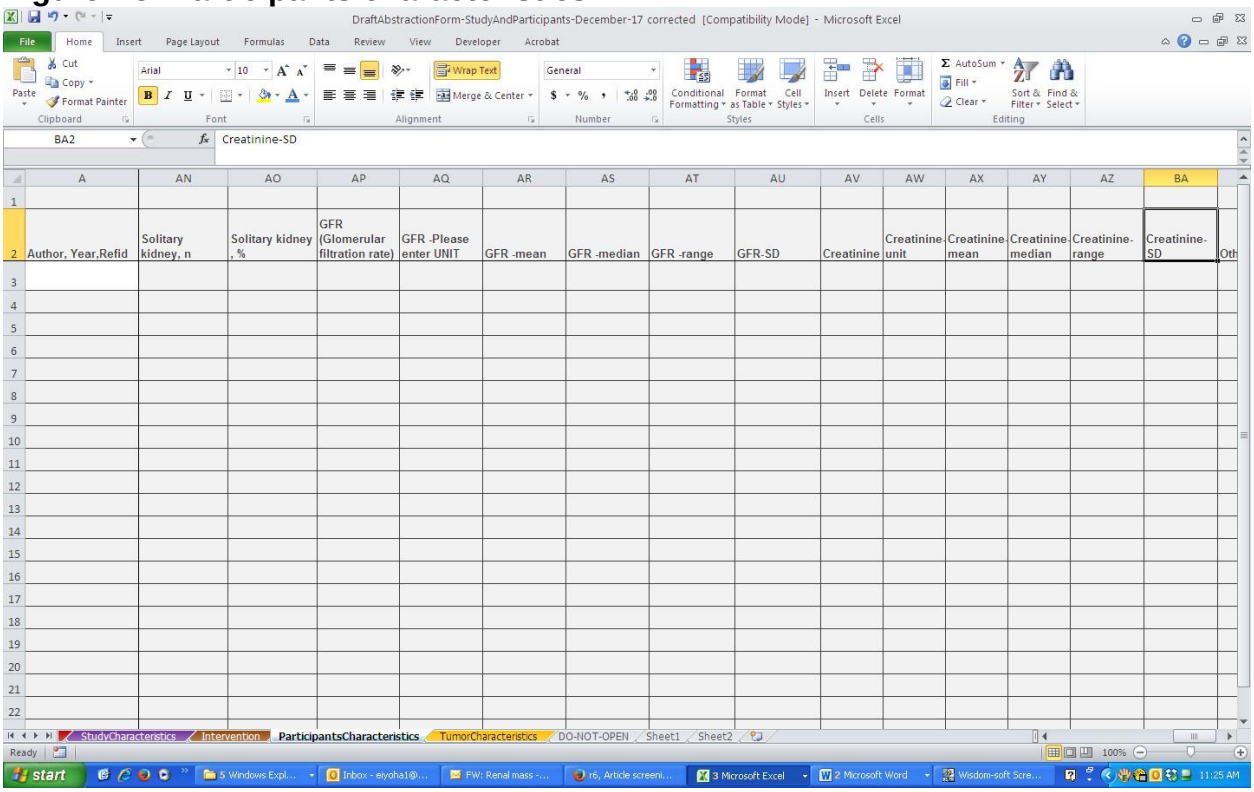
Author, Year,Refid	Other, n	Other,(%)	BMI(kg/m2), mean	BMI, median	BMI, range	Current smoker, n	Current smoker (%)	Hypertension, n	Hypertension, (%)	Diabetes mellitus, n	Diabetes mellitus, (%)	Cardiovasc disease, n

Figure B5: Participants characteristics



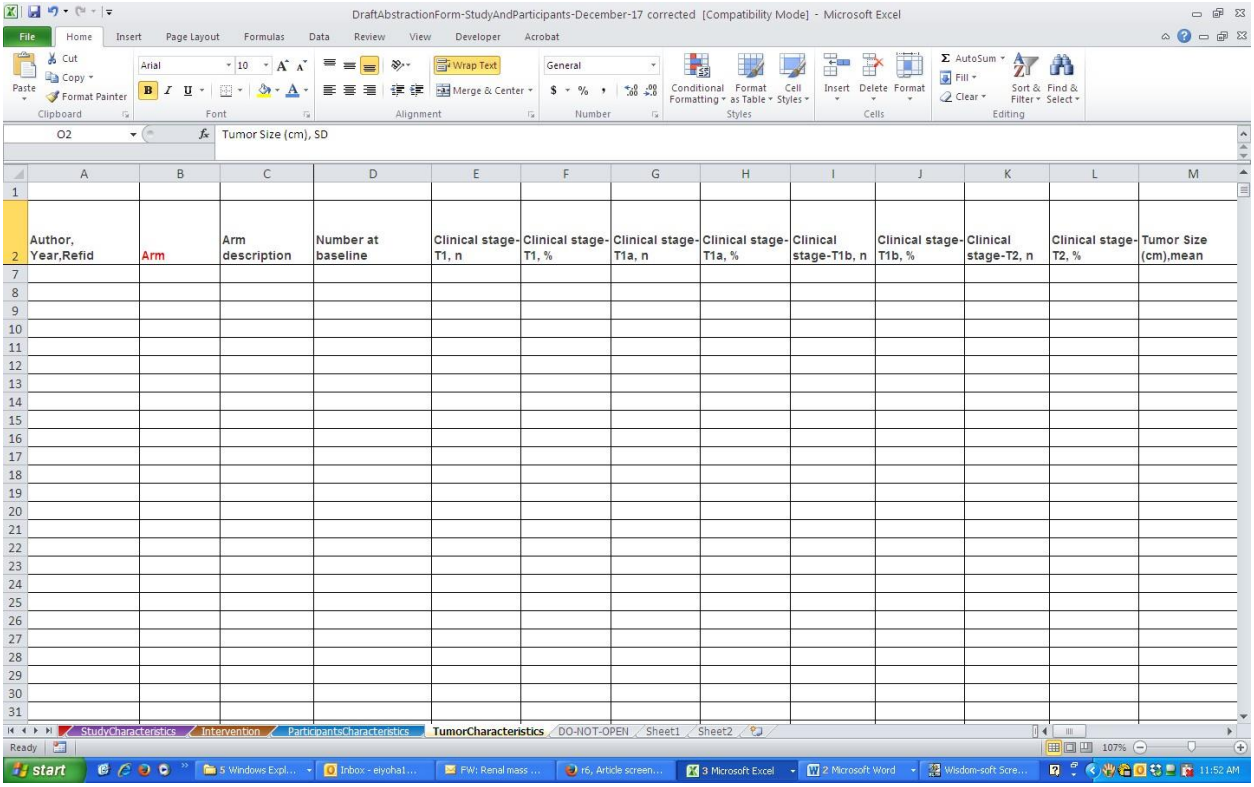
Author, Year,Refid	Cardiovascular disease, (%)	Chronic kidney disease, n	Chronic kidney disease, n	American Society of Anesthesiologists score, mean	American Society of Anesthesiologists score, median	American Society of Anesthesiologists score, range	American Society of Anesthesiologists score, SD	Charlson Comorbidity Index, mean	Charlson Comorbidity Index, median	Charlson Comorbidity Index, range	Charls Como SD

Figure B5: Participants characteristics



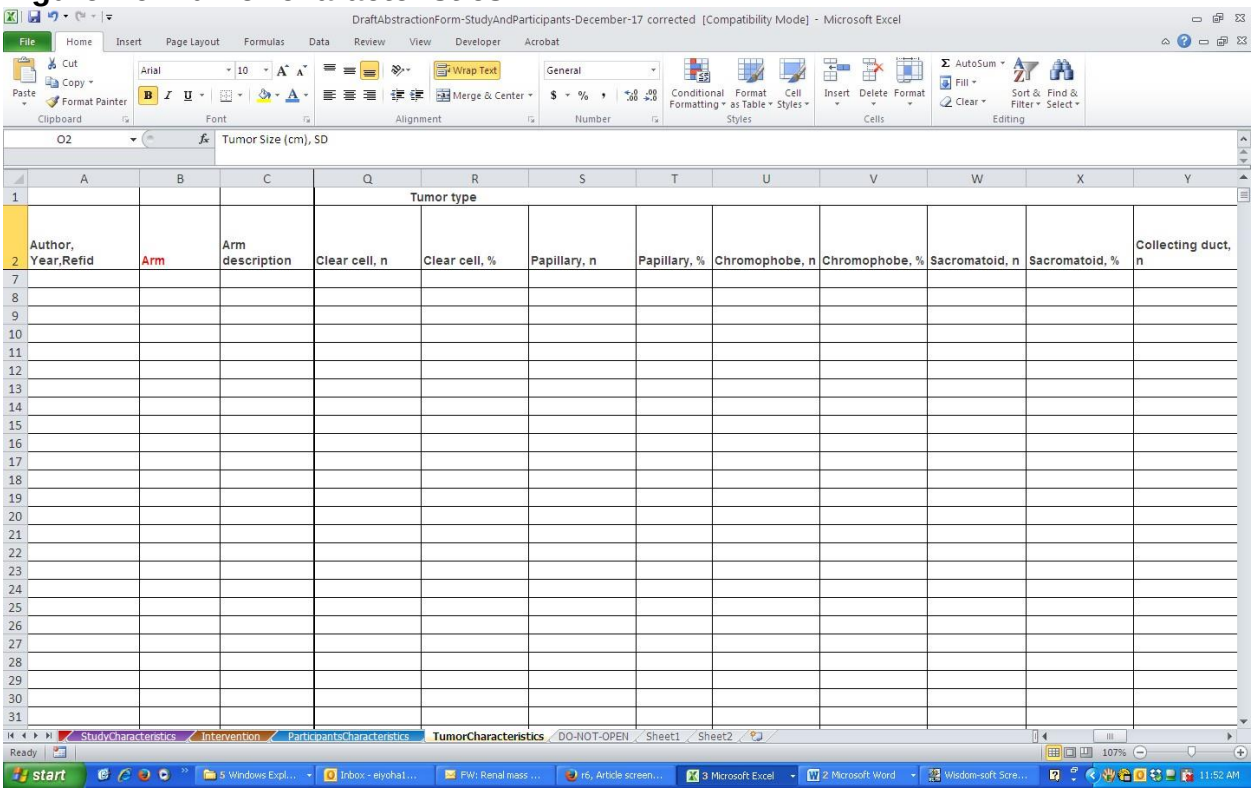
Author, Year,Refid	Solitary kidney, n	Solitary kidney, %	GFR (Glomerular filtration rate)	GFR -Please enter UNIT	GFR -mean	GFR -median	GFR -range	GFR-SD	Creatinine	Creatinine-unit	Creatinine-mean	Creatinine-median	Creatinine-range	Creatinine-SD	Oth

Figure B6: Tumor characteristics



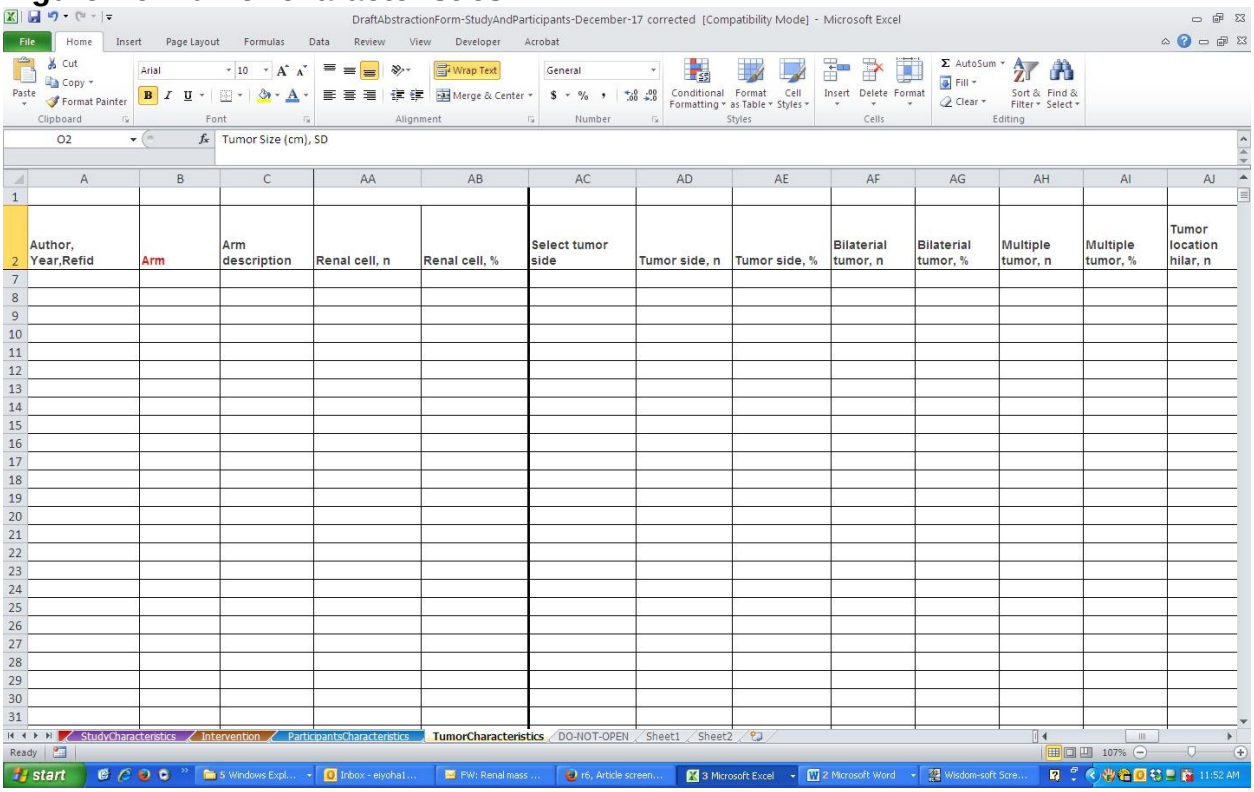
Author, Year,Refid	Arm	Arm description	Number at baseline	Clinical stage-T1, n	Clinical stage-T1, %	Clinical stage-T1a, n	Clinical stage-T1a, %	Clinical stage-T1b, n	Clinical stage-T1b, %	Clinical stage-T2, n	Clinical stage-T2, %	Tumor Size (cm),mean

Figure B6: Tumor characteristics



	A	B	C	Q	R	S	T	U	V	W	X	Y
1				Tumor type								
2	Author, Year,Refid	Arm	Arm description	Clear cell, n	Clear cell, %	Papillary, n	Papillary, %	Chromophobe, n	Chromophobe, %	Sacromatoid, n	Sacromatoid, %	Collecting duct, n

Figure B6: Tumor characteristics



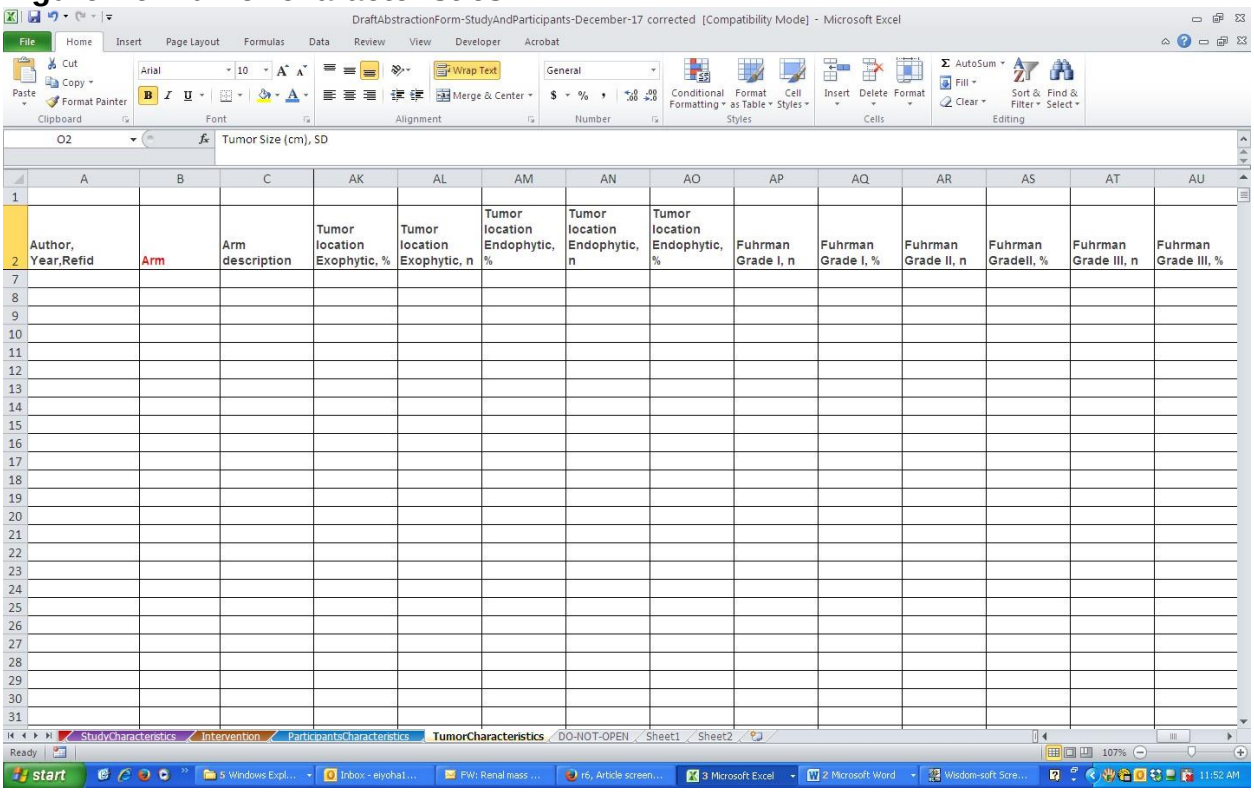
DraftAbstractionForm-StudyAndParticipants-December-17 corrected [Compatibility Mode] - Microsoft Excel

O2: Tumor Size (cm), SD

Author, Year,Refid	Arm	Arm description	Renal cell, n	Renal cell, %	Select tumor side	Tumor side, n	Tumor side, %	Bilaterial tumor, n	Bilaterial tumor, %	Multiple tumor, n	Multiple tumor, %	Tumor location hilar, n

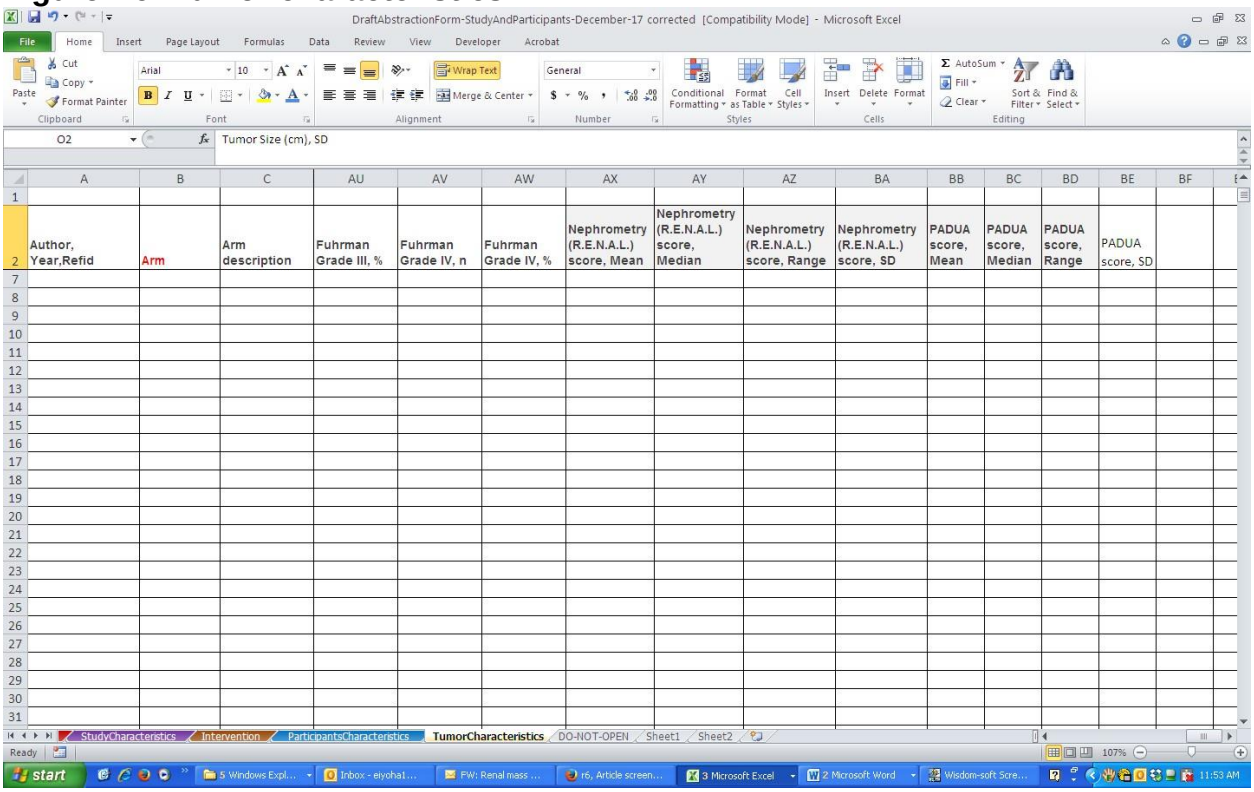
StudyCharacteristics | Intervention | ParticipantsCharacteristics | TumorCharacteristics | DO-NOT-OPEN | Sheet1 | Sheet2

Figure B6: Tumor characteristics



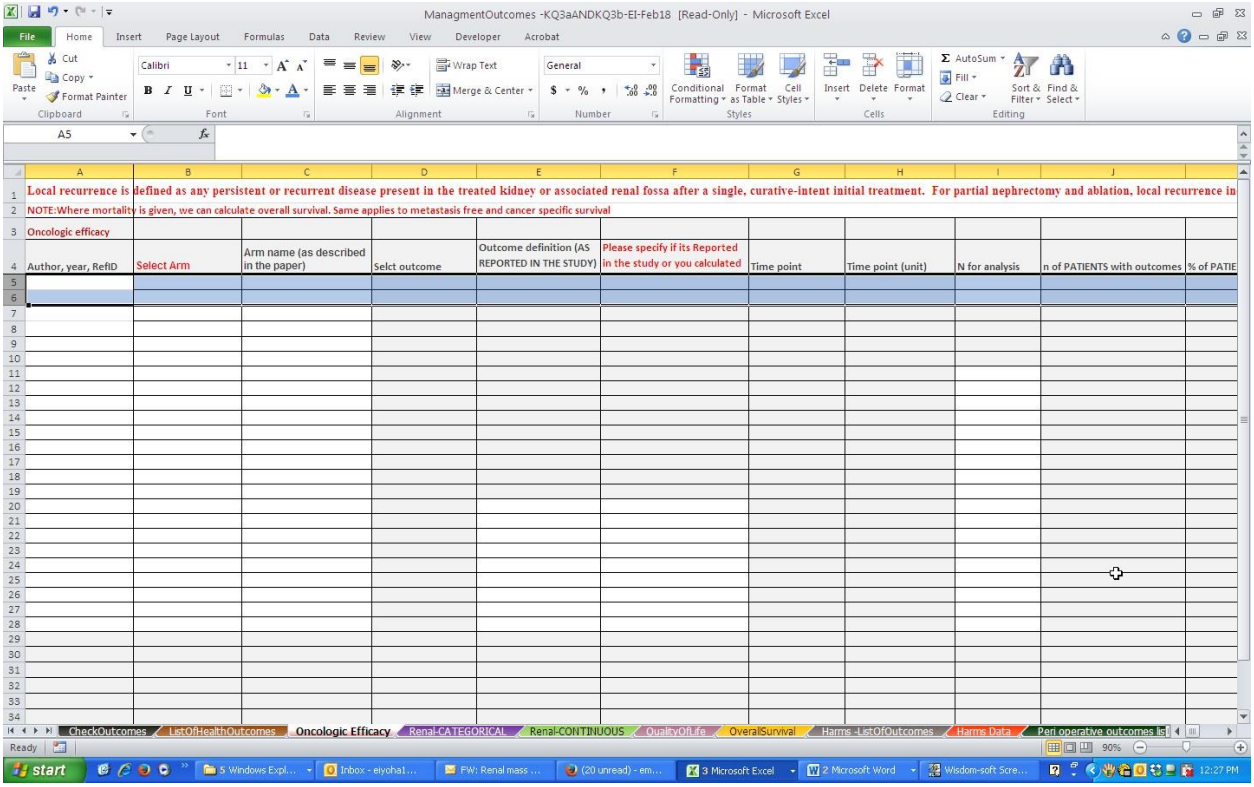
Author, Year,Refid	Arm	Arm description	Tumor location Exophytic, %	Tumor location Exophytic, n	Tumor location Endophytic, %	Tumor location Endophytic, n	Tumor location Endophytic, %	Fuhrman Grade I, n	Fuhrman Grade I, %	Fuhrman Grade II, n	Fuhrman GradeII, %	Fuhrman Grade III, n	Fuhrman Grade III, %

Figure B6: Tumor characteristics



Author, Year,Refid	Arm	Arm description	Fuhrman Grade III, %	Fuhrman Grade IV, n	Fuhrman Grade IV, %	Nephrometry (R.E.N.A.L.) score, Mean	Nephrometry (R.E.N.A.L.) score, Median	Nephrometry (R.E.N.A.L.) score, Range	Nephrometry (R.E.N.A.L.) score, SD	PADUA score, Mean	PADUA score, Median	PADUA score, Range	PADUA score, SD

Figure B7: Oncologic Outcomes



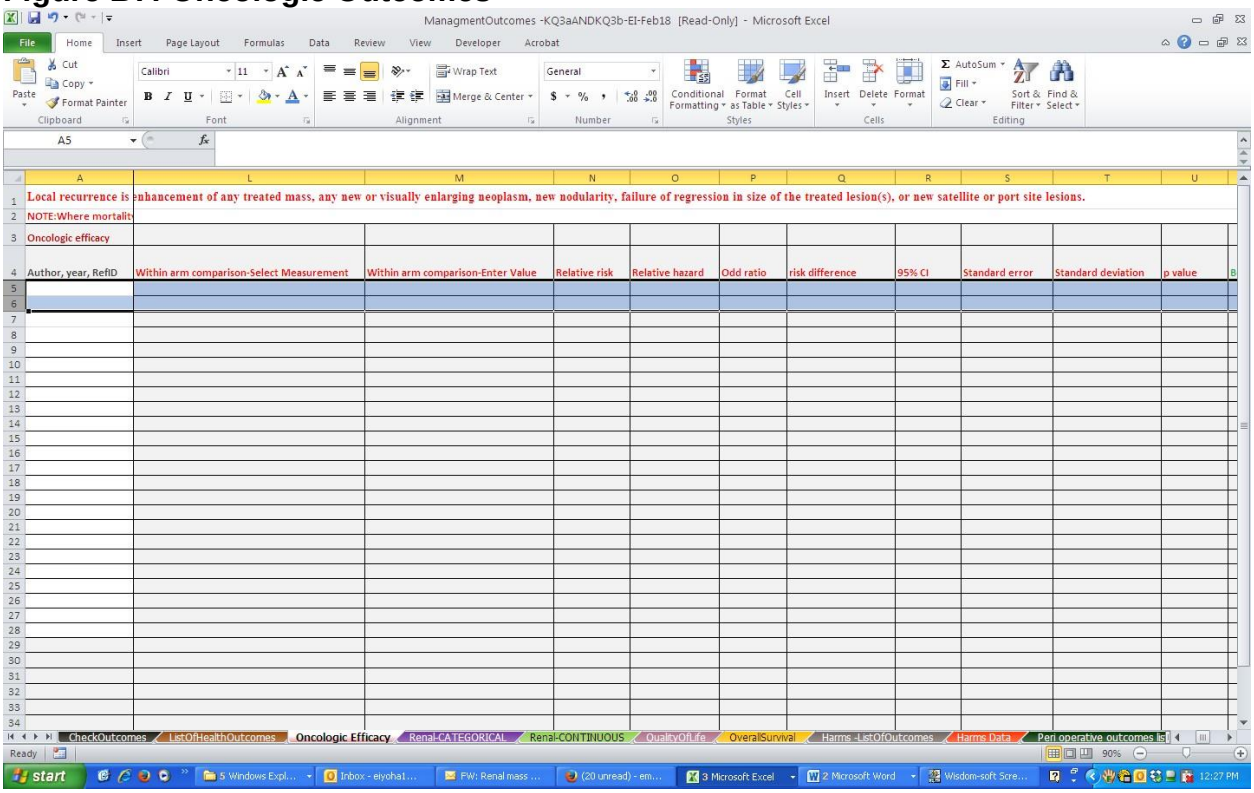
Local recurrence is defined as any persistent or recurrent disease present in the treated kidney or associated renal fossa after a single, curative-intent initial treatment. For partial nephrectomy and ablation, local recurrence in

NOTE:Where mortality is given, we can calculate overall survival. Same applies to metastasis free and cancer specific survival

Oncologic efficacy

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Selct outcome	Outcome definition (AS REPORTED IN THE STUDY)	Please specify if its Reported in the study or you calculated	Time point	Time point (unit)	N for analysis	n of PATIENTS with outcomes	% of PATIE

Figure B7: Oncologic Outcomes



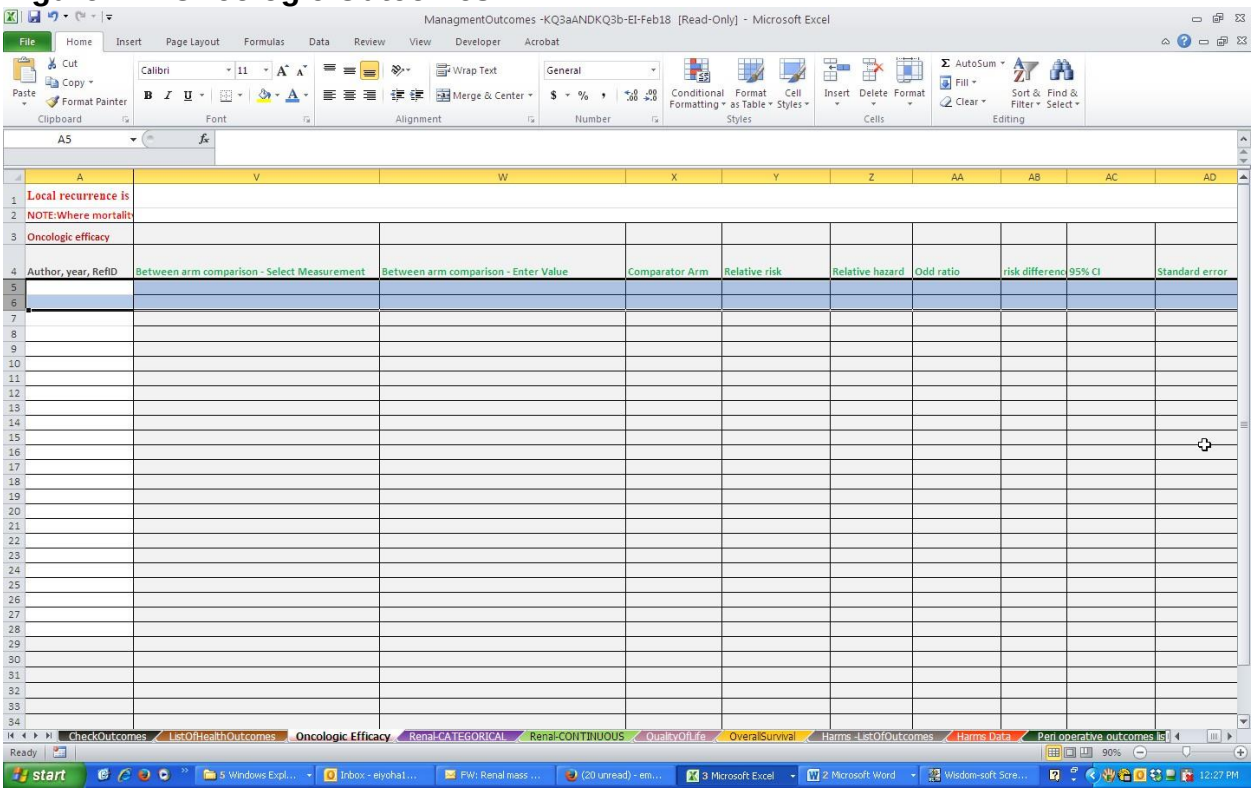
Local recurrence is enhancement of any treated mass, any new or visually enlarging neoplasm, new nodularity, failure of regression in size of the treated lesion(s), or new satellite or port site lesions.

NOTE:Where mortalit

Oncologic efficacy

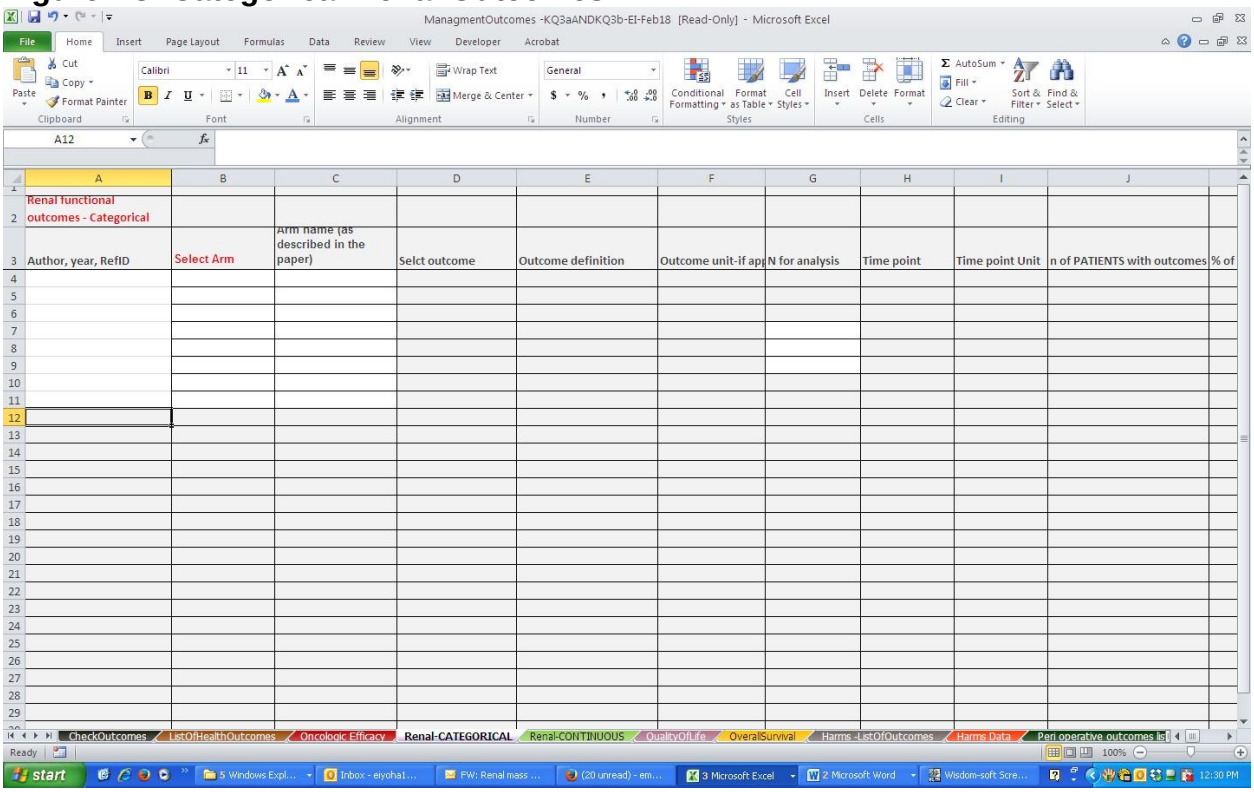
Author, year, RefID	Within arm comparison-Select Measurement	Within arm comparison-Enter Value	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p value

Figure B7: Oncologic Outcomes



	A	V	W	X	Y	Z	AA	AB	AC	AD
1	Local recurrence is									
2	NOTE:Where mortalit									
3	Oncologic efficacy									
4	Author, year, RefID	Between arm comparison - Select Measurement	Between arm comparison - Enter Value	Comparator Arm	Relative risk	Relative hazard	Odd ratio	risk differenc	95% CI	Standard error
5										
6										

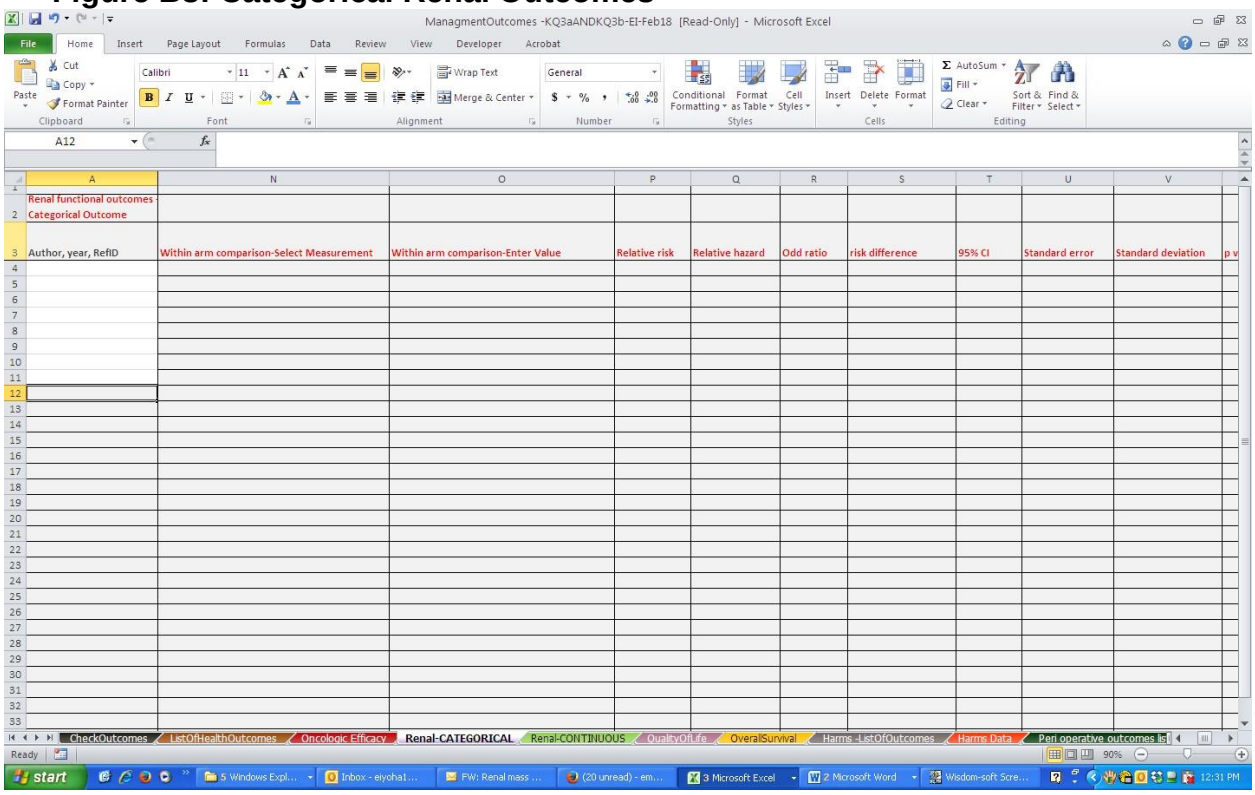
Figure B8: Categorical Renal Outcomes



Renal functional outcomes - Categorical

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Selct outcome	Outcome definition	Outcome unit-if app	N for analysis	Time point	Time point Unit	n of PATIENTS with outcomes	% of

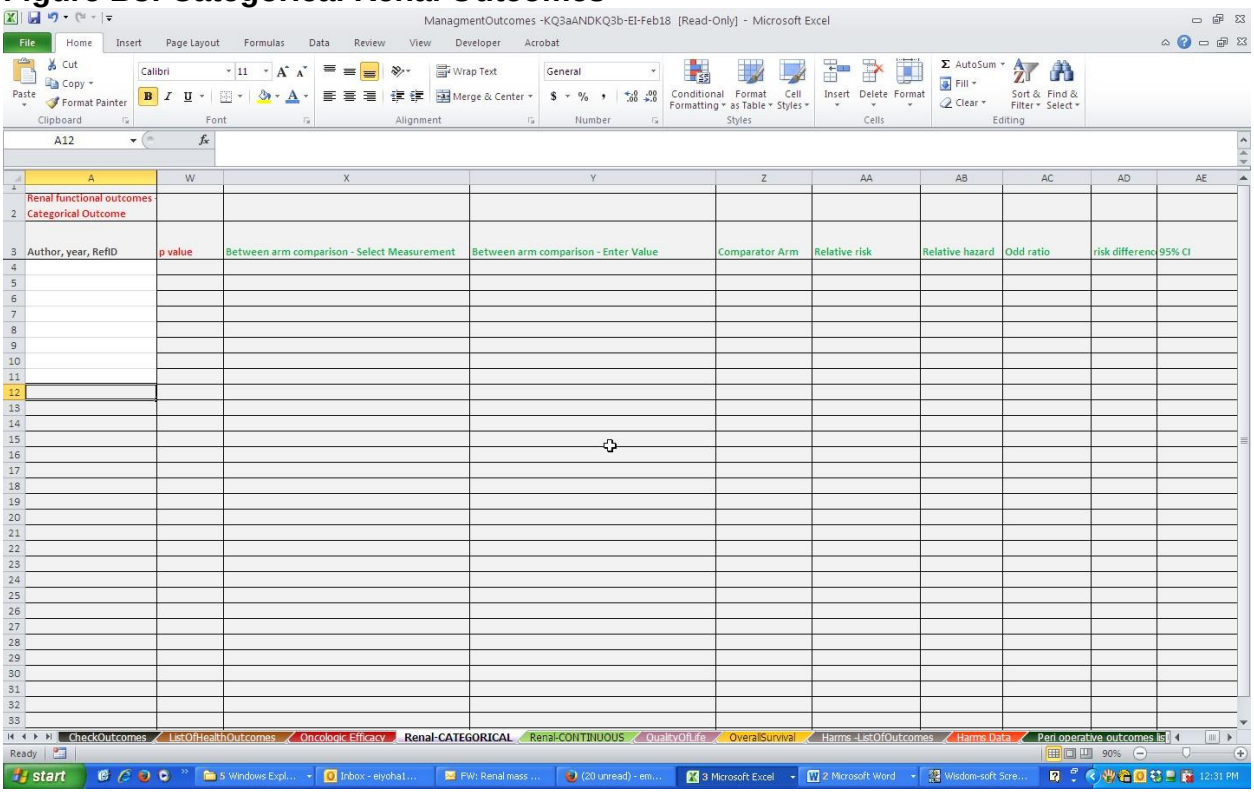
Figure B8: Categorical Renal Outcomes



Renal functional outcomes
Categorical Outcome

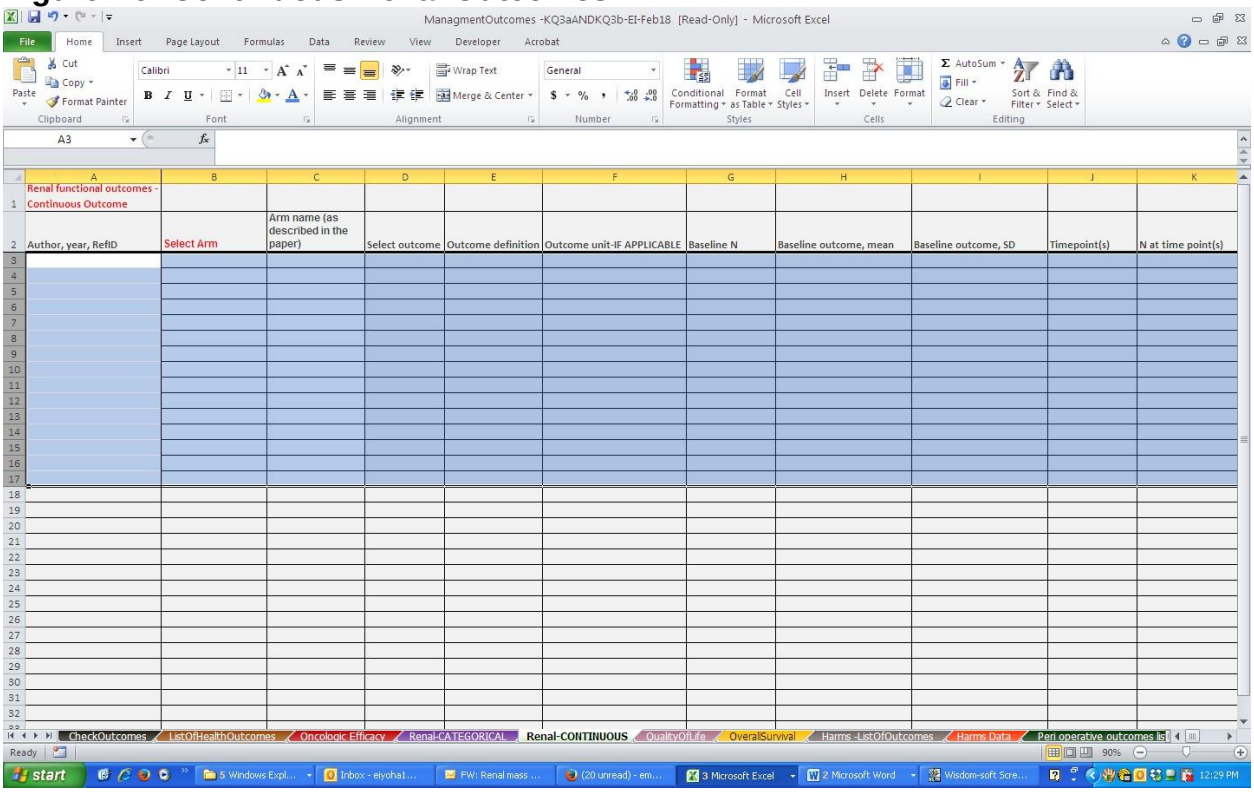
Author, year, RefID	Within arm comparison-Select Measurement	Within arm comparison-Enter Value	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p v

Figure B8: Categorical Renal Outcomes



	A	W	X	Y	Z	AA	AB	AC	AD	AE
2	Renal functional outcomes - Categorical Outcome									
3	Author, year, RefID	p value	Between arm comparison - Select Measurement	Between arm comparison - Enter Value	Comparator Arm	Relative risk	Relative hazard	Odd ratio	risk differenc	95% CI

Figure B9: Continuous Renal Outcomes



Renal functional outcomes - Continuous Outcome										
Author, year, RefID	Select Arm	Arm name (as described in the paper)	Select outcome	Outcome definition	Outcome unit-IF APPLICABLE	Baseline N	Baseline outcome, mean	Baseline outcome, SD	Timepoint(s)	N at time point(s)

Figure B9: Continuous Renal Outcomes

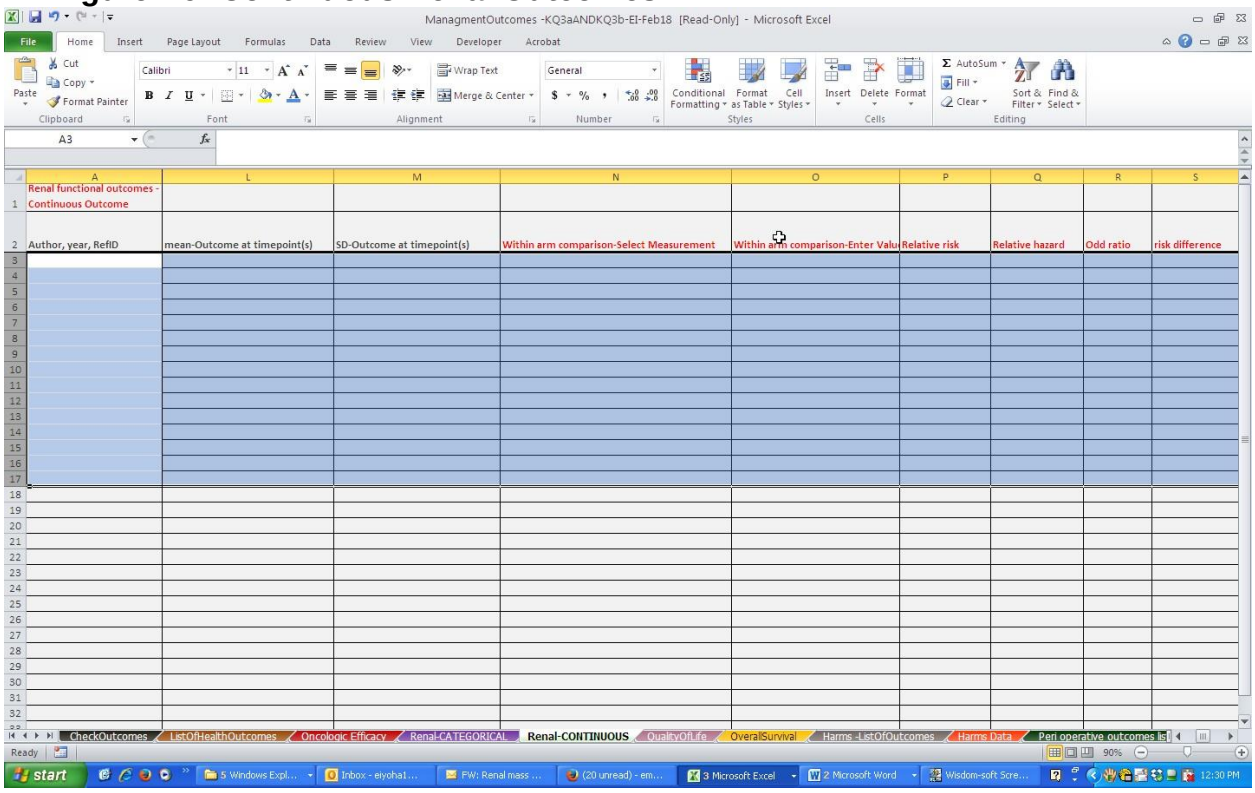
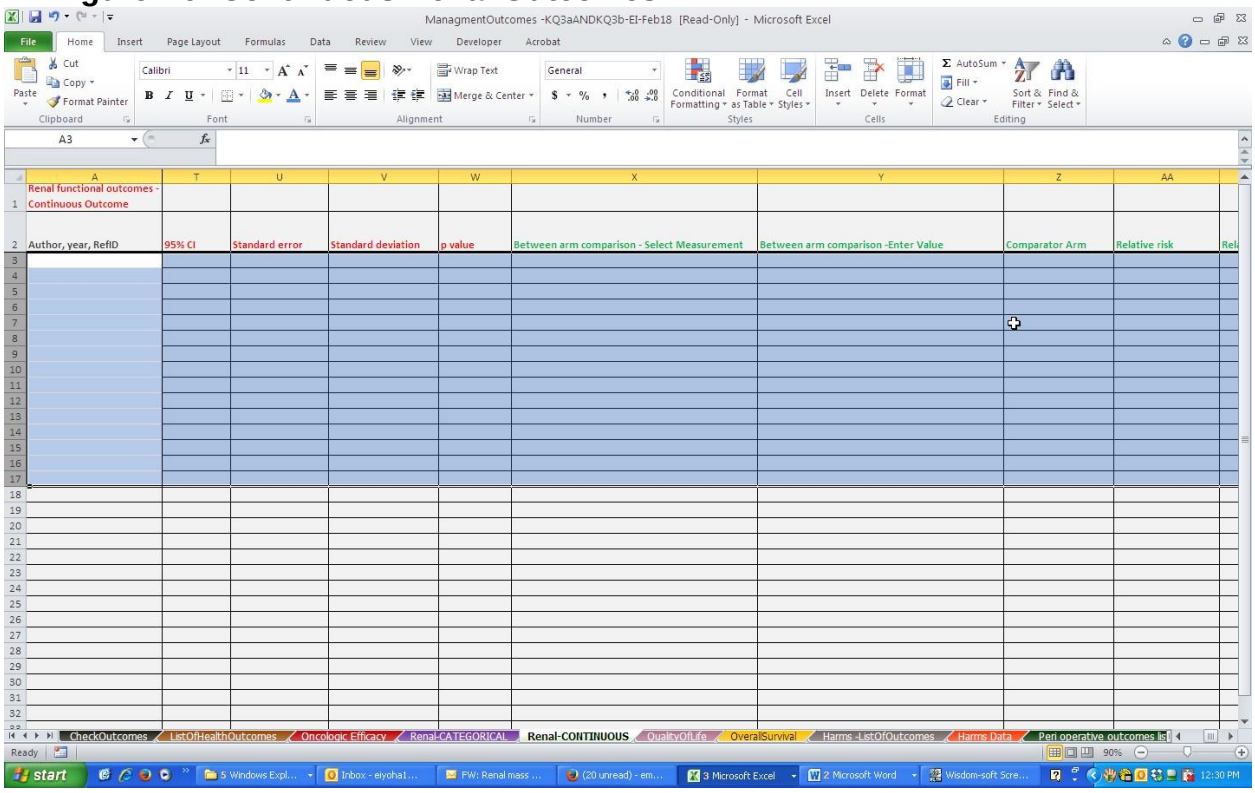
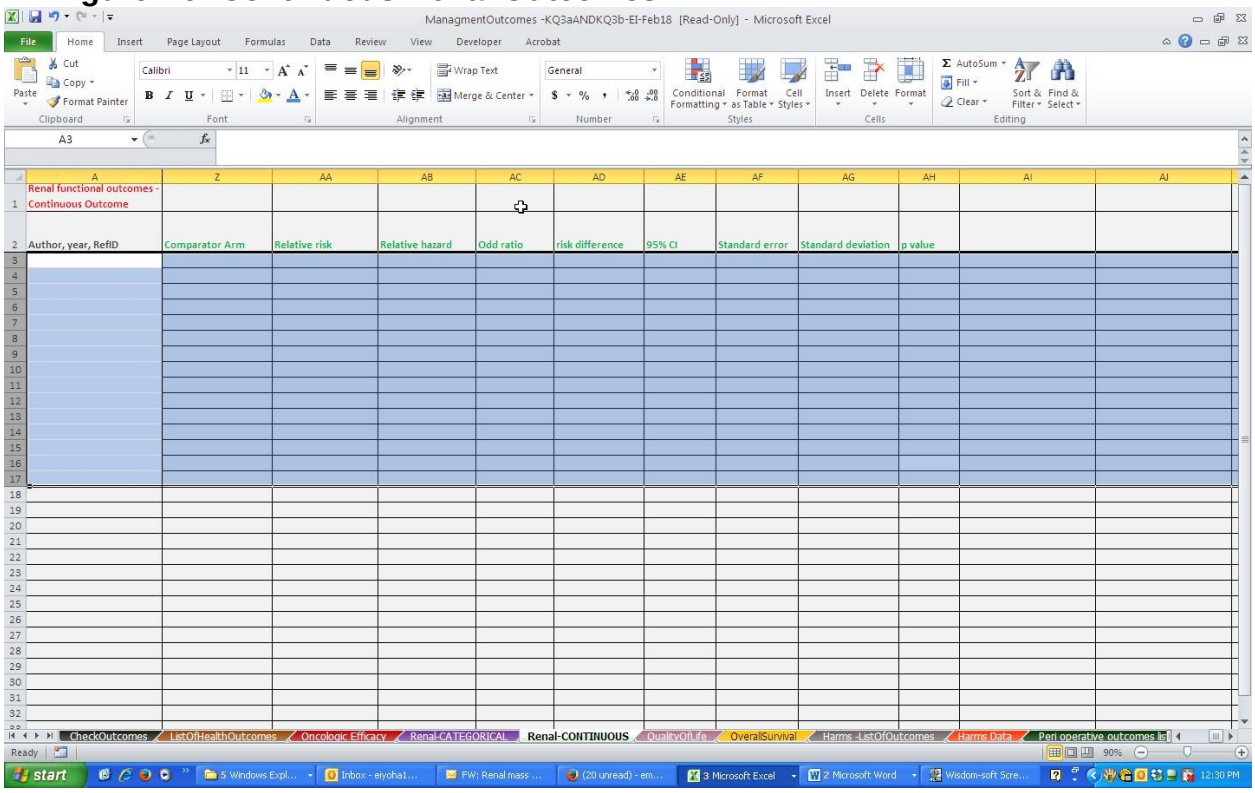


Figure B9: Continuous Renal Outcomes



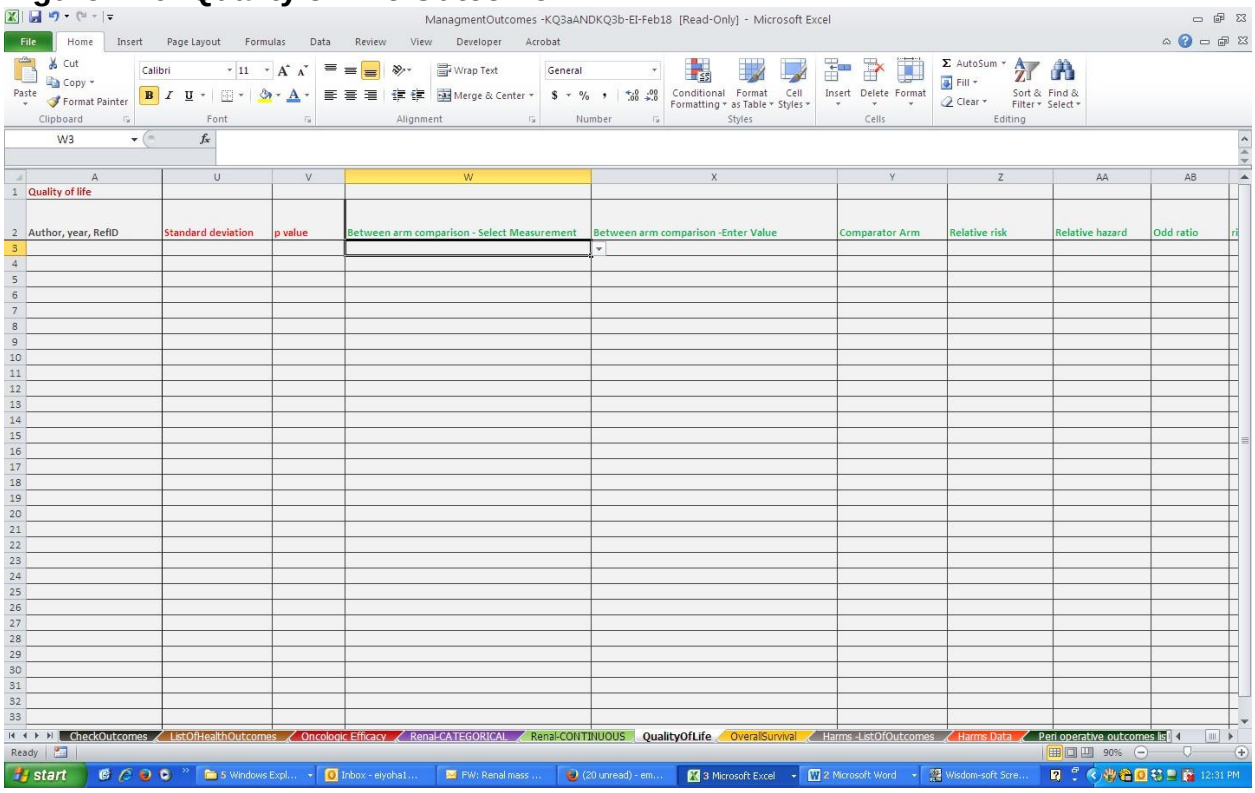
Renal functional outcomes - Continuous Outcome								
Author, year, RefID	95% CI	Standard error	Standard deviation	p value	Between arm comparison - Select Measurement	Between arm comparison -Enter Value	Comparator Arm	Relative risk

Figure B9: Continuous Renal Outcomes



	A	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ
1	Renal functional outcomes - Continuous Outcome											
2	Author, year, RefID	Comparator Arm	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p value		

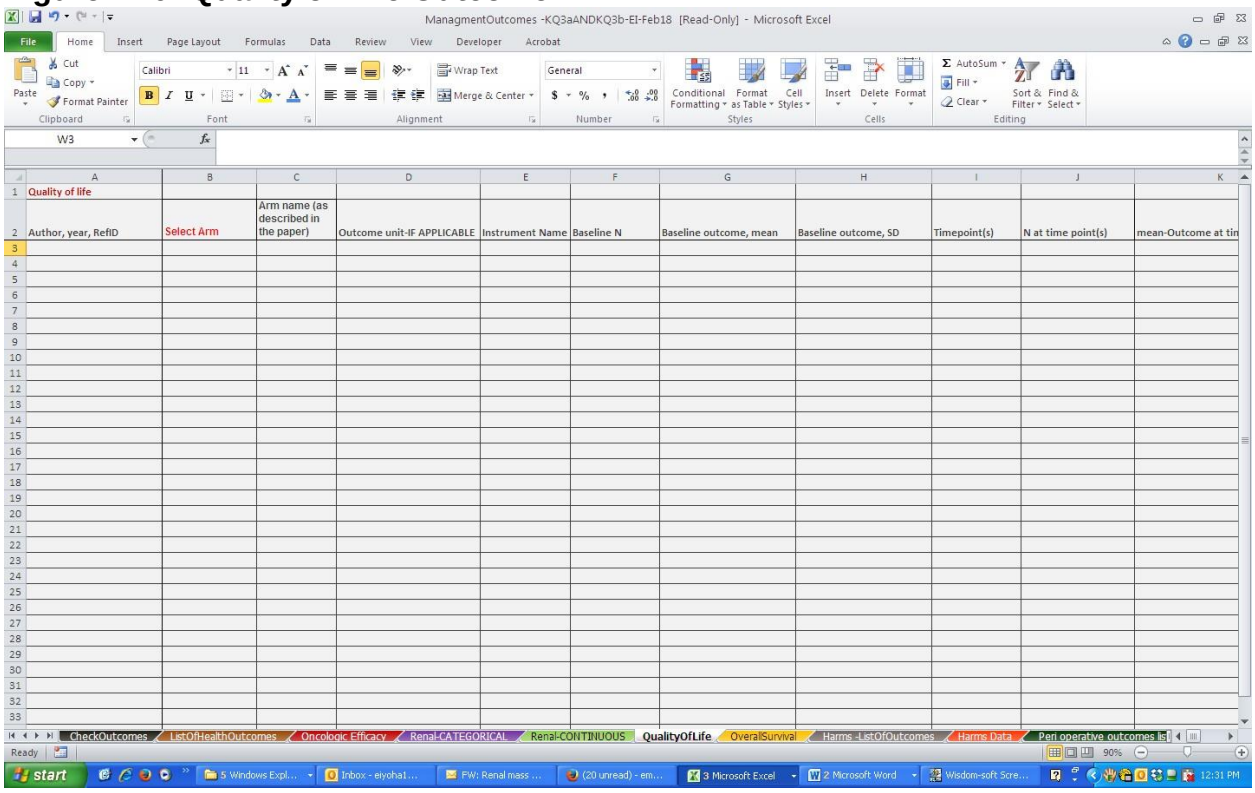
Figure B10: Quality of Life Outcome



Quality of life

Author, year, RefID	Standard deviation	p value	Between arm comparison - Select Measurement	Between arm comparison -Enter Value	Comparator Arm	Relative risk	Relative hazard	Odd ratio

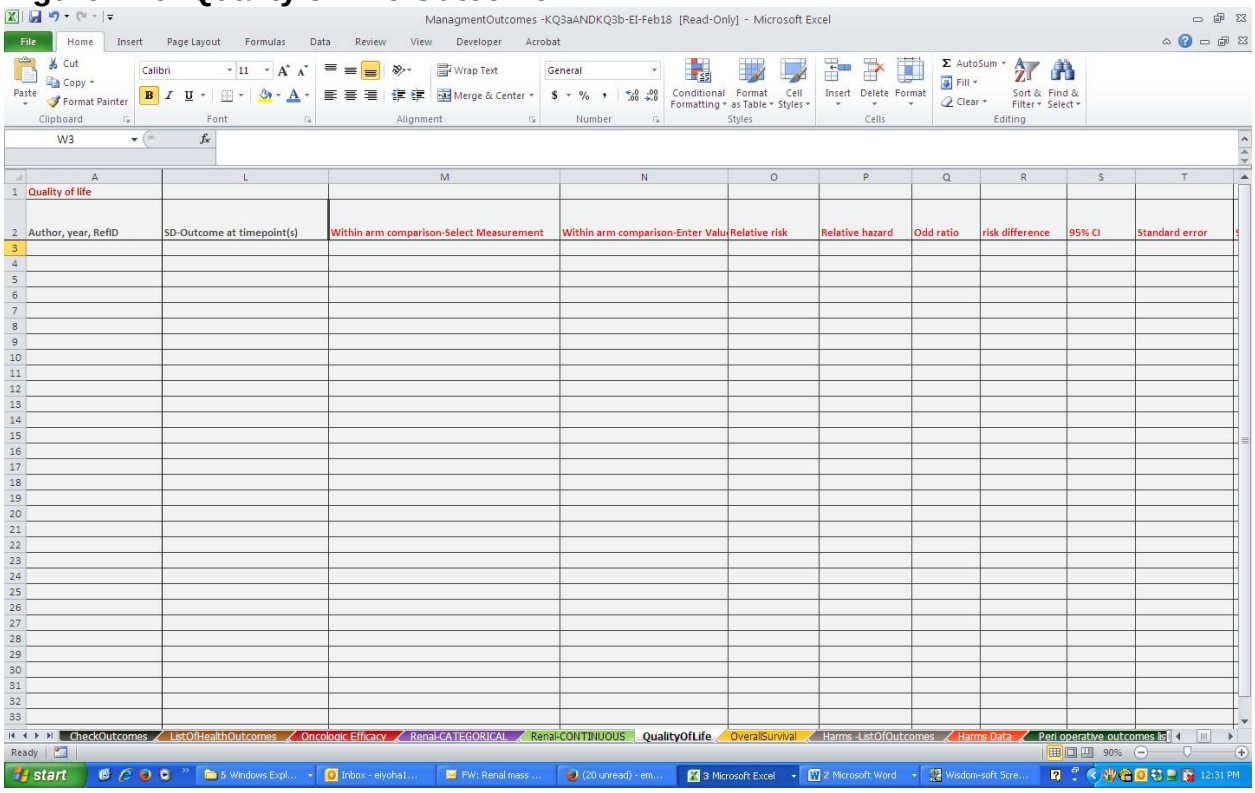
Figure B10: Quality of Life Outcome



Quality of life

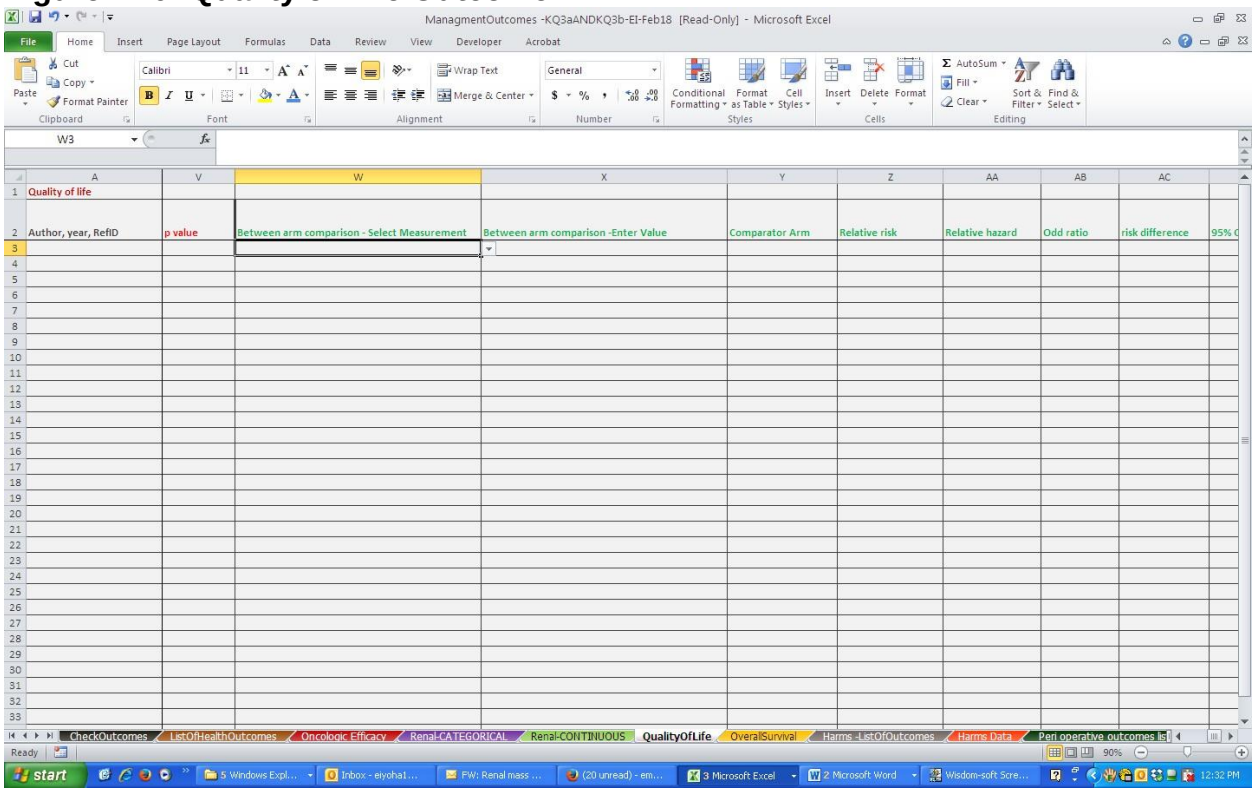
Author, year, RefID	Select Arm	Arm name (as described in the paper)	Outcome unit-IF APPLICABLE	Instrument Name	Baseline N	Baseline outcome, mean	Baseline outcome, SD	Timepoint(s)	N at time point(s)	mean-Outcome at tin

Figure B10: Quality of Life Outcome



Quality of life									
Author, year, RefID	SD-Outcome at timepoint(s)	Within arm comparison-Select Measurement	Within arm comparison-Enter Valu	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error

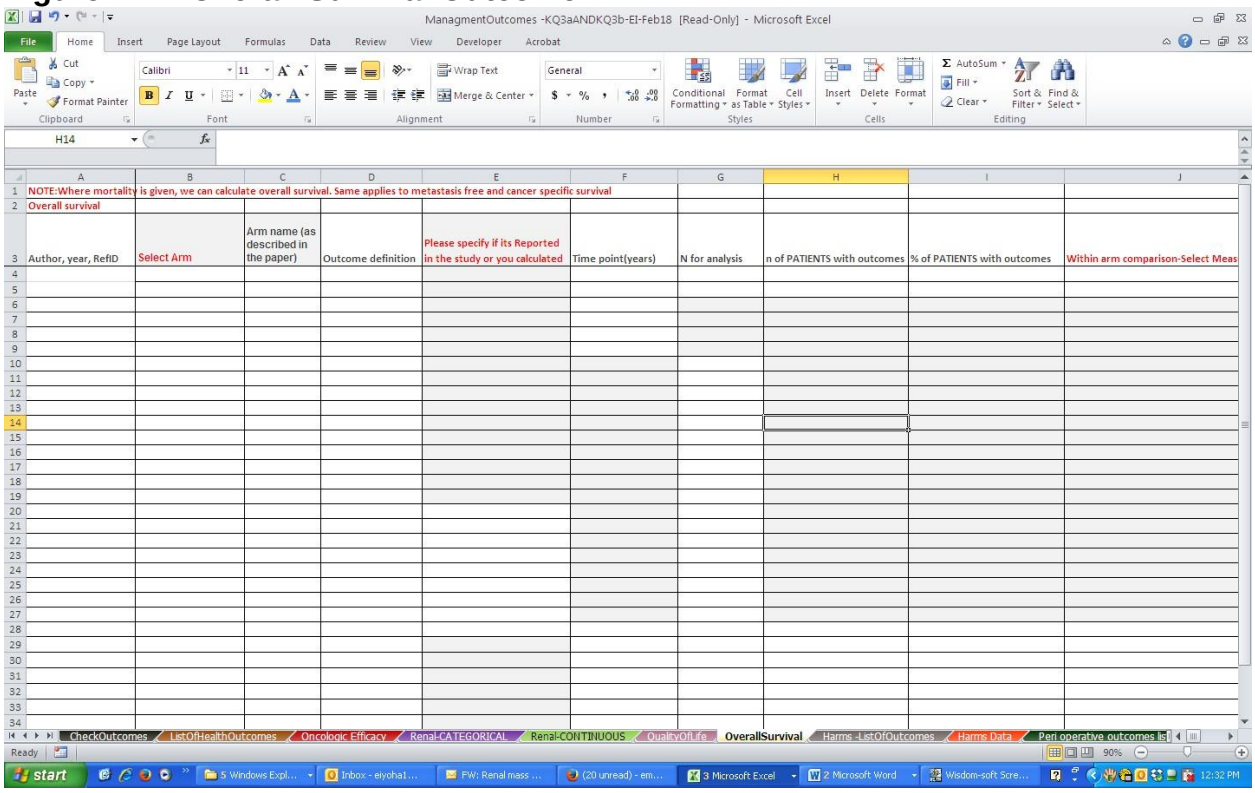
Figure B10: Quality of Life Outcome



Quality of life

Author, year, RefID	p value	Between arm comparison - Select Measurement	Between arm comparison -Enter Value	Comparator Arm	Relative risk	Relative hazard	Odd ratio	risk difference	95% C

Figure B11: Overall Survival Outcome

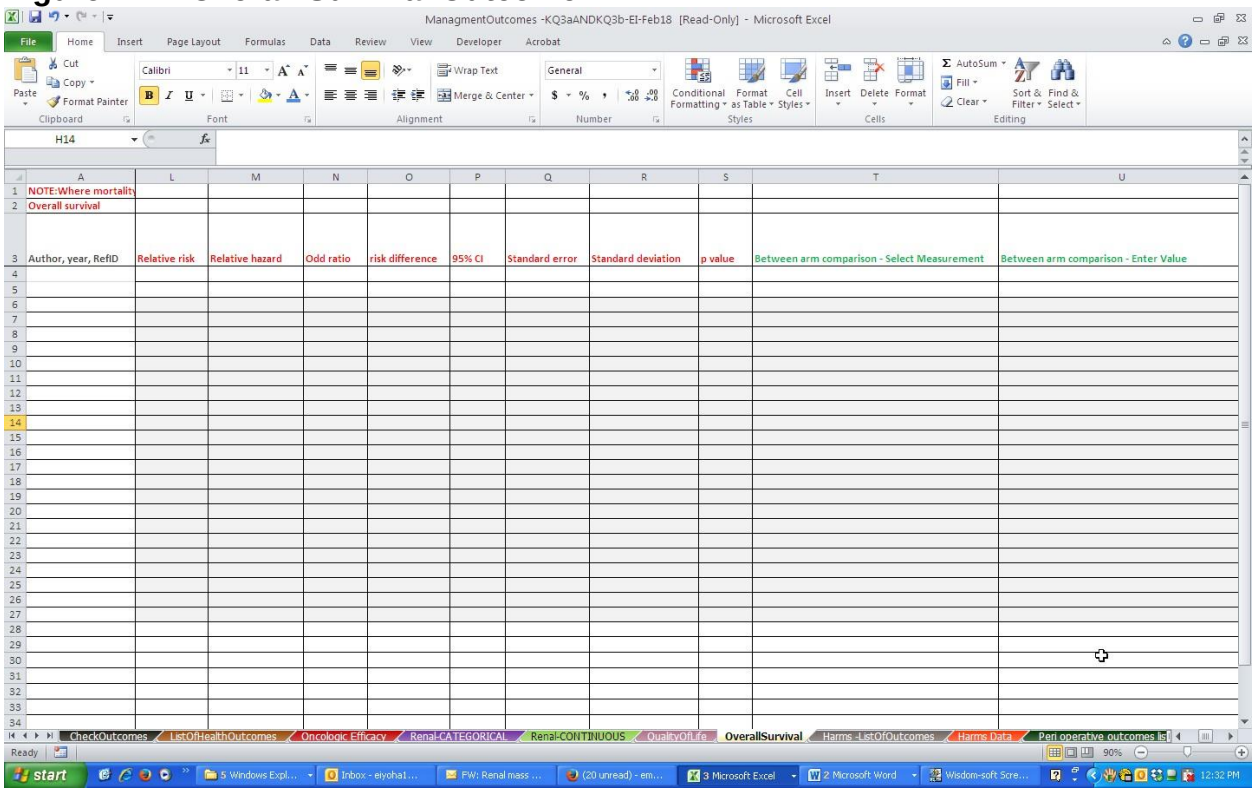


NOTE:Where mortality is given, we can calculate overall survival. Same applies to metastasis free and cancer specific survival

Overall survival

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Outcome definition	Please specify if its Reported in the study or you calculated	Time point(years)	N for analysis	n of PATIENTS with outcomes	% of PATIENTS with outcomes	Within arm comparison-Select Meas

Figure B11: Overall Survival Outcome

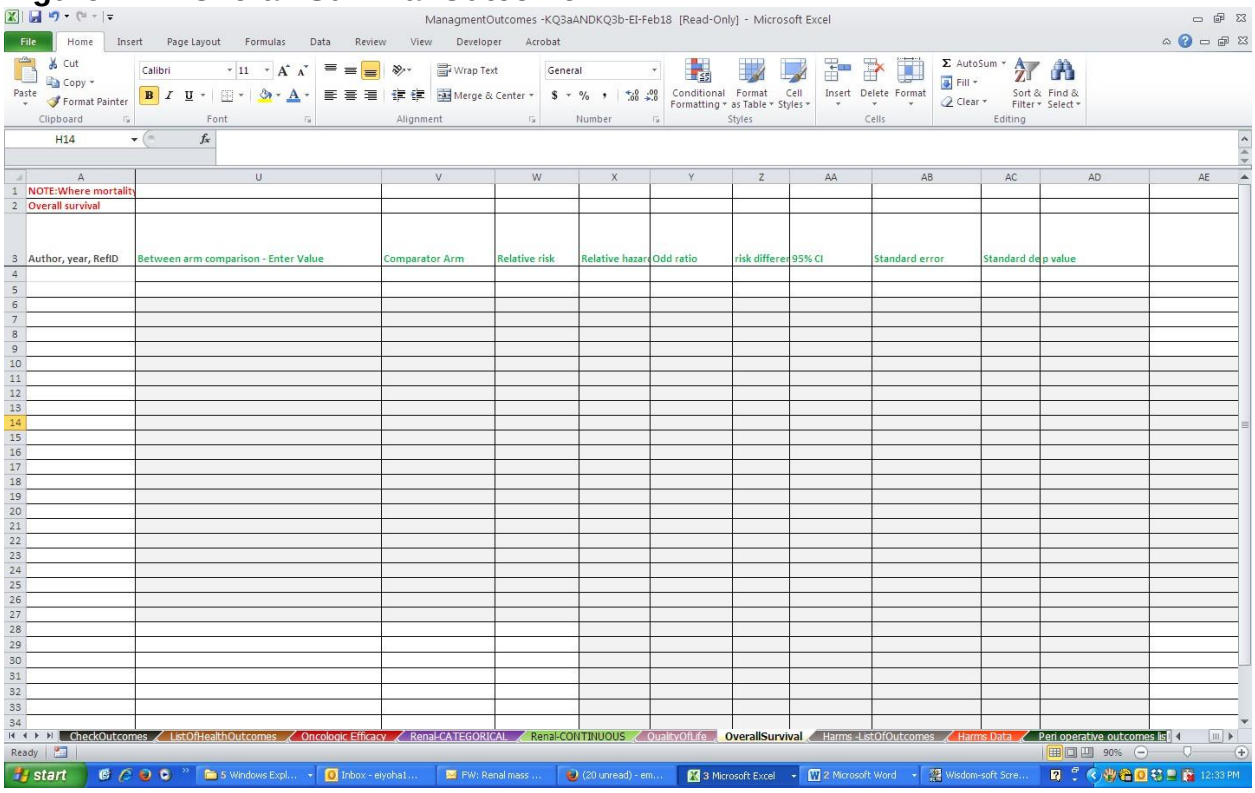


NOTE:Where mortality

Overall survival

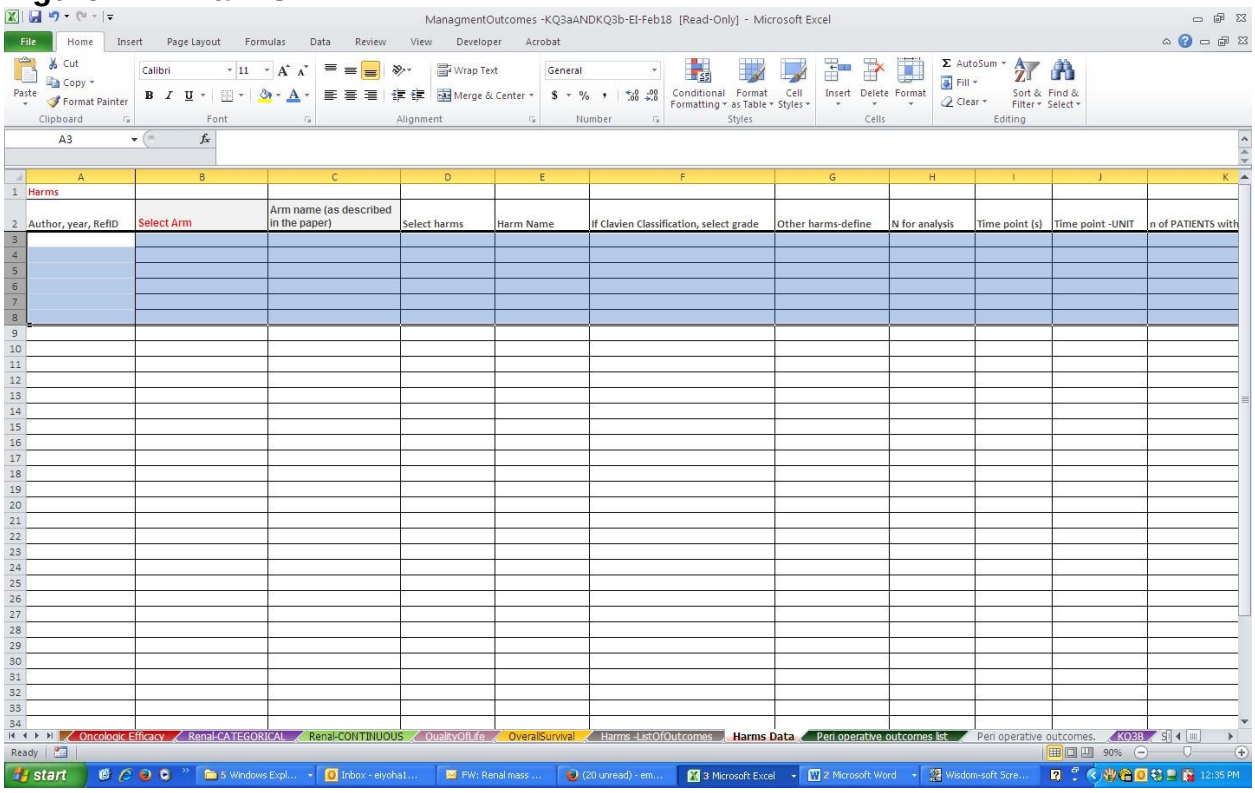
Author, year, RefID	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p value	Between arm comparison - Select Measurement	Between arm comparison - Enter Value

Figure B11: Overall Survival Outcome



	A	U	V	W	X	Y	Z	AA	AB	AC	AD	AE
1	NOTE:Where mortality											
2	Overall survival											
3	Author, year, RefID	Between arm comparison - Enter Value	Comparator Arm	Relative risk	Relative hazar	Odd ratio	risk differe	95% CI	Standard error	Standard de	p value	

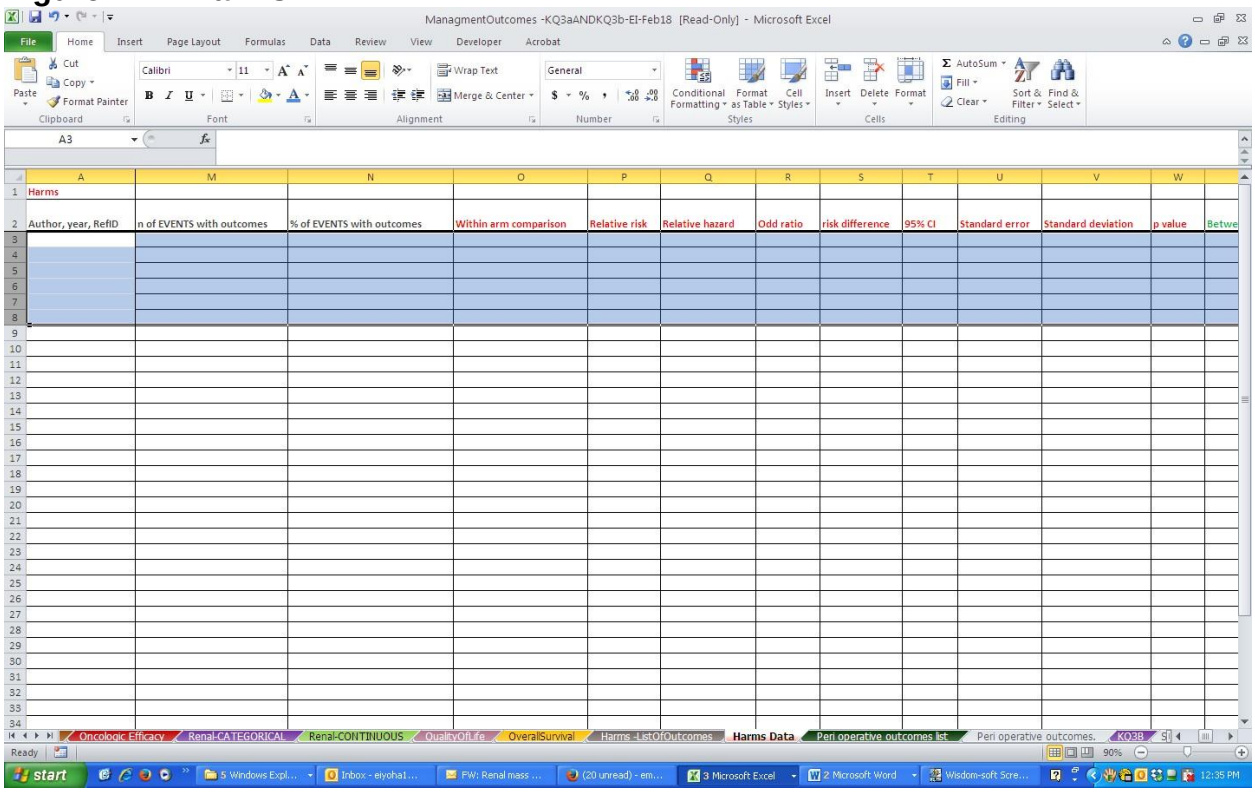
Figure B12: Harms



Harms

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Select harms	Harm Name	If Clavien Classification, select grade	Other harms-define	N for analysis	Time point (s)	Time point -UNIT	n of PATIENTS with

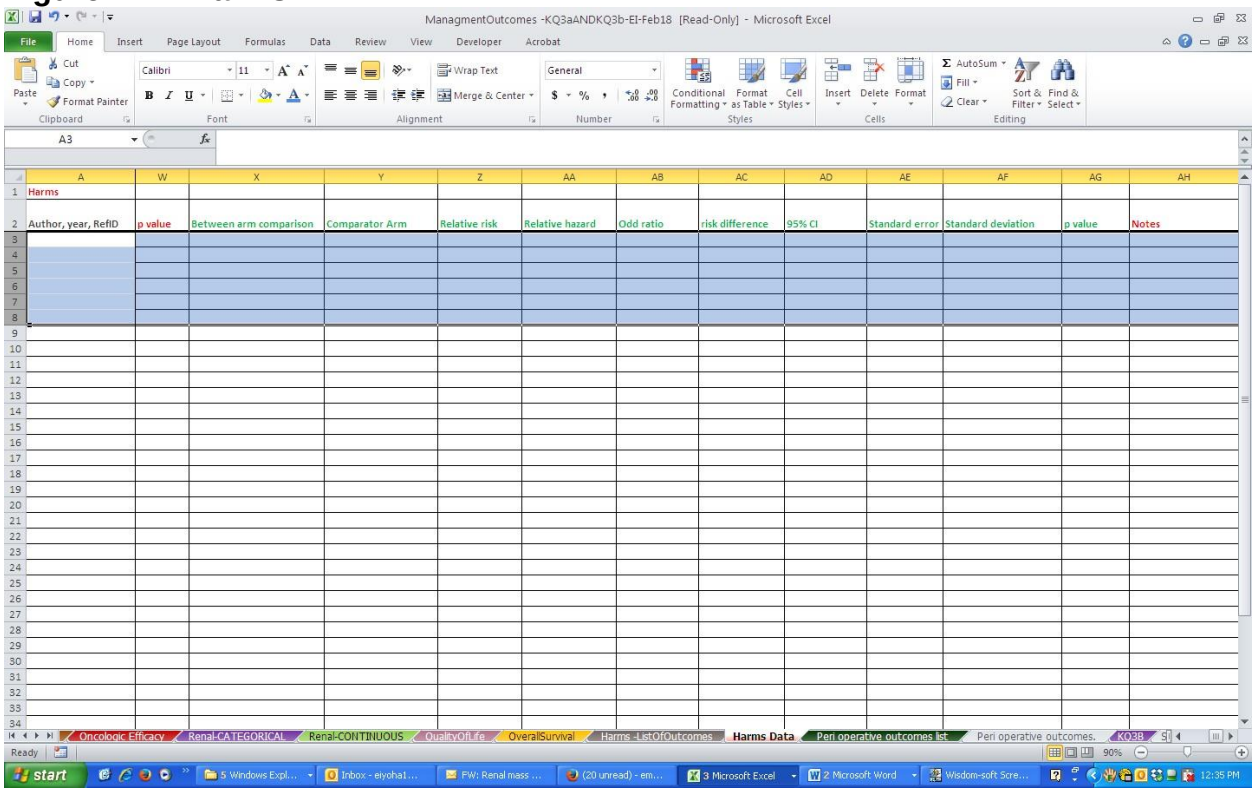
Figure B12: Harms



Harms

Author, year, RefID	n of EVENTS with outcomes	% of EVENTS with outcomes	Within arm comparison	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p value	Betwe

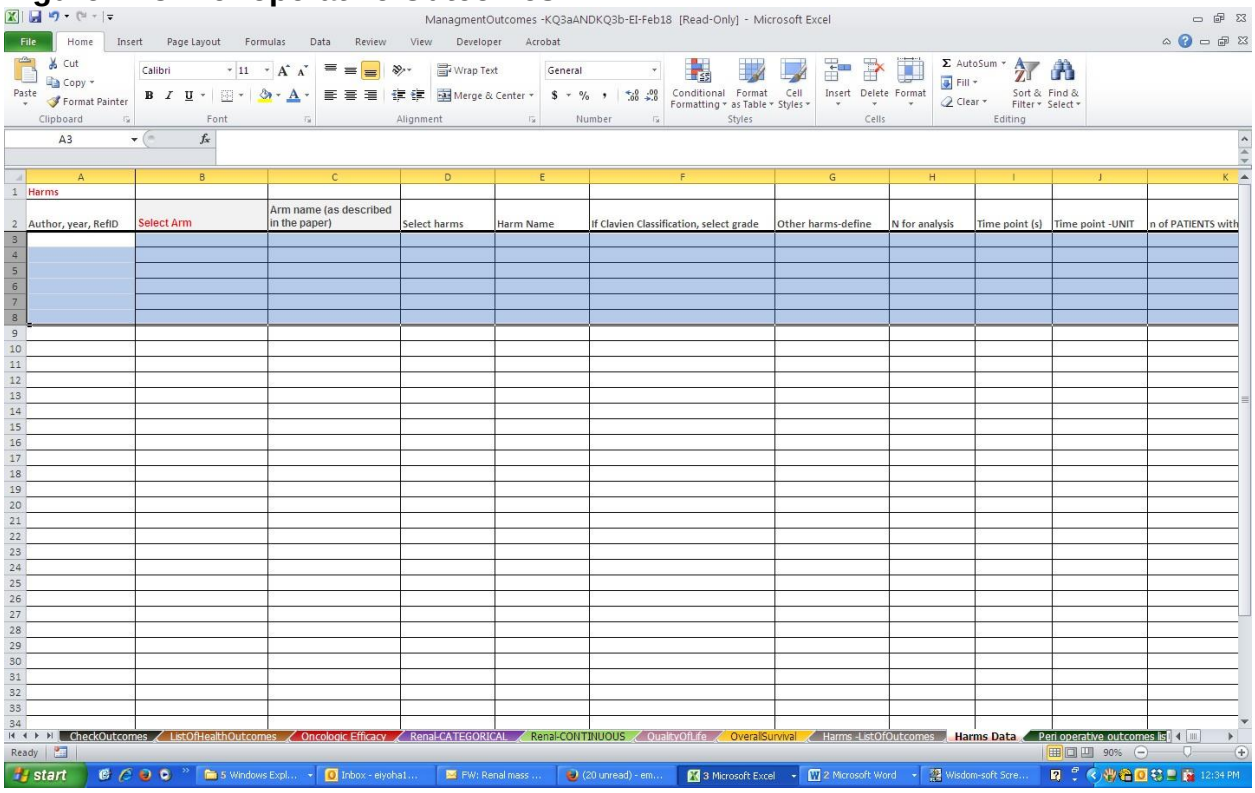
Figure B12: Harms



Harms

Author, year, RefID	p value	Between arm comparison	Comparator Arm	Relative risk	Relative hazard	Odd ratio	risk difference	95% CI	Standard error	Standard deviation	p value	Notes

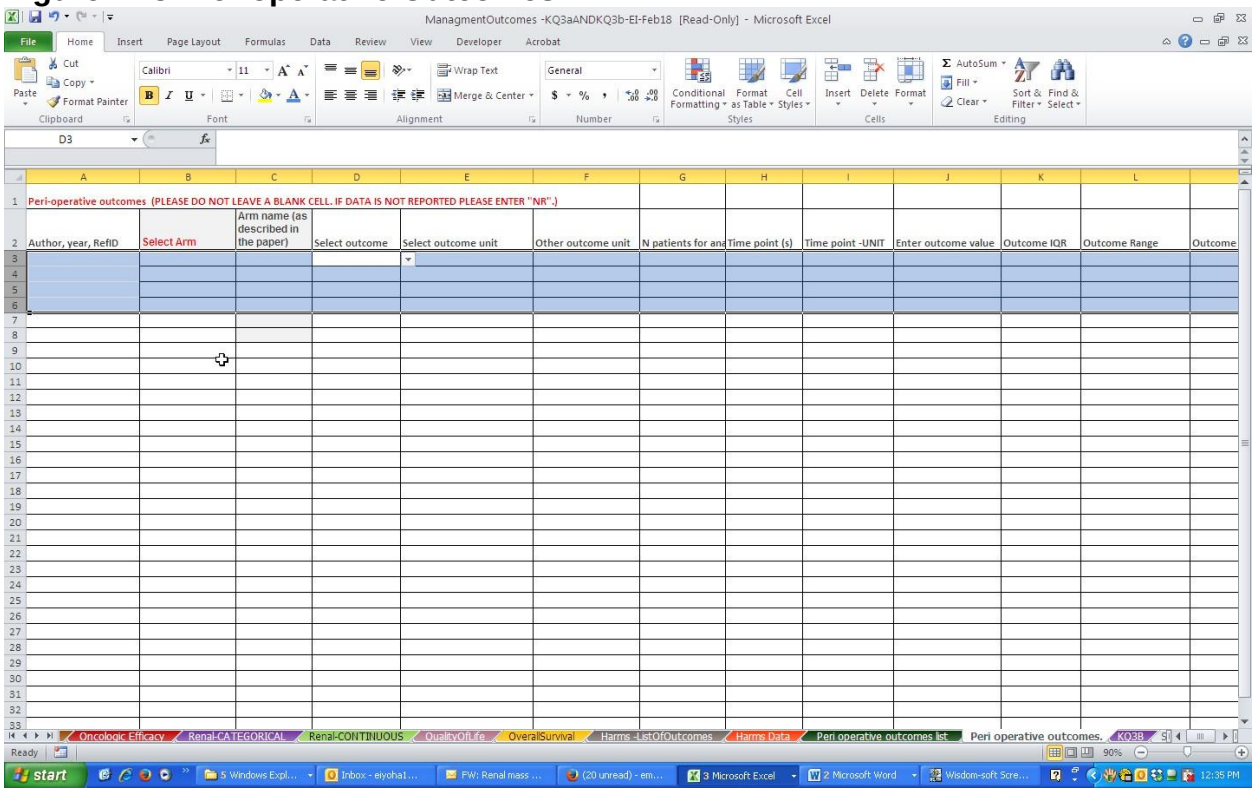
Figure B13: Perioperative Outcomes



Harms

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Select harms	Harm Name	If Clavien Classification, select grade	Other harms-define	N for analysis	Time point (s)	Time point -UNIT	n of PATIENTS with

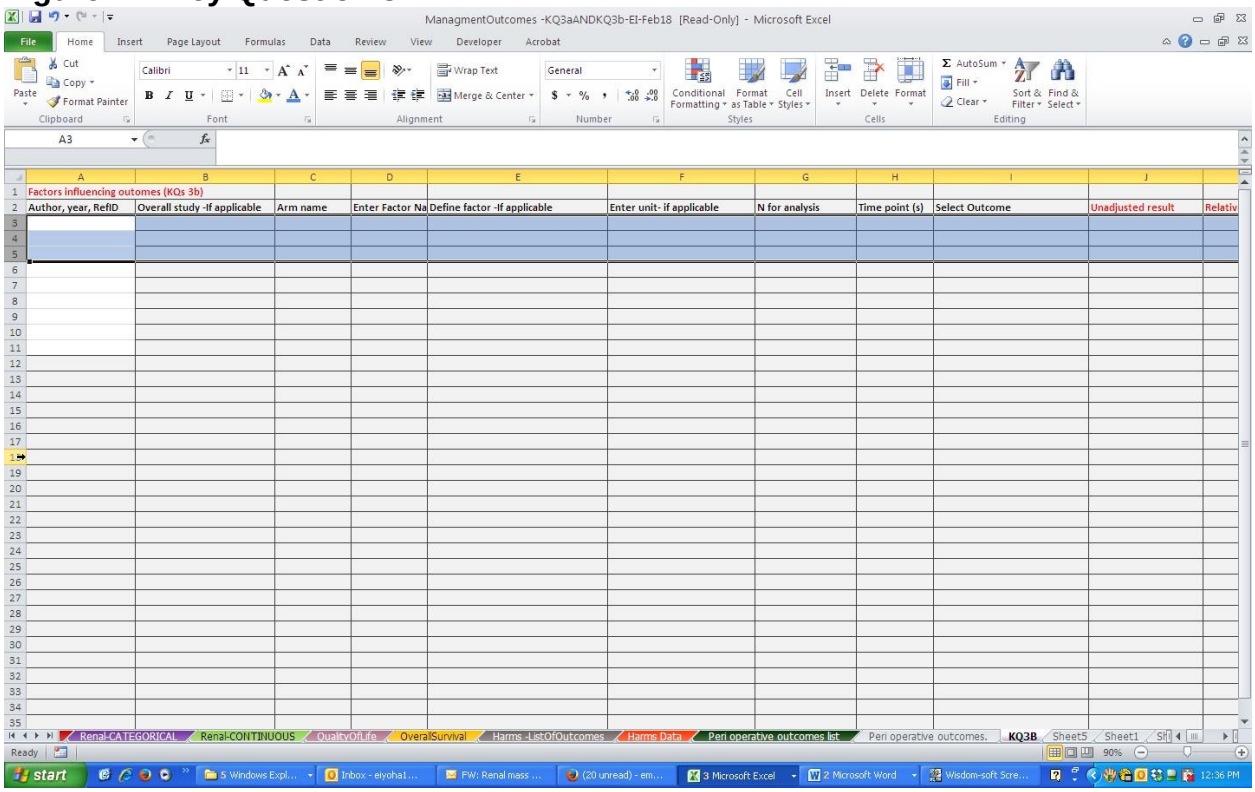
Figure B13: Perioperative Outcomes



Peri-operative outcomes (PLEASE DO NOT LEAVE A BLANK CELL. IF DATA IS NOT REPORTED PLEASE ENTER "NR".)

Author, year, RefID	Select Arm	Arm name (as described in the paper)	Select outcome	Select outcome unit	Other outcome unit	N patients for ana	Time point (s)	Time point -UNIT	Enter outcome value	Outcome IQR	Outcome Range	Outcome

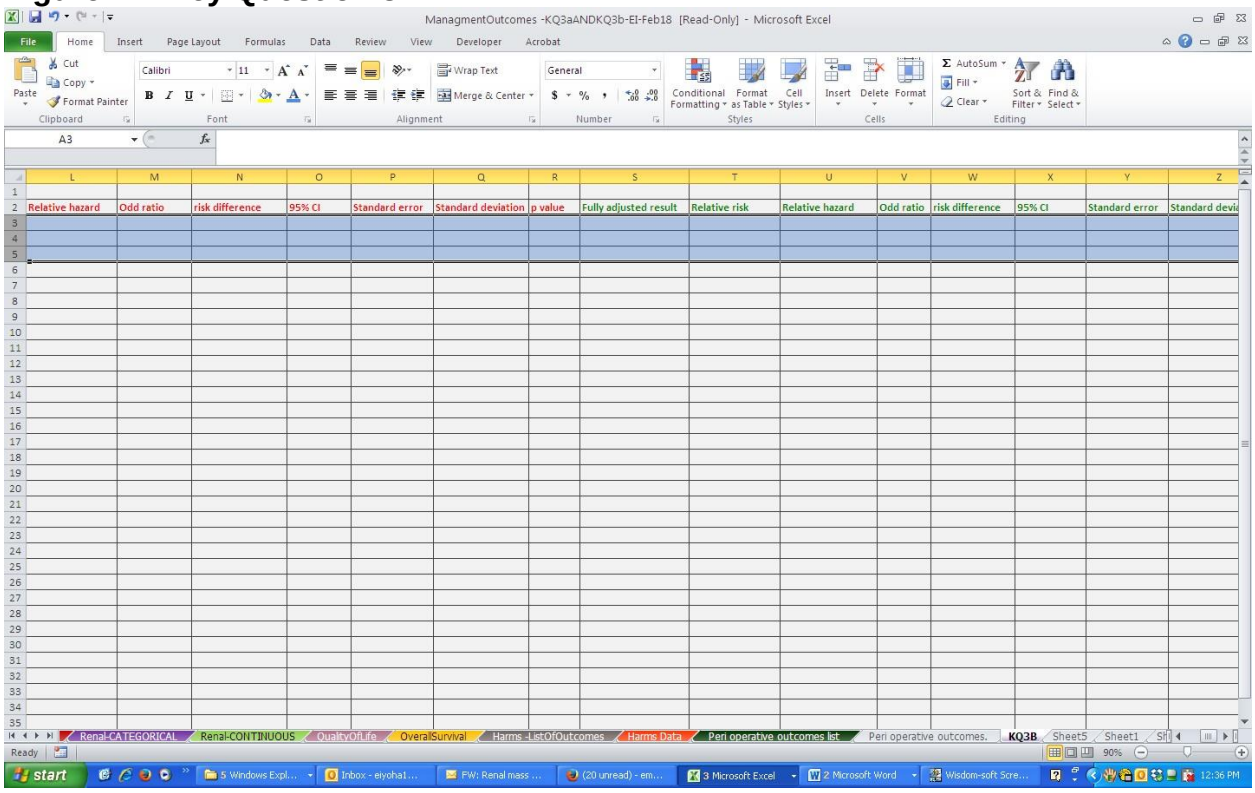
Figure 14: Key Question 3B



Factors influencing outcomes (KQs 3b)

Author, year, RefID	Overall study -If applicable	Arm name	Enter Factor Na	Define factor -If applicable	Enter unit- if applicable	N for analysis	Time point (s)	Select Outcome	Unadjusted result	Relativ

Figure 14: Key Question 3B



Appendix C: List of Excluded Studies

Does not evaluate renal masses

Is the follow-up of small renal angiomyolipomas a necessary precaution?. Maclean, D. F., Sultana, R., Radwan, R., McKnight, L., and Khastgir, J.. Clin Radiol 2014 :822-6

Clinical consequences of nephrectomy performed on medical grounds. Glazar, W., Dobrowolska-Glazar, B., Urbanowicz, W., and Sulowicz, W.. Przegl Lek 2014 :1-4

Follow-up study of unilateral renal function after nephrectomy assessed by glomerular filtration rate per functional renal volume. Hosokawa, Y., Tanaka, N., Mibu, H., Anai, S., Torimoto, K., Yoneda, T., Hirayama, A., Yoshida, K., Hayashi, Y., Hirao, Y., and Fujimoto, K.. World J Surg Oncol 2014 :59

Trends of adult primary malignant renal tumors over 6 years. Khalil Ibrahim, A.. Pak J Med Sci 2013 :1385-8

Overall survival and development of stage IV chronic kidney disease in patients undergoing partial and radical nephrectomy for benign renal tumors. Kaushik, D., Kim, S. P., Childs, M. A., Lohse, C. M., Costello, B. A., Cheville, J. C., Boorjian, S. A., Leibovich, B. C., and Thompson, R. H.. Eur Urol 2013 :600-6

Value of metastin receptor immunohistochemistry in predicting metastasis after radical nephrectomy for pT1 clear cell renal cell carcinoma. Shoji, S., Nakano, M., Tomonaga, T., Kim, H., Hanai, K., Usui, Y., Nagata, Y., Miyazawa, M., Sato, H., Tang, X. Y., Osamura, Y. R., Uchida, T., Terachi, T., and Takeya, K.. Clin Exp Metastasis 2013 :607-14

The effect of gender on nephrectomy perioperative outcomes: a national survey. Sammon, J., Trinh, Q. D., Sun, M., Bianchi, M., Schmitges, J., Shariat, S. F., Ghani, K. R., Sukumar, S., Jeldres, C., Briganti, A., Perrotte, P., Rogers, C. G., Peabody, J. O., Montorsi, F., Menon, M., and Karakiewicz, P. I.. Can J Urol 2012 :6337-44

Incidence and long-term prognosis of papillary compared to clear cell renal cell carcinoma--a multicentre study. Steffens, S., Janssen, M., Roos, F. C., Becker, F., Schumacher, S., Seidel, C., Wegener, G., Thuroff, J. W., Hofmann, R., Stockle, M., Siemer, S., Schrader, M., Hartmann, A., Kuczyk, M. A., Junker, K., and Schrader, A. J.. Eur J Cancer 2012 :2347-52

Volume-outcome relationships in the treatment of renal tumors. Abouassaly, R., Finelli, A., Tomlinson, G. A., Urbach, D. R., and Alibhai, S. M.. J Urol 2012 :1984-8

[Urothelial carcinoma of the upper urinary tract: clinical and pathological criteria and their predictive implications after radical nephroureterectomy]. Seitz, C. and Schramek, P.. Wien Med Wochenschr 2011 :366-70

Iatrogenic splenectomy during left nephrectomy: a single-institution experience of eight years. Tan, K., Lewis, G. R., Chahal, R., Browning, A. J., Sundaram, S. K., Weston, P. M., Harrison, S. C., and Biyani, C. S.. Urol Int 2011 :59-63

The effect of hypertension and diabetes on the degree of renal function deterioration after unilateral nephrectomy. Satasivam, P., Rao, K., Guggenheimer, K., Stanton, R., Sowter, S., Sengupta, S., and Bolton, D.. BJU Int 2011 :1508-12

Radical renal surgery (laparoscopic and open) in octogenarians. Vasdev, N., Hussein, H. K., Davidson, A., Wood, H., O'Riordan, A., and Soomro, N. A.. Surgeon 2011 :135-41

Laparoendoscopic single-site surgeries: a single-center experience of 171 consecutive cases. Choi, K. H., Ham, W. S., Rha, K. H., Lee, J. W., Jeon, H. G., Arkoncel, F. R., Yang, S. C., and Han, W. K.. Korean J Urol 2011 :31-8

Renal impairment after laparoscopic radical nephrectomy affects hypoglycaemic therapy. Mizuno, T., Ito, K., Miyagawa, Y., Kimura, K., Suzuki, Y., Mizuno, M., Ito, Y., Funahashi, Y., Hattori, R., Gotoh, M., Noda, Y., and Yamada, K.. J Clin Pharm Ther 2012 :49-52

Risk factors for conversion to hand assisted laparoscopy or open surgery during laparoscopic renal surgery. Rowley, M. W. and Wolf, J. S. Jr. J Urol 2011 :940-4

Benefit of laparoscopic radical nephrectomy in patients with a high BMI. Hagiwara, M., Miyajima, A., Matsumoto, K., Kikuchi, E., Nakagawa, K., and Oya, M.. Jpn J Clin Oncol 2011 :400-4

Kidney function following nephrectomy: similitude and discrepancies between kidney cancer and living donation. Timsit, M. O., Nguyen, K. N., Rouach, Y., Elie, C., Loupy, A., Fournier, C., Legendre, C., and Mejean, A.. Urol Oncol 2012 :482-6

Retroperitoneoscopic nephrectomy with a modified hand-assisted approach. Capolicchio, J. P., Saemi, A., Trotter, S., and Plante, M. K.. Urology 2011 :607-11

Laparoscopic nephrectomy: initial experience with 120 cases. Cheema, I. A., Manecksha, R. P., Murphy, M., and Flynn, R.. Ir Med J 2010 :49-51

A collaborative approach reduces the learning curve and improves outcomes in laparoscopic nephrectomy. Schneider, C. L., Cobb, W. S., Carbonell, A. M., Hill, L. K., and Flanagan, W. F.. Surg Endosc 2011 :182-5

Radical nephrectomy and nephroureterectomy in patients over 80 years old. Labanaris, A. P., Zugor, V., Labanaris, A. P., Elias, P., and Kuhn, R.. Int Braz J Urol 2010 :141-8; discussion 149-50

Minimum incision endoscopic surgery (MIES) in Japanese urology: results of adrenalectomy, radical nephrectomy and radical prostatectomy. Kihara, K., Kobayashi, T., Kawakami, S., Fujii, Y., Kageyama, Y., and Masuda, H.. Aktuelle Urol 2010 :S15-9

Incidental angiomyolipoma resected during renal surgery for an enhancing renal mass. Berglund, R. K., Bernstein, M., Manion, M. T., Touijer, K. A., and Russo, P.. BJU Int 2009 :1650-4

Angiomyolipomata: challenges, solutions, and future prospects based on over 100 cases treated. Sooriakumaran, P., Gibbs, P., Coughlin, G., Attard, V., Elmslie, F., Kingswood, C., Taylor, J., Corbishley, C., Patel, U., and Anderson, C.. BJU Int 2010 :101-6

Oncological efficacy and safety of nephron-sparing surgery for selected patients with locally advanced renal cell carcinoma. Margulis, V., Tamboli, P., Jacobsohn, K. M., Swanson, D. A., and Wood, C. G.. BJU Int 2007 :1235-9

[Transabdominal radical nephrectomy for renal cell carcinoma: an experience on 155 patients]. Chen, X. F., Zhou, F. J., Han, H., Qin, Z. K., Liu, Z. W., Yu, S. L., Li, Y. H., Wang, H., and Hou, G. L.. Ai Zheng 2007 :528-32

Obesity as a risk factor for complications during laparoscopic surgery for renal cancer: multivariate analysis. Kurzer, E., Leveillee, R., and Bird, V.. J Endourol 2006 :794-9

Follow-up of renal oncocytoma diagnosed by percutaneous tumor biopsy. Neuzillet, Y., Lechevallier, E., Andre, M., Daniel, L., Nahon, O., and Coulange, C.. Urology 2005 :1181-5

Prior abdominal surgery and radiation do not complicate the retroperitoneoscopic approach to the kidney or adrenal gland. Viterbo, R., Greenberg, R. E., Al-Saleem, T., and Uzzo, R. G.. J Urol 2005 :446-50

A description of radical nephrectomy practice and outcomes in England: 1995-2002. Nuttall, M., Cathcart, P., van der Meulen, J., Gillatt, D., McIntosh, G., and Emberton, M.. BJU Int 2005 :58-61

Laparoscopic nephrectomy: an early experience at Queen Mary Hospital. Cheung, M. C., Lee, F. C., Chu, S. M., Leung, Y. L., Wong, B. B., Ho, K. L., and Tam, P. C.. Hong Kong Med J 2005 :7-11

Learning curve of hand-assisted retroperitoneoscopic nephrectomy in less-experienced laparoscopic surgeons. Kawauchi, A., Fujito, A., Soh, J., Yoneda, K., Ukimura, O., Mizutani, Y., and Miki, T.. Int J Urol 2005 :1-6

A renal mass in the setting of a nonrenal malignancy: When is a renal tumor biopsy appropriate?. Sanchez-Ortiz, R. F., Madsen, L. T., Bermejo, C. E., Wen, S., Shen, Y., Swanson, D. A., and Wood, C. G.. Cancer 2004 :2195-201

The British Association of Urological Surgeons Section of Endourology audit of laparoscopic nephrectomy. Keoghane, S. R., Keeley, F. X., Timoney, A. G., Tolley, D. A., Joyce, A., and Downey, P.. BJU Int 2004 :577-81

Laparoscopic radical nephrectomy in the elderly. Varkarakis, I., Neururer, R., Harabayashi, T., Bartsch, G., and Peschel, R.. BJU Int 2004 :517-20

Hand-assisted retroperitoneoscopic radical nephrectomy and nephroureterectomy. Kawauchi, A., Fujito, A., Soh, J., Ukimura, O., Mizutani, Y., and Miki, T.. J Endourol 2004 :365-9

Advanced age is not a prohibitive factor in laparoscopic nephrectomy for renal pathology. Cobb, W. S., Heniford, B. T., Matthews, B. D., Carbonell, A. M., and Kercher, K. W.. Am Surg 2004 :537-42

Laparoscopic versus open nephrectomy in 210 consecutive patients: outcomes, cost, and changes in practice patterns. Kercher, K. W., Heniford, B. T., Matthews, B. D., Smith, T. I., Lincourt, A. E., Hayes, D. H., Eskind, L. B., Irby, P. B., and Teigland, C. M.. Surg Endosc 2003 :1889-95

Coloepiploic mobilization during left radical nephrectomy for renal cell carcinoma is indicated to reduce the risk of iatrogenic splenectomy. Mejean, A., Chretien, Y., Vogt, B., Cazin, S., Balian, C., Thiounn, N., and Dufour, B.. Urology 2002 :358-61

Sonographically guided renal mass biopsy: indications and efficacy. Johnson, P. T., Nazarian, L. N., Feld, R. I., Needleman, L., Lev-Toaff, A. S., Segal, S. R., and Halpern, E. J.. J Ultrasound Med 2001 :749-53; quiz 755

Carcinological risks and retroperitoneal laparoscopy. Cicco, A., Salomon, L., Hoznek, H., Alame, W., Saint, F., Bralet, M. P., Antiphon, P., Chopin, D. K., and Abbou, C. C.. Eur Urol 2000 :606-12

[Transperitoneal laparoscopic nephrectomy]. Rozenberg, H., Bruyere, F., Abdelkader, T., Husset, A., and Hamoura, H.. Prog Urol 99 :1034-8

Fine-needle aspiration of renal masses in adults: analysis of results and diagnostic problems in 108 cases. Truong, L. D., Todd, T. D., Dhurandhar, B., and Ramzy, I.. Diagn Cytopathol 99 :339-49

Laparoscopic nephrectomy: the experience of the laparoscopy working group of the German Urologic Association. Rassweiler, J., Fornara, P., Weber, M., Janetschek, G., Fahlenkamp, D., Henkel, T., Beer, M., Stackl, W., Boeckmann, W., Recker, F., Lampel, A., Fischer, C., Humke, U., and Miller, K.. J Urol 98 :18-21

[Splenectomy--a complication of left-sided nephrectomy]. Mincik, I. and Petricko, L.. Rozhl Chir 98 :69-72

Incisional hernia after laparoscopic nephrectomy with intact specimen removal: caveat emptor. Elashry, O. M., Giusti, G., Nadler, R. B., McDougall, E. M., and Clayman, R. V.. J Urol 97 :363-9

Utility of renal mass biopsy in a UK tertiary referral centre. Walton T.J., Amery C., Moore D., Mayer N.J., Rajesh A., and Kockelbergh R.C.. Br. J. Med. Surg. Urol. 2012 :216-223

Laparoendoscopic single-site surgery in urology: Worldwide multi-institutional analysis of 1076 cases. Kaouk J.H., Autorino R., Kim F.J., Han D.H., Lee S.W., Yinghao S., Cadeddu J.A., Derweesh I.H., Richstone L., Cindolo L., Branco A., Greco F., Allaf M., Sotelo R., Liatsikos E., Stolzenburg J.-U., Rane A., White W.M., Han W.K., Haber G.-P., White M.A., Molina W.R., Jeong B.C., Lee J.Y., Linhui W., Best S., Stroup S.P., Rais-Bahrami S.,

Schips L., Fornara P., Pierorazio P., Giedelman C., Lee J.W., Stein R.J., and Rha K.H.. Eur. Urol. 2011 :998-1005

Young Age Is Independent Prognostic Factor for Cancer-Specific Survival of Low-Stage Clear Cell Renal Cell Carcinoma. Jung E.-J., Lee H.J., Kwak C., Ku J.H., and Moon K.C.. Urology 2009 :137-141

The relationship between the preoperative systemic inflammatory response and cancer-specific survival in patients undergoing potentially curative resection for renal clear cell cancer. Lamb G.W.A., McMillan D.C., Ramsey S., and Aitchison M.. Br. J. Cancer 2006 :781-784

Laparoscopic operations in urology - Results and complications in 150 patients: Laparoskopicke vykony v urologii - Vysledky a komplikacie u 150 pacientov. L'uptak J., Svihra J., Javorka K., Vrany M., Elias B., Sopilko I., and Kliment Jr. J.. Endoskopie 2005 :66-72

A review of our first 100 cases of laparoscopic nephrectomy: Defining risk factors for complications. Keeley F.X. and Tolley D.A.. Br. J. Urol. 98 :615-618

MDCT-based scoring system for differentiating angiomyolipoma with minimal fat from renal cell carcinoma. Kim, M. H., Lee, J., Cho, G., Cho, K. S., Kim, J., and Kim, J. K.. Acta Radiol 2013 :1201-9

Percutaneous US-guided needle biopsies of solid renal masses. Aribas, B. K., Arda, K., Aktas, E., Ciledag, N., Yakut, F., Sahin, G., Cosar, Y., Dogan, K., and Kaya, G.. Neoplasma 2011 :146-52

Contrast enhanced ultrasonography prediction of cystic renal mass in comparison to histopathology. Xu, Y., Zhang, S., Wei, X., Pan, Y., and Hao, J.. Clin Hemorheol Microcirc 2013 :

Radiologically guided percutaneous fine-needle aspiration biopsy of pelvic and retroperitoneal masses: a retrospective study of 68 cases. Guo, Z., Kurtycz, D. F., De Las Casas, L. E., and Hoerl, H. D.. Diagn Cytopathol 2001 :43-9

Fine-needle aspiration of cystic lesions of the kidney. Morphologic spectrum and diagnostic problems in 41 cases. Todd, T. D., Dhurandhar, B., Mody, D., Ramzy, I., and Truong, L. D.. Am J Clin Pathol 99 :317-28

Different presentations of renal cell cancer on ultrasound and computerized tomography. Markic, D., Krpina, K., Ahel, J., Spanjol, J., Grskovic, A., Stifter, S., Ethordevic, G., Stemberger, C., Pavlovic, I., and Maricic, A.. Urologia 2014 :0

Overall mortality after radical nephrectomy in patients aged over 80 years with renal cancer: a retrospective study on preoperative prognostic factors. Brassart, E., Lebdai, S., Berger, J., Traore, S., Bernhard, J. C., Fardoun, T., Muller, G., Patard, J. J., Azzouzi, A. R., and Bigot, P.. Int J Urol 2012 :626-32

Renal cell carcinoma stage migration in a single European centre over 25 years: effects on 5- and 10-year metastasis-free survival. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Pummer, K., and Zigeuner, R.. Int Urol Nephrol 2012 :997-1004

Partial nephrectomy is associated with improved overall survival compared to radical nephrectomy in patients with unanticipated benign renal tumours. Weight, C. J., Lieser, G., Larson, B. T., Gao, T., Lane, B. R., Campbell, S. C., Gill, I. S., Novick, A. C., and Fergany, A. F.. Eur Urol 2010 :293-8

Laparoscopic radical nephrectomy for renal cell carcinoma: oncological outcomes at 10 years or more. Berger, A., Brandina, R., Atalla, M. A., Herati, A. S., Kamoi, K., Aron, M., Haber, G. P., Stein, R. J., Desai, M. M., Kavoussi, L. R., and Gill, I. S.. J Urol 2009 :2172-6

Benign lesions underwent radical nephrectomy for renal cancer: Bobrek tumoru on tanisi ile radikal nefrektomi yapilan benin lezyonlar. Sahin M.O., Canda A.E., Mungan M.U., Kirkali Z., and Sade M.. Turk Urol. Derg. 2004 :405-409

Patients with recurrent renal cell carcinoma

Feasibility and outcomes of laparoscopic renal intervention after prior open ipsilateral retroperitoneal surgery. Boris, R. S., Gupta, G. N., Benson, J. S., Linehan, W. M., Pinto, P. A., and Bratslavsky, G.. J Endourol 2013 :196-201

Influence of visceral obesity on oncologic outcome in patients with renal cell carcinoma. Naya, Y., Zenbutsu, S., Araki, K., Nakamura, K., Kobayashi, M., Kamijima, S., Imamoto, T., Nihei, N., Suzuki, H., Ichikawa, T., and Igarashi, T.. Urol Int 2010 :30-6

Feasibility of laparoscopic partial nephrectomy after previous ipsilateral renal procedures. Turna, B., Aron, M., Frota, R., Desai, M. M., Kaouk, J., and Gill, I. S.. Urology 2008 :584-8

Open partial nephrectomy for tumor in a solitary kidney: experience with 400 cases. Fergany, A. F., Saad, I. R., Woo, L., and Novick, A. C.. J Urol 2006 :1630-3; discussion 1633

Percutaneous radiofrequency ablation of renal tumors: technique, complications, and outcomes. Ahrar, K., Matin, S., Wood, C. G., Wallace, M. J., Gupta, S., Madoff, D. C., Rao, S., Tannir, N. M., Jonasch, E., Pisters, L. L., Rozner, M. A., Kennamer, D. L., and Hicks, M. E.. J Vasc Interv Radiol 2005 :679-88

Percutaneous renal cryoablation: prospective experience treating 120 consecutive tumors. Buy, X., Lang, H., Garnon, J., Sauleau, E., Roy, C., and Gangi, A.. AJR Am J Roentgenol 2013 :1353-61

CT-guided percutaneous cryoablation of renal masses in selected patients. Spreafico, C., Nicolai, N., Lanocita, R., Morosi, C., Catanzaro, M., Civelli, E., Torelli, T., Stagni, S., Piva, L., Frigerio, L. F., Marchiano, A., and Salvioni, R.. Radiol Med 2012 :593-605

Percutaneous cryoablation of masses in a solitary kidney. Weisbrod, A. J., Atwell, T. D., Frank, I., Callstrom, M. R.,

Farrell, M. A., Mandrekar, J. N., and Charboneau, J. W.. AJR Am J Roentgenol 2010 :1620-5

Imaging guided biopsy of renal masses: indications, accuracy and impact on clinical management. Wood, B. J., Khan, M. A., McGovern, F., Harisinghani, M., Hahn, P. F., and Mueller, P. R.. J Urol 99 :1470-4

Changes in renal function after laparoscopic partial nephrectomy: Comparison with laparoscopic radical nephrectomy. Kang S.H., Rhew H.Y., and Kim T.S.. Korean J. Urol. 2013 :22-25

Clinically non localized patients

Increased expression of Chitinase 3-like 1 and microvessel density predicts metastasis and poor prognosis in clear cell renal cell carcinoma. Zhang, J. P., Yuan, H. X., Kong, W. T., Liu, Y., Lin, Z. M., Wangs, W. P., and Guo, J. M.. Tumour Biol 2014 :

Results of a comparative study analyzing octogenarians with renal cell carcinoma in a competing risk analysis with patients in the seventh decade of life. May, M., Cindolo, L., Zigeuner, R., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Wolff, I., Feciche, B., Fenske, F., Pichler, M., Schips, L., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Santiago Martin, M. D., Salzano, L., Lotrecchiano, G., Waidelich, R., Stief, C., Sountoulides, P., and Brookman-May, S.. Urol Oncol 2014 :

Pretherapeutic gamma-glutamyltransferase is an independent prognostic factor for patients with renal cell carcinoma. Hofbauer, S. L., Stangl, K. I., de Martino, M., Lucca, I., Haitel, A., Shariat, S. F., and Klatte, T.. Br J Cancer 2014 :

Oncologic outcomes after partial versus radical nephrectomy in renal cell carcinomas smaller than 7 cm with presumed renal sinus fat invasion on preoperative imaging. Koo, K. C., Kim, J. C., Cho, K. S., Choi, Y. D., Hong, S. J., Yang, S. C., and Ham, W. S.. BJU Int 2014 :

Serum level and immunohistochemical expression of vascular endothelial growth factor for the prediction of postoperative recurrence in renal cell carcinoma. Fujita, N., Okegawa, T., Terado, Y., Tambo, M., Higashihara, E., and Nutahara, K.. BMC Res Notes 2014 :369

Extent of lymph node dissection at nephrectomy affects cancer-specific survival and metastatic progression in specific sub-categories of patients with renal cell carcinoma (RCC). Capitanio, U., Suardi, N., Matloob, R., Roscigno, M., Abdollah, F., Di Trapani, E., Moschini, M., Gallina, A., Salonia, A., Briganti, A., Montorsi, F., and Bertini, R.. BJU Int 2014 :210-5

Clinical features and treatment of collecting duct carcinoma of the kidney from the korean cancer study group genitourinary and gynecology cancer committee. Kwon, K. A., Oh, S. Y., Kim, H. Y., Kim, H. S., Lee, H. Y., Kim, T. M., Lim, H. Y., Lee, N. R., Lee, H. J., Hong, S. H., and Rha, S. Y.. Cancer Res Treat 2014 :141-7

Prognostic value of clinical and pathological factors for surgically treated localized clear cell renal cell carcinoma. Teng, J., Gao, Y., Chen, M., Wang, K., Cui, X., Liu, Y., and Xu, D.. Chin Med J (Engl) 2014 :1640-4

Does robotic assistance confer an economic benefit during laparoscopic radical nephrectomy?. Yang, D. Y., Monn, M. F., Bahler, C. D., and Sundaram, C. P.. J Urol 2014 :671-6

Preoperative butyrylcholinesterase level as an independent predictor of overall survival in clear cell renal cell carcinoma patients treated with nephrectomy. Koie, T., Ohyama, C., Mikami, J., Iwamura, H., Fujita, N., Sato, T., Kojima, Y., Fukushi, K., Yamamoto, H., Imai, A., Hatakeyama, S., Yoneyama, T., Hashimoto, Y., Kitayama, M., and Hirota, K.. ScientificWorldJournal 2014 :948305

Lymph node dissection during cytoreductive nephrectomy: a retrospective analysis. Feuerstein, M. A., Kent, M., Bernstein, M., and Russo, P.. Int J Urol 2014 :874-9

Cytoreductive nephrectomy for metastatic renal cell carcinoma: a population-based analysis of perioperative outcomes according to clinical stage. Takagi, T., Sugihara, T., Yasunaga, H., Horiguchi, H., Fushimi, K., Kondo, T., Homma, Y., and Tanabe, K.. Int J Urol 2014 :770-5

Diagnostic and prognostic role of preoperative circulating CA 15-3, CA 125, and beta-2 microglobulin in renal cell carcinoma. Lucarelli, G., Ditonno, P., Bettocchi, C., Vavallo, A., Rutigliano, M., Galleggiante, V., Larocca, A. M., Castellano, G., Gesualdo, L., Grandaliano, G., Selvaggi, F. P., and Battaglia, M.. Dis Markers 2014 :689795

Tumour characteristics and surgical treatment of renal cell carcinoma in Sweden 2005-2010: a population-based study from the National Swedish Kidney Cancer Register. Thorstenson, A., Bergman, M., Scherman-Plogell, A. H., Hosseinnia, S., Ljungberg, B., Adolfsson, J., and Lundstam, S.. Scand J Urol 2014 :231-8

Comparison of the Complications and the Cost of Open and Laparoscopic Radical Nephrectomy in Renal Tumors Larger than 7 centimeters. Bayrak, O., Seckiner, I., Erturhan, S., Cil, G., Erbagci, A., and Yagci, F.. Urol J 2014 :1222-7

External validation of the modified Glasgow prognostic score for renal cancer. Tai, C. G., Johnson, T. V., Abbasi, A., Herrell, L., Harris, W. B., Kucuk, O., Canter, D. J., Ogan, K., Pattaras, J. G., Nieh, P. T., and Master, V. A.. Indian J Urol 2014 :33-7

Evolving epidemiologic trends in nonclear cell renal cell cancer: an analysis of the California Cancer Registry. Pai, A., Brunson, A., Brown, M., Pan, C. X., and Lara, P. N. Jr. Urology 2013 :840-5

Do young patients with renal cell carcinoma feature a distinct outcome after surgery? A comparative analysis of patient age based on the multinational CORONA database. Aziz, A., May, M., Zigeuner, R., Pichler, M., Chromecki,

T., Cindolo, L., Schips, L., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Hoschke, B., Gilfrich, C., Feciche, B., Fenske, F., Sountoulides, P., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Del Carmen Santiago Martin, M., Wieland, W. F., Salzano, L., Lotrecchiano, G., Waidelich, R., Stief, C., and Brookman-May, S.. J Urol 2014 :310-5

An analysis of patients with T2 renal cell carcinoma (RCC) according to tumour size: a population-based analysis. Bianchi, M., Becker, A., Trinh, Q. D., Abdollah, F., Tian, Z., Shariat, S. F., Montorsi, F., Perrotte, P., Graefen, M., Karakiewicz, P. I., and Sun, M.. BJU Int 2013 :1184-90

Renal lymph nodes for tumor staging: appraisal of 871 nephrectomies with examination of hilar fat. Mehta, V., Mudaliar, K., Ghai, R., Quek, M. L., Milner, J., Flanigan, R. C., and Picken, M. M.. Arch Pathol Lab Med 2013 :1584-90

A generation of laparoscopic nephrectomy: stage-specific surgical and oncologic outcomes for laparoscopic nephrectomy in a single center. Laird, A., Stewart, G. D., Zhong, J., Ang, W. J., Cutress, M. L., Riddick, A. C., McNeill, S. A., and Tolley, D. A.. J Endourol 2013 :1008-14

Operative safety and oncologic outcome of laparoscopic radical nephrectomy for renal cell carcinoma >7 cm: a multicenter study of 222 patients. Luciani, L. G., Porpiglia, F., Cai, T., D'Elia, C., Vattovani, V., Giusti, G., Tiscione, D., Chiodini, S., Peschechera, R., Fiori, C., Spina, R., Parma, P., Celia, A., and Malossini, G.. Urology 2013 :1239-44

Gender differences in clinicopathological features and survival in surgically treated patients with renal cell carcinoma: an analysis of the multicenter CORONA database. May, M., Aziz, A., Zigeuner, R., Chromecki, T., Cindolo, L., Schips, L., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Hoschke, B., Gilfrich, C., Feciche, B., Stoltze, A., Fenske, F., Fritsche, H. M., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Martin Mdel, C., Salzano, L., Lotrecchiano, G., Joniau, S., Waidelich, R., Stief, C., and Brookman-May, S.. World J Urol 2013 :1073-80

Validation of serum C-reactive protein (CRP) as an independent prognostic factor for disease-free survival in patients with localised renal cell carcinoma (RCC). de Martino, M., Klatte, T., Seemann, C., Waldert, M., Haitel, A., Schatzl, G., Remzi, M., and Weibl, P.. BJU Int 2013 :E348-53

Assessing the accuracy and generalizability of the preoperative and postoperative Karakiewicz nomograms for renal cell carcinoma: results from a multicentre European and US study. Cindolo, L., Chiodini, P., Brookman-May, S., De Cobelli, O., May, M., Squillacciotti, S., De Nunzio, C., Tubaro, A., Coman, I., Feciche, B., Truss, M., Wirth, M. P., Dalpiaz, O., Chromecki, T. F., Shariat, S. F., Sanchez-Chapado, M., Santiago Martin Mdel, C., Rocco, B., Salzano, L., Lotrecchiano, G., Berardinelli, F., and Schips, L.. BJU Int 2013 :578-84

Predictive factors of chronic kidney disease stage V after partial nephrectomy in a solitary kidney: a multi-institutional study. Verhoest, G., Patard, J. J., Oger, E., Rioux-Leclercq, N., Peyronnet, B., Bessede, T., Laguna, P., Barwari, K., Rigaud, J., Roupret, M., Coffin, G., Bernhard, J. C., Long, J. A., Zisman, A., Berger, J., Paparel, P., Maurin, C., Lechevallier, E., Bertini, R., Ouzaid, I., Salomon, L., Bex, A., Farfara, R., Ljungberg, B., Rodriguez, A. R., and Bensalah, K.. Urol Oncol 2014 :28.e21-6

The effect of gender and age on kidney cancer survival: younger age is an independent prognostic factor in women with renal cell carcinoma. Rampersaud, E. N., Klatte, T., Bass, G., Patard, J. J., Bensaleh, K., Bohm, M., Allhoff, E. P., Cindolo, L., De La Taille, A., Mejean, A., Soulie, M., Bellec, L., Christophe Bernhard, J., Pfister, C., Colombel, M., Belldegrun, A. S., Pantuck, A. J., and George, D.. Urol Oncol 2014 :30.e9-13

Evaluation of long-term outcome for patients with renal cell carcinoma after surgery: analysis of cancer deaths occurring more than 10 years after initial treatment. Kyoda, Y., Kobayashi, K., Hirobe, M., Shindo, T., Fukuta, F., Hashimoto, K., Tanaka, T., Tonooka, A., Kitamura, H., Takahashi, S., Masumori, N., Hasegawa, T., and Tsukamoto, T.. Int J Clin Oncol 2014 :146-51

Association of microvascular and capillary-lymphatic invasion with outcome in patients with renal cell carcinoma. Eisenberg, M. S., Cheville, J. C., Thompson, R. H., Kaushik, D., Lohse, C. M., Boorjian, S. A., Costello, B. A., and Leibovich, B. C.. J Urol 2013 :37-43

[Perioperative outcomes and mid-term results of radiofrequency ablation and partial nephrectomy in indications of renal tumor treatment and imperative nephron-sparing procedure]. Arnoux, V., Descotes, J. L., Sengel, C., Terrier, N., Rambeaud, J. J., and Long, J. A.. Prog Urol 2013 :99-104

Erythrocyte sedimentation rate and anaemia are independent predictors of survival in patients with clear cell renal cell carcinoma. Choi, Y., Park, B., Kim, K., Jeong, B. C., Seo, S. I., Jeon, S. S., Choi, H. Y., Lee, J. E., and Lee, H. M.. Br J Cancer 2013 :387-94

Complications of radical nephrectomy for renal cell carcinoma: a retrospective study comparing transperitoneal and retroperitoneal approaches using a standardized reporting methodology in two Chinese centers. Zhang, Z. L., Li, Y. H., Luo, J. H., Liu, Z. W., Yao, K., Dong, P., Han, H., Qin, Z. K., Chen, W., and Zhou, F. J.. Chin J Cancer 2013 :461-8

Does mechanical bowel preparation improve quality of laparoscopic nephrectomy? Propensity score-matched analysis in Japanese series. Sugihara, T., Yasunaga, H., Horiguchi, H., Fujimura, T., Nishimatsu, H., Ohe, K., Matsuda, S., Fushimi, K., Kattan, M. W., and Homma, Y.. Urology 2013 :74-9

Prognostic factors of overall survival in renal cancer patients - single oncological center study. Drewniak, T.,

Sandheim, M., Jakubowski, J., Juszczak, K., and Stelmach, A. W.. Cent European J Urol 2013 :283-91

Down-regulation of human leukocyte antigen class I (HLA-I) is associated with poor prognosis in patients with clear cell renal cell carcinoma. Yuan, J., Liu, S., Yu, Q., Lin, Y., Bi, Y., Wang, Y., and An, R.. Acta Histochem 2013 :470-4

Wide range and variation in minimally invasive surgery for renal malignancy in Japan: a population-based analysis. Sugihara, T., Yasunaga, H., Horiguchi, H., Tsuru, N., Fujimura, T., Nishimatsu, H., Kume, H., Ohe, K., Matsuda, S., Fushimi, K., and Homma, Y.. Int J Clin Oncol 2013 :1070-7

Usefulness of R.E.N.A.L. nephrometry scoring system for predicting outcomes and complications of percutaneous ablation of 751 renal tumors. Schmit, G. D., Thompson, R. H., Kurup, A. N., Weisbrod, A. J., Boorjian, S. A., Carter, R. E., Geske, J. R., Callstrom, M. R., and Atwell, T. D.. J Urol 2013 :30-5

A preoperative prognostic model predicting recurrence-free survival for patients with kidney cancer. Yaycioglu, O., Eskicorapci, S., Karabulut, E., Soyupak, B., Gogus, C., Divrik, T., Turkeri, L., Yazici, S., and Ozen, H.. Jpn J Clin Oncol 2013 :63-8

Uric acid levels correlate with baseline renal function and high levels are a potent risk factor for postoperative chronic kidney disease in patients with renal cell carcinoma. Jeon, H. G., Choo, S. H., Jeong, B. C., Seo, S. I., Jeon, S. S., Choi, H. Y., and Lee, H. M.. J Urol 2013 :1249-54

Radical nephrectomy with transperitoneal subcostal incision for large and locally advanced tumors of the right kidney. Anastasiou, J., Karatzas, T., Felekouras, E., Tokas, T., Koutalellis, G., Mitropoulos, D., and Constantinides, C.. Anticancer Res 2012 :5023-9

Racial disparity in renal cell carcinoma patient survival according to demographic and clinical characteristics. Chow, W. H., Shuch, B., Linehan, W. M., and Devesa, S. S.. Cancer 2013 :388-94

Can we predict which patients will evolve to chronic kidney disease after nephrectomy for cortical renal tumors?. Torricelli, F. C., Danilovic, A., Marchini, G. S., Sant'Anna, A. C., Dall'Oglio, M. F., and Srougi, M.. Int Braz J Urol 2012 :637-43; discussion 644

Cyclooxygenase-2 expression and its prognostic significance in clear cell renal cell carcinoma. Lee, J. W., Park, J. H., Suh, J. H., Nam, K. H., Choe, J. Y., Jung, H. Y., Chae, J. Y., and Moon, K. C.. Korean J Pathol 2012 :237-45

Predictive ability of the 2002 and 2010 versions of the Tumour-Node-Metastasis classification system regarding metastasis-free, cancer-specific and overall survival in a European renal cell carcinoma single-centre series. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Groselj-Strele, A., Pummer, K., and Zigeuner, R.. BJU Int 2013 :E191-5

Short-term functional and oncological outcomes of partial nephrectomy for renal cell carcinoma in patients with an anatomically or functionally solitary kidney: single-center experience. Maehana, T., Tanaka, T., Kitamura, H., Masumori, N., and Tsukamoto, T.. Int J Clin Oncol 2013 :1049-53

Nodal involvement at nephrectomy is associated with worse survival: a stage-for-stage and grade-for-grade analysis. Sun, M., Bianchi, M., Hansen, J., Abdollah, F., Trinh, Q. D., Lughezzani, G., Shariat, S. F., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. Int J Urol 2013 :372-80

Comparison of the 2002 and 2010 TNM classification systems regarding outcome prediction in clear cell and papillary renal cell carcinoma. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Groselj-Strele, A., Hoefler, G., Pummer, K., and Zigeuner, R.. Histopathology 2013 :237-46

ABO blood group is a predictor of survival in patients undergoing surgery for renal cell carcinoma. Kaffenberger, S. D., Morgan, T. M., Stratton, K. L., Boachie, A. M., Barocas, D. A., Chang, S. S., Cookson, M. S., Herrell, S. D., Smith, J. A., and Clark, P. E.. BJU Int 2012 :E641-6

Validation of CRP as prognostic marker for renal cell carcinoma in a large series of patients. Steffens, S., Kohler, A., Rudolph, R., Eggers, H., Seidel, C., Janssen, M., Wegener, G., Schrader, M., Kuczyk, M. A., and Schrader, A. J.. BMC Cancer 2012 :399

Factors affecting renal function after open partial nephrectomy-a comparison of clampless and clamped warm ischemic technique. Kopp, R. P., Mehrazin, R., Palazzi, K., Bazzi, W. M., Patterson, A. L., and Derweesh, I. H.. Urology 2012 :865-70

External validation of the preoperative Karakiewicz nomogram in a large multicentre series of patients with renal cell carcinoma. Gontero, P., Sun, M., Antonelli, A., Bertini, R., Carini, M., Carmignani, G., Longo, N., Martorana, G., Minervini, A., Mirone, V., Morgia, G., Novara, G., Oderda, M., Simeone, C., Simonato, A., Siracusano, S., Tizzani, A., Volpe, A., Karakiewicz, P., and Ficarra, V.. World J Urol 2013 :1285-90

Port site metastasis after laparoscopic radical nephrectomy: a single-center experience. Kumar, V., Mandhani, A., Srivastava, A., Ansari, M. S., Singh, U. P., and Kapoor, R.. Indian J Cancer 2012 :102-6

Detailed analysis of morbidity following nephrectomy for renal cell carcinoma in octogenarians. Berger, J., Fardoun, T., Brassart, E., Capon, G., Bigot, P., Bernhard, J. C., Rigaud, J., Patard, J. J., and Descazeaud, A.. J Urol 2012 :736-40

Features associated with recurrence beyond 5 years after nephrectomy and nephron-sparing surgery for renal cell carcinoma: development and internal validation of a risk model (PRELANE score) to predict late recurrence based on a large multicenter database (CORONA/SATURN Project). Brookman-May, S., May, M., Shariat, S. F., Xylinas, E., Stief, C., Zigeuner, R., Chromecki, T., Burger,

M., Wieland, W. F., Cindolo, L., Schips, L., De Cobelli, O., Rocco, B., De Nunzio, C., Feciche, B., Truss, M., Gilfrich, C., Pahernik, S., Hohenfellner, M., Zastrow, S., Wirth, M. P., Novara, G., Carini, M., Minervini, A., Simeone, C., Antonelli, A., Mirone, V., Longo, N., Simonato, A., Carmignani, G., and Ficarra, V.. Eur Urol 2013 :472-7

Prognostic factors in renal cell carcinoma: analysis of 227 patients treated at the Brazilian National Cancer Institute. Ornellas, A. A., Andrade, D. M., Ornellas, P., Wisnescky, A., and Schwindt, A. B.. Int Braz J Urol 2012 :185-94

The impact of delaying radical nephrectomy for stage II or higher renal cell carcinoma. Kim, K. H., You, D., Jeong, I. G., Song, C., Hong, J. H., Ahn, H., and Kim, C. S.. J Cancer Res Clin Oncol 2012 :1561-7

Obesity is associated with an improved cancer-specific survival, but an increased rate of postoperative complications after surgery for renal cell carcinoma. Rogde, A. J., Gudbrandsdottir, G., Hjelle, K. M., Sand, K. E., Bostad, L., and Beisland, C.. Scand J Urol Nephrol 2012 :348-57

Renal function outcomes after nephrectomy for kidney cancer in elderly patients. Markic, D., Valencic, M., Spanjol, J., Materljan, M., and Fuckar, D.. Coll Antropol 2011 :121-4

Chromophobe renal cell carcinoma: analysis of 53 cases. Zhao, P. J., Chen, X. P., Li, X. S., Yao, L., Zhang, C. J., Yu, W., He, Q., He, Z. S., and Zhou, L. Q.. J Cancer Res Clin Oncol 2012 :451-4

Hospital volume is a determinant of postoperative complications, blood transfusion and length of stay after radical or partial nephrectomy. Sun, M., Bianchi, M., Trinh, Q. D., Abdollah, F., Schmitges, J., Jeldres, C., Shariat, S. F., Graefen, M., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. J Urol 2012 :405-10

Postoperative complications and long-term survival among patients treated surgically for renal cell carcinoma. Tan, H. J., Hafez, K. S., Ye, Z., Wei, J. T., and Miller, D. C.. J Urol 2012 :60-6

Gender-specific clinicopathological features and survival in patients with renal cell carcinoma (RCC). Lee, S., Jeon, H. G., Kwak, C., Kim, H. H., Byun, S. S., Lee, S. E., and Lee, E.. BJU Int 2012 :E28-33

Randomized controlled study of natural interferon alpha as adjuvant treatment for stage II or III renal cell carcinoma. Hinotsu, S., Kawai, K., Ozono, S., Tsushima, T., Tokuda, N., Nomata, K., Naito, S., and Akaza, H.. Int J Clin Oncol 2013 :68-74

Difference between clinical and pathologic renal tumor size, correlation with survival, and implications for patient counseling regarding nephron-sparing surgery. Brookman-May, S., Johannsen, M., May, M., Hoschke, B., Gunschera, J., Wieland, W. F., and Burger, M.. AJR Am J Roentgenol 2011 :1137-45

Small renal cell carcinoma: oncological outcome with tumour size. Pahernik, S., Huber, J., Pfitzenmaier, J., Haferkamp, A., and Hohenfellner, M.. Scand J Urol Nephrol 2011 :432-5

External validation of the Leibovich prognosis score for nonmetastatic clear cell renal cell carcinoma at a single European center applying routine pathology. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Rehak, P., Pummer, K., and Zigeuner, R.. J Urol 2011 :1773-7

Prognostic significance of CD45RO+ memory T cells in renal cell carcinoma. Hotta, K., Sho, M., Fujimoto, K., Shimada, K., Yamato, I., Anai, S., Konishi, N., Hirao, Y., Nonomura, K., and Nakajima, Y.. Br J Cancer 2011 :1191-6

Comparison of rates and risk factors for development of anaemia and erythropoiesis-stimulating agent utilization after radical or partial nephrectomy. Woldrich, J., Mehrazin, R., Bazzi, W. M., Bagrodia, A., Kopp, R. P., Malcolm, J. B., Kane, C. J., Patterson, A. L., Wan, J. Y., and Derweesh, I. H.. BJU Int 2012 :1019-25

Validation of the 2009 TNM Classification for Renal Cell Carcinoma: Comparison with the 2002 TNM Classification by Concordance Index. Lee, C., You, D., Park, J., Jeong, I. G., Song, C., Hong, J. H., Ahn, H., and Kim, C. S.. Korean J Urol 2011 :524-30

Outcomes and clinicopathologic variables associated with late recurrence after nephrectomy for localized renal cell carcinoma. Kim, S. P., Weight, C. J., Leibovich, B. C., Thompson, R. H., Costello, B. A., Cheville, J. C., Lohse, C. M., and Boorjian, S. A.. Urology 2011 :1101-6

[Adult renal cancer in Senegal: Current epidemiological, clinical features, profile's evolution over the two past decades]. Fall, B., Diao, B., Sow, Y., Sarr, A., Thiam, A., Fall, P. A., Ndoye, A. K., Sylla, C., Ba, M., Mendes, V., and Diagne, B. A.. Prog Urol 2011 :521-6

A multidisciplinary evaluation of inter-reviewer agreement of the nephrometry score and the prediction of long-term outcomes. Weight, C. J., Atwell, T. D., Fazzio, R. T., Kim, S. P., Kenny, M., Lohse, C. M., Boorjian, S. A., Leibovich, B. C., and Thompson, R. H.. J Urol 2011 :1223-8

The Karakiewicz nomogram is the most useful clinical predictor for survival outcomes in patients with localized renal cell carcinoma. Tan, M. H., Li, H., Choong, C. V., Chia, K. S., Toh, C. K., Tang, T., Tan, P. H., Wong, C. F., Lau, W., and Cheng, C.. Cancer 2011 :5314-24

Chronic pulmonary diseases are independent risk factors for complications after radical nephrectomy. Tokgoz, H., Akduman, B., Unal, I., Erol, B., Akyurek, E., and Mungan, N. A.. Int Urol Nephrol 2011 :1025-31

Independent validation of the 2010 American Joint Committee on Cancer TNM classification for renal cell carcinoma: results from a large, single institution cohort. Kim, S. P., Alt, A. L., Weight, C. J., Costello, B. A., Cheville, J. C., Lohse, C., Allmer, C., and Leibovich, B. C.. J Urol 2011 :2035-9

Lymphadenectomy improves survival of patients with renal cell carcinoma and nodal metastases. Whitson, J. M.,

Harris, C. R., Reese, A. C., and Meng, M. V.. J Urol 2011 :1615-20

Renal impairment after laparoscopic radical nephrectomy affects hypoglycaemic therapy. Mizuno, T., Ito, K., Miyagawa, Y., Kimura, K., Suzuki, Y., Mizuno, M., Ito, Y., Funahashi, Y., Hattori, R., Gotoh, M., Noda, Y., and Yamada, K.. J Clin Pharm Ther 2012 :49-52

Oncological outcome of surgical treatment in 336 patients with renal cell carcinoma. Zhang, Z. L., Li, Y. H., Xiong, Y. H., Hou, G. L., Yao, K., Dong, P., Liu, Z. W., Han, H., Qin, Z. K., and Zhou, F. J.. Chin J Cancer 2010 :995-9

Adverse renal outcomes in subjects undergoing nephrectomy for renal tumors: a population-based analysis. Klarenbach, S., Moore, R. B., Chapman, D. W., Dong, J., and Braam, B.. Eur Urol 2011 :333-9

Contemporary experience with laparoscopic radical nephrectomy. Mues, A. C., Haramis, G., Rothberg, M. B., Okhunov, Z., Casazza, C., and Landman, J.. J Laparoendosc Adv Surg Tech A 2011 :15-8

Age-adjusted incidence, mortality, and survival rates of stage-specific renal cell carcinoma in North America: a trend analysis. Sun, M., Thuret, R., Abdollah, F., Lughezzani, G., Schmitges, J., Tian, Z., Shariat, S. F., Montorsi, F., Patard, J. J., Perrotte, P., and Karakiewicz, P. I.. Eur Urol 2011 :135-41

Comparison of laparoscopic versus open radical nephrectomy for large renal tumors: a retrospective analysis of multi-center results. Jeon, S. H., Kwon, T. G., Rha, K. H., Sung, G. T., Lee, W., Lim, J. S., Jeong, Y. B., Hong, S. H., Kim, H. H., and Byun, S. S.. BJU Int 2011 :817-21

Late recurrence of renal cell carcinoma: retrospective and collaborative study of the Japanese Society of Renal Cancer. Miyao, N., Naito, S., Ozono, S., Shinohara, N., Masumori, N., Igarashi, T., Nakao, M., Tsushima, T., Senga, Y., Horie, S., Kanayama, H. O., Tokuda, N., and Kobayashi, M.. Urology 2011 :379-84

Comparison of radical and partial nephrectomy in terms of renal function: a retrospective cohort study. Suer, E., Burgu, B., Gokce, M. I., Turkolmez, K., Beduk, Y., and Baltaci, S.. Scand J Urol Nephrol 2011 :24-9

Histopathological predictors of renal function decrease after laparoscopic radical nephrectomy. Gautam, G., Lifshitz, D., Shikanov, S., Moore, J. M., Eggener, S. E., Shalhav, A. L., and Chang, A.. J Urol 2010 :1872-6

Clinico-radio-pathologic features of a solitary solid renal mass at MDCT examination. Kim, E. Y., Park, B. K., Kim, C. K., and Lee, H. M.. Acta Radiol 2010 :1143-8

Impact of body mass index and weight loss on cancer-specific and overall survival in patients with surgically resected renal cell carcinoma. Brookman-May, S., Kendel, F., Hoschke, B., Wieland, W. F., Burger, M., Rossler, W., and May, M.. Scand J Urol Nephrol 2011 :5-14

Influence of visceral obesity on oncologic outcome in patients with renal cell carcinoma. Naya, Y., Zenbutsu, S., Araki, K., Nakamura, K., Kobayashi, M., Kamijima, S., Imamoto, T., Nihei, N., Suzuki, H., Ichikawa, T., and Igarashi, T.. Urol Int 2010 :30-6

Validation of the 2009 TNM version in a large multi-institutional cohort of patients treated for renal cell carcinoma: are further improvements needed?. Novara, G., Ficarra, V., Antonelli, A., Artibani, W., Bertini, R., Carini, M., Cosciani Cunico, S., Imbimbo, C., Longo, N., Martignoni, G., Martorana, G., Minervini, A., Mirone, V., Montorsi, F., Schiavina, R., Simeone, C., Serni, S., Simonato, A., Siracusano, S., Volpe, A., and Carmignani, G.. Eur Urol 2010 :588-95

Obesity is associated with improved survival in patients with organ-confined clear-cell kidney cancer. Waalkes, S., Merseburger, A. S., Kramer, M. W., Herrmann, T. R., Wegener, G., Rustemeier, J., Hofmann, R., Schrader, M., Kuczyk, M. A., and Schrader, A. J.. Cancer Causes Control 2010 :1905-10

[Experiences of open transperitoneal radical nephrectomy for large renal masses]. Yao, X. D., Ye, D. W., Zhang, S. L., Dai, B., Zhang, H. L., Shen, Y. J., Zhu, Y., Zhu, Y. P., Shi, G. H., Ma, C. G., Xiao, W. J., Qin, X. J., and Lin, G. W.. Zhonghua Yi Xue Za Zhi 2010 :1117-9

Feasibility of differential diagnosis of kidney tumors by comparative genomic hybridization of fine needle aspiration biopsies. Vieira, J., Henrique, R., Ribeiro, F. R., Barros-Silva, J. D., Peixoto, A., Santos, C., Pinheiro, M., Costa, V. L., Soares, M. J., Oliveira, J., Jeronimo, C., and Teixeira, M. R.. Genes Chromosomes Cancer 2010 :935-47

Impact of body mass index on perioperative outcomes of laparoscopic radical nephrectomy in Japanese patients with clinically localized renal cell carcinoma. Miyake, H., Muramaki, M., Tanaka, K., Takenaka, A., and Fujisawa, M.. Int J Urol 2010 :522-6

The prognostic value of erythrocyte polyamines in the preoperative evaluation of patients with renal cell carcinoma. Lughezzani, G., Karakiewicz, P. I., Bigot, P., Perrotte, P., Crepel, M., Rioux-Leclercq, N., Catros-Quemener, V., Moulinoux, J. P., Bouet, F., Cipolla, B., and Patard, J. J.. Eur J Cancer 2010 :1927-35

[Pathological prognostic indicators in renal cell carcinoma]. Rey Rey, J., Leon Ramirez, D., Lopez Garcia, S., Fernandez Vazquez, P., Benavente Delgado, J., and Ojea Calvo, A.. Actas Urol Esp 2010 :71-7

The use of the American Society of Anesthesiology Classification as a prognostic factor in patients with renal cell carcinoma. de Cassio Zequi, S., de Campos, E. C., Guimaraes, G. C., Bachega, W. Jr, da Fonseca, F. P., and Lopes, A.. Urol Int 2010 :67-72

Histological subtype is an independent predictor of outcome for patients with renal cell carcinoma. Leibovich, B. C., Lohse, C. M., Crispen, P. L., Boorjian, S. A., Thompson, R. H., Blute, M. L., and Cheville, J. C.. J Urol 2010 :1309-15

The prognostic value of erythrocyte polyamine in the post-nephrectomy stratification of renal cell carcinoma specific mortality. Bigot, P., Lughezzani, G., Karakiewicz, P., Perrotte, P., Rioux-Leclercq, N., Catros-Quemener, V., Bouet, F., Moulinoux, J. P., Cipolla, B., and Patard, J. J.. J Urol 2010 :486-91

Preoperative erythrocyte sedimentation rate is an independent prognostic factor in Japanese patients with localized clear cell renal cell carcinoma. Kawai, Y., Matsuyama, H., Korenaga, Y., Misumi, T., Eguchi, S., Hara, T., Nagao, K., Ohmi, C., Sakano, S., and Naito, K.. Urol Int 2009 :306-10

Limited prognostic value of tumor necrosis in patients with renal cell carcinoma. Isbarn, H., Patard, J. J., Lughezzani, G., Rioux-Leclercq, N., Crepel, M., Cindolo, L., de la Taille, A., Zini, L., Villers, A., Shariat, S. F., Bertini, R., and Karakiewicz, P. I.. Urology 2010 :1378-84

Presence of intratumoral neutrophils is an independent prognostic factor in localized renal cell carcinoma. Jensen, H. K., Donskov, F., Marcussen, N., Nordsmark, M., Lundbeck, F., and von der Maase, H.. J Clin Oncol 2009 :4709-17

Impact of Charlson's comorbidity index on overall survival following tumor nephrectomy for renal cell carcinoma. Ather, M. H. and Nazim, S. M.. Int Urol Nephrol 2010 :299-303

Laparoscopic radical nephrectomy for patients with T2 and T3 renal-cell carcinoma: evaluation of perioperative outcomes. Bird, V. G., Shields, J. M., Aziz, M., Ayyathurai, R., De Los Santos, R., and Roeter, D. H.. J Endourol 2009 :1527-33

Transperitoneal laparoscopic radical nephrectomy is an effective procedure for large (more than 7 cm) renal masses. Chertin, B., Benjamin, S., Reissman, P., Kheifets, A., Prat, O., Shenfeld, O. Z., Sidi, A. A., and Tsivian, A.. Surg Laparosc Endosc Percutan Tech 2009 :353-5

Urinary collecting system invasion is an independent prognostic factor of organ confined renal cell carcinoma. Verhoest, G., Avakian, R., Bensalah, K., Thuret, R., Ficarra, V., Artibani, W., Tostain, J., Guille, F., Cindolo, L., De La Taille, A., Abbou, C. C., Salomon, L., Rioux-Leclercq, N., and Patard, J. J.. J Urol 2009 :854-9

Validation of a postoperative prognostic model consisting of tumor microvascular invasion, size, and grade to predict disease-free and cancer-specific survival of patients with surgically resected renal cell carcinoma. May, M., Brookman-Amissah, S., Kendel, F., Knoll, N., Roigas, J., Hoschke, B., Miller, K., Gilfrich, C., Pflanz, S., and Gralla, O.. Int J Urol 2009 :616-21

Metastatic renal cell carcinoma risk according to tumor size. Thompson, R. H., Hill, J. R., Babayev, Y., Cronin, A., Kaag, M., Kundu, S., Bernstein, M., Coleman, J., Dalbagni, G., Touijer, K., and Russo, P.. J Urol 2009 :41-5

Factors predicting health-related quality of life recovery in patients undergoing surgical treatment for renal tumors: prospective evaluation using the RAND SF-36 Health Survey. Novara, G., Secco, S., Botteri, M., De Marco, V., Artibani, W., and Ficarra, V.. Eur Urol 2010 :112-20

Postoperative surveillance for renal cell carcinoma: a multifactorial histological subtype specific protocol. Siddiqui, S. A., Frank, I., Cheville, J. C., Lohse, C. M., Leibovich, B. C., and Blute, M. L.. BJU Int 2009 :778-85

Radical nephrectomy surgical outcomes in the University HealthSystem Consortium Data Base: Impact of hospital case volume, hospital size, and geographic location on 40,000 patients. Mitchell, R. E., Lee, B. T., Cookson, M. S., Barocas, D. A., Duke Herrell, S., Clark, P. E., Smith, J. A., and Chang, S. S.. Cancer 2009 :2447-52

Preoperative prognostic nomogram (probability table) for renal cell carcinoma based on TNM classification. Kanao, K., Mizuno, R., Kikuchi, E., Miyajima, A., Nakagawa, K., Ohigashi, T., Nakashima, J., and Oya, M.. J Urol 2009 :480-5; discussion 485

The prognostic relevance of interactions between venous invasion, lymph node involvement and distant metastases in renal cell carcinoma after radical nephrectomy. Zubac, D. P., Bostad, L., Seidal, T., Wentzel-Larsen, T., and Haukaas, S. A.. BMC Urol 2008 :19

Transperitoneal versus retroperitoneal laparoscopic radical nephrectomy: a comparative study. Taue, R., Izaki, H., Koizumi, T., Kishimoto, T., Oka, N., Fukumori, T., Takahashi, M., and Kanayama, H. O.. Int J Urol 2009 :263-7

Thirty-day mortality after nephrectomy: clinical implications for informed consent. Cloutier, V., Capitanio, U., Zini, L., Perrotte, P., Jeldres, C., Shariat, S. F., Arjane, P., Patard, J. J., Montorsi, F., and Karakiewicz, P. I.. Eur Urol 2009 :998-1003

Race affects access to nephrectomy but not survival in renal cell carcinoma. Zini, L., Perrotte, P., Capitanio, U., Jeldres, C., Duclos, A., Arjane, P., Villers, A., Montorsi, F., Patard, J. J., and Karakiewicz, P. I.. BJU Int 2009 :889-93

Stage-specific effect of nodal metastases on survival in patients with non-metastatic renal cell carcinoma. Capitanio, U., Jeldres, C., Patard, J. J., Perrotte, P., Zini, L., de La Taille, A., Ficarra, V., Cindolo, L., Bensalah, K., Artibani, W., Tostain, J., Valeri, A., Zigeuner, R., Mejean, A., Descotes, J. L., Lechevallier, E., Mulders, P. F., Lang, H., Jacqmin, D., and Karakiewicz, P. I.. BJU Int 2009 :33-7

Radical nephrectomy with and without lymph-node dissection: final results of European Organization for Research and Treatment of Cancer (EORTC) randomized phase 3 trial 30881. Blom, J. H., van Poppel, H., Marechal, J. M., Jacqmin, D., Schroder, F. H., de Prijck, L., and Sylvester, R.. Eur Urol 2009 :28-34

A preoperative prognostic model for patients treated with nephrectomy for renal cell carcinoma. Karakiewicz, P. I., Suardi, N., Capitanio, U., Jeldres, C., Ficarra, V., Cindolo, L., de la Taille, A., Tostain, J., Mulders, P. F., Bensalah, K., Artibani, W., Salomon, L., Zigeuner, R., Valeri, A.,

Descotes, J. L., Rambeaud, J. J., Mejean, A., Montorsi, F., Bertini, R., and Patard, J. J.. Eur Urol 2009 :287-95

Renal cell carcinoma in young and old patients--is there a difference?. Thompson, R. H., Ordonez, M. A., Iasonos, A., Secin, F. P., Guillonneau, B., Russo, P., and Touijer, K.. J Urol 2008 :1262-6; discussion 1266

External validation of the Mayo Clinic cancer specific survival score in a Japanese series of clear cell renal cell carcinoma. Fujii, Y., Saito, K., Iimura, Y., Sakai, Y., Koga, F., Kawakami, S., Kumagai, J., and Kihara, K.. J Urol 2008 :1290-5; discussion 1295-6

Radiofrequency ablation of renal tumors in the solitary kidney. Krambeck, A. E., Farrell, M. A., Callstrom, M. R., Atwell, T. D., Charboneau, J. W., Chow, G. K., Dimarco, D. S., and Patterson, D. E.. Can J Urol 2008 :4163-8; discussion 4168

Robotic nephrectomy for the treatment of benign and malignant disease. Rogers, C., Laungani, R., Krane, L. S., Bhandari, A., Bhandari, M., and Menon, M.. BJU Int 2008 :1660-5

Retroperitoneal laparoscopic radical nephrectomy: intermediate oncological results. Larre, S., Kanso, C., De La Taille, A., Hoznek, A., Vordos, D., Yiou, R., Abbou, C. C., and Salomon, L.. World J Urol 2008 :611-5

Nephron-sparing surgery: a call for greater application of established techniques. Young, J. G., Luscombe, C. J., Lynch, C., and Wallace, D. M.. BJU Int 2008 :1389-93

Renal surgery in the elderly: morbidity in patients aged >75 years in a contemporary series. Staehler, M., Haseke, N., Stadler, T., Bader, M., Karl, A., Becker, A., and Stief, C. G.. BJU Int 2008 :684-7

Comparison of open and laparoscopic nephrectomy in obese and nonobese patients: outcomes stratified by body mass index. Feder, M. T., Patel, M. B., Melman, A., Ghavamian, R., and Hoenig, D. M.. J Urol 2008 :79-83

The efficacy of laparoscopic radical nephrectomy for renal cell cancer in the elderly: an oncological outcome analysis. Harano, M., Eto, M., Yokomizo, A., Tatsugami, K., Hamaguchi, M., and Naito, S.. Int J Urol 2008 :577-81

Percutaneous renal cryoablation: experience treating 115 tumors. Atwell, T. D., Farrell, M. A., Leibovich, B. C., Callstrom, M. R., Chow, G. K., Blute, M. L., and Charboneau, J. W.. J Urol 2008 :2136-40; discussion 2140-1

Renal tumour surgery in elderly patients. Roos, F. C., Pahernik, S., Melchior, S. W., and Thuroff, J. W.. BJU Int 2008 :680-3

How long is too long? The effect of the duration of anaesthesia on the incidence of non-urological complications after surgery. Routh, J. C., Bacon, D. R., Leibovich, B. C., Zincke, H., Blute, M. L., and Frank, I.. BJU Int 2008 :301-4

Evaluation of the association of current cigarette smoking and outcome for patients with clear cell renal cell carcinoma. Parker, A., Lohse, C., Cheville, J., Leibovich, B., Igel, T., and Blute, M.. Int J Urol 2008 :304-8

Incidence of local and port site recurrence of urologic cancer after laparoscopic surgery. Tanaka, K., Hara, I., Takenaka, A., Kawabata, G., and Fujisawa, M.. Urology 2008 :728-34

Analysis of clinicopathologic predictors of oncologic outcome provides insight into the natural history of surgically managed papillary renal cell carcinoma. Margulis, V., Tamboli, P., Matin, S. F., Swanson, D. A., and Wood, C. G.. Cancer 2008 :1480-8

Renal and cardiovascular morbidity after partial or radical nephrectomy. Miller, D. C., Schonlau, M., Litwin, M. S., Lai, J., and Saigal, C. S.. Cancer 2008 :511-20

En bloc stapler ligation of the renal vascular pedicle during laparoscopic nephrectomy. Buse, S., Gilfrich, C., Pfitzenmaier, J., Bedke, J., Haferkamp, A., and Hohenfellner, M.. BJU Int 2008 :878-82

Nephron-sparing surgery versus radical nephrectomy in the treatment of intracapsular renal cell carcinoma up to 7cm. Antonelli, A., Cozzoli, A., Nicolai, M., Zani, D., Zanotelli, T., Perucchini, L., Cunico, S. C., and Simeone, C.. Eur Urol 2008 :803-9

Oncological efficacy and safety of nephron-sparing surgery for selected patients with locally advanced renal cell carcinoma. Margulis, V., Tamboli, P., Jacobsohn, K. M., Swanson, D. A., and Wood, C. G.. BJU Int 2007 :1235-9

Disparities in treatment and outcome for renal cell cancer among older black and white patients. Berndt, S. I., Carter, H. B., Schoenberg, M. P., and Newschaffer, C. J.. J Clin Oncol 2007 :3589-95

Microvascular tumor invasion, tumor size and Fuhrman grade: a pathological triad for prognostic evaluation of renal cell carcinoma. Dall'Oglio, M. F., Ribeiro-Filho, L. A., Antunes, A. A., Crippa, A., Nesrallah, L., Goncalves, P. D., Leite, K. R., and Srougi, M.. J Urol 2007 :425-8; discussion 428

Multi-institutional validation of a new renal cancer-specific survival nomogram. Karakiewicz, P. I., Briganti, A., Chun, F. K., Trinh, Q. D., Perrotte, P., Ficarra, V., Cindolo, L., De la Taille, A., Tostain, J., Mulders, P. F., Salomon, L., Zigeuner, R., Prayer-Galetti, T., Chautard, D., Valeri, A., Lechevallier, E., Descotes, J. L., Lang, H., Mejean, A., and Patard, J. J.. J Clin Oncol 2007 :1316-22

Does tumor size or microvascular invasion affect prognosis in patients with renal cell carcinoma?. Miyagawa, T., Shimazui, T., Hinotsu, S., Oikawa, T., Sekido, N., Miyanaga, N., Kawai, K., and Akaza, H.. Jpn J Clin Oncol 2007 :197-200

The follow-up management of non-metastatic renal cell carcinoma: definition of a surveillance protocol. Antonelli, A., Cozzoli, A., Zani, D., Zanotelli, T., Nicolai, M., Cunico, S. C., and Simeone, C.. BJU Int 2007 :296-300

Survival analysis of 130 patients with papillary renal cell carcinoma: prognostic utility of type 1 and type 2

subclassification. Pignot, G., Elie, C., Conquy, S., Vieillefond, A., Flam, T., Zerbib, M., Debre, B., and Amsellem-Ouazana, D.. Urology 2007 :230-5

Nephron sparing surgery: A single institution experience. Agrawal, S., Jha, M. S., Khurana, N., Ansari, M. S., Dubey, D., Srivastava, A., Kapoor, R., Kumar, A., Jain, M., and Mandhani, A.. Indian J Urol 2007 :23-7

Laparoscopic radical nephrectomy: comparison of clinical Stage T1 and T2 renal tumors. Gong, E. M., Lyon, M. B., Orvieto, M. A., Lucioni, A., Gerber, G. S., and Shalhav, A. L.. Urology 2006 :1183-7

Laparoscopic partial nephrectomy for incidental stage pT2 or worse tumors. Ukimura, O., Haber, G. P., Remer, E. M., and Gill, I. S.. Urology 2006 :976-82

Gender discrepancies in the diagnosis of renal cortical tumors. Pierorazio, P. M., Murphy, A. M., Benson, M. C., and McKiernan, J. M.. World J Urol 2007 :81-5

Prognostic significance of common preoperative laboratory variables in clear cell renal cell carcinoma. Lee, S. E., Byun, S. S., Han, J. H., Han, B. K., and Hong, S. K.. BJU Int 2006 :1228-32

The influence of clinical and pathological stage discrepancy on cancer specific survival in patients treated for renal cell carcinoma. Svatek, R. S., Lotan, Y., Herman, M. P., Duchene, D. A., Sagalowsky, A. I., and Cadeddu, J. A.. J Urol 2006 :1321-5; discussion 125

Intraoperative conversion of laparoscopic partial nephrectomy. Rais-Bahrami, S., Lima, G. C., Varkarakis, I. M., Romero, F. R., Trock, B., Jarrett, T. W., and Kavoussi, L. R.. J Endourol 2006 :205-8

Treating renal cell cancer in the elderly. Berdjis, N., Hakenberg, O. W., Novotny, V., Froehner, M., and Wirth, M. P.. BJU Int 2006 :703-5

Intermediate results of laparoscopic cryoablation in 59 patients at the Medical College of Wisconsin. Lawatsch, E. J., Langenstroer, P., Byrd, G. F., See, W. A., Quiroz, F. A., and Begun, F. P.. J Urol 2006 :1225-9; discussion 1229

Impact of body mass index on survival of patients with surgically treated renal cell carcinoma. Donat, S. M., Salzhauer, E. W., Mitra, N., Yanke, B. V., Snyder, M. E., and Russo, P.. J Urol 2006 :46-52

Reassessing the current TNM lymph node staging for renal cell carcinoma. Terrone, C., Cracco, C., Porpiglia, F., Bollito, E., Scoffone, C., Poggio, M., Berruti, A., Ragni, F., Cossu, M., Scarpa, R. M., and Rossetti, S. R.. Eur Urol 2006 :324-31

Retroperitoneoscopic versus open surgical radical nephrectomy for large renal cell carcinoma in clinical stage cT2 or cT3a: quality of life, pain and reconvalescence. Dillenburg, W., Poulakis, V., Skriapas, K., de Vries, R., Ferakis, N., Witzsch, U., Melekos, M., and Becht, E.. Eur Urol 2006 :314-22; discussion 322-3

Elective nephron sparing surgery should become standard treatment for small unilateral renal cell carcinoma: Long-term survival data of 216 patients. Becker, F., Siemer, S., Humke, U., Hack, M., Ziegler, M., and Stockle, M.. Eur Urol 2006 :308-13

Mini-flank supra-11th rib incision for open partial or radical nephrectomy. Diblasio, C. J., Snyder, M. E., and Russo, P.. BJU Int 2006 :149-56

Laparoscopic nephrectomy: new standard of care?. Sim, H. G., Yip, S. K., Ng, C. Y., Teo, Y. S., Tan, Y. H., Siow, W. Y., and Cheng, W. S.. Asian J Surg 2005 :277-81

Comparison of predictive accuracy of four prognostic models for nonmetastatic renal cell carcinoma after nephrectomy: a multicenter European study. Cindolo, L., Patard, J. J., Chiodini, P., Schips, L., Ficarra, V., Tostain, J., de La Taille, A., Altieri, V., Lobel, B., Zigeuner, R. E., Artibani, W., Guille, F., Abbou, C. C., Salzano, L., and Gallo, C.. Cancer 2005 :1362-71

Partial nephrectomy with perfusion cooling for imperative indications: a 24-year experience. Steffens, J., Humke, U., Ziegler, M., and Siemer, S.. BJU Int 2005 :608-11

[Miniinvasive laparoscopic or retroperitoneoscopic radical nephrectomy for the parenchymal tumor]. Hora, M., Klecka, J. Jr, Hes, O., Ferda, J., and Urge, T.. Rozhl Chir 2005 :246-52

Incisional hernia following hand-assisted laparoscopic surgery for renal cell cancer. Troxel, S. A. and Das, S.. JSLS 2005 :196-8

[Survival prognostic factors valuation on a series of 202 patients with surgical treatment of renal cell carcinoma]. Ortiz Gorraiz, M., Vicente Prados, F. J., Rosales Leal, J. L., Honrubia Vilchez, B., Martinez Morcillo, A., Cozar Olmo, J. M., Espejo Maldonado, E., and Tallada Bunuel, M.. Actas Urol Esp 2005 :179-89

Independent validation of the 2002 American Joint Committee on cancer primary tumor classification for renal cell carcinoma using a large, single institution cohort. Frank, I., Blute, M. L., Leibovich, B. C., Cheville, J. C., Lohse, C. M., and Zincke, H.. J Urol 2005 :1889-92

[Results of open radical nephrectomy in a series of 230 patients]. Peyromaure, M., Barry Delongchamps, N., Roffi, F., Debre, B., and Zerbib, M.. Prog Urol 2005 :18-22

[Retrospective study of laparoscopic retroperitoneal radical nephrectomy]. Hetet, J. F., Rigaud, J., Renaudin, K., Battisti, S., Braud, G., Bouchot, O., and Karam, G.. Prog Urol 2005 :10-7; discussion 16

Impact of tumor size on the long-term survival of patients with early stage renal cell cancer. Kuczyk, M., Wegener, G., Merseburger, A. S., Anastasiadis, A., Machtens, S., Zumbragel, A., Hartmann, J. T., Bokemeyer, C., Jonas, U., and Stenzl, A.. World J Urol 2005 :50-4

Prospective randomized trial comparing high lumbotomic with laparotomic access in renal cell carcinoma surgery. Battaglia, M., Ditonno, P., Martino, P., Palazzo, S., Annunziata, G., and Selvaggi, F. P.. Scand J Urol Nephrol 2004 :306-14

Associations with contralateral recurrence following nephrectomy for renal cell carcinoma using a cohort of

2,352 patients. Bani-Hani, A. H., Leibovich, B. C., Lohse, C. M., Cheville, J. C., Zincke, H., and Blute, M. L.. J Urol 2005 :391-4

Re-evaluation of the Tumour-Node-Metastasis staging of locally advanced renal cortical tumours: absolute size (T2) is more significant than renal capsular invasion (T3a). Murphy, A. M., Gilbert, S. M., Katz, A. E., Goluboff, E. T., Sawczuk, I. S., Olsson, C. A., Benson, M. C., and McKiernan, J. M.. BJU Int 2005 :27-30

Partial nephrectomy for patients with a solitary kidney: the Memorial Sloan-Kettering experience. Saranchuk, J. W., Touijer, A. K., Hakimian, P., Snyder, M. E., and Russo, P.. BJU Int 2004 :1323-8

Prospective randomized comparison of transperitoneal versus retroperitoneal laparoscopic radical nephrectomy. Desai, M. M., Strzempkowski, B., Matin, S. F., Steinberg, A. P., Ng, C., Meraney, A. M., Kaouk, J. H., and Gill, I. S.. J Urol 2005 :38-41

Clinicopathological features of recurrence after radical surgery for nonmetastatic renal cell carcinoma. Ishimura, T., Sakai, I., Harada, K., Hara, I., Eto, H., and Miyake, H.. Int J Clin Oncol 2004 :369-72

Laparoscopic radical nephrectomy for large (greater than 7 cm, T2) renal tumors. Steinberg, A. P., Finelli, A., Desai, M. M., Abreu, S. C., Ramani, A. P., Spaliviero, M., Rybicki, L., Kaouk, J., Novick, A. C., and Gill, I. S.. J Urol 2004 :2172-6

Management of renal masses in patients medically unsuitable for nephrectomy--natural history, complications, and outcome. Lamb, G. W., Bromwich, E. J., Vasey, P., and Aitchison, M.. Urology 2004 :909-13

Prediction of postoperative renal function by preoperative serum creatinine level and three-dimensional diagnostic image reconstruction in patients with renal cell carcinoma. Tanaka, N., Fujimoto, K., Tani, M., Yoshii, M., Yoshida, K., Hirao, Y., and Ozono, S.. Urology 2004 :904-8

Prognosticfactors in patients with renal cell carcinoma: is TNM (1997) staging relevant in Indian subpopulation?. Srivastava, A., Mandhani, A., Kapoor, R., Jain, M., Dubey, D., Srivastava, A., Raghavendra, M., and Kumar, A.. Indian J Cancer 2004 :99-103

Portless endoscopic radical nephrectomy via a single minimum incision in 80 patients. Kihara, K., Kageyama, Y., Yano, M., Kobayashi, T., Kawakami, S., Fujii, Y., Masuda, H., and Hyochi, N.. Int J Urol 2004 :714-20

Long-term consequence of renal function following nephrectomy for renal cell cancer. Shirasaki, Y., Tsushima, T., Nasu, Y., and Kumon, H.. Int J Urol 2004 :704-8

Prognostic value of the involvement of the urinary collecting system in renal cell carcinoma. Terrone, C., Cracco, C., Guercio, S., Bollito, E., Poggio, M., Scoffone, C., Tarabuzzi, R., Porpiglia, F., Scarpa, R. M., Fontana, D., and Rocca Rossetti, S.. Eur Urol 2004 :472-6

Prognostic value of microscopic venous invasion in renal cell carcinoma: long-term follow-up. Lang, H., Lindner, V., Letourneux, H., Martin, M., Saussine, C., and Jacqmin, D.. Eur Urol 2004 :331-5

Prognostic significance of tumour size in patients after tumour nephrectomy for localised renal cell carcinoma. Steiner, T., Knels, R., and Schubert, J.. Eur Urol 2004 :327-30

Role of nephron sparing surgery in the treatment of centrally located renal tumors. Martorana, G., Lupo, S., Brunocilla, E., Concetti, S., Malizia, M., and Vece, E.. Arch Ital Urol Androl 2004 :51-5

[Incidental and symptomatic kidney cancer: pathological features and survival]. Dall'Oglio, M., Srougi, M., Ortiz, V., Nesrallah, L., Goncalves, P. D., Leite, K. M., and Hering, F.. Rev Assoc Med Bras 2004 :27-31

Kidney function after nephrectomy for renal cell carcinoma. Shirasaki, Y., Tsushima, T., Saika, T., Nasu, Y., and Kumon, H.. Urology 2004 :43-7; discussion 48

Microscopic venous invasion in renal cell carcinoma as a predictor of recurrence after radical surgery. Ishimura, T., Sakai, I., Hara, I., Eto, H., and Miyake, H.. Int J Urol 2004 :264-8

Impact of surgical volume on mortality and length of stay after nephrectomy. Taub, D. A., Miller, D. C., Cowan, J. A., Dimick, J. B., Montie, J. E., and Wei, J. T.. Urology 2004 :862-7

Use of American Society of Anesthesiologists physical status classification to assess perioperative risk in patients undergoing radical nephrectomy for renal cell carcinoma. Han, K. R., Kim, H. L., Pantuck, A. J., Dorey, F. J., Figlin, R. A., and Belldegrun, A. S.. Urology 2004 :841-6; discussion 846-7

Laparoscopic radical nephrectomy: techniques, results and oncological outcome in 125 consecutive cases. Wille, A. H., Roigas, J., Deger, S., Tullmann, M., Turk, I., and Loening, S. A.. Eur Urol 2004 :483-8; discussion 488-9

Permanent flank bulge is a consequence of flank incision for radical nephrectomy in one half of patients. Chatterjee, S., Nam, R., Fleshner, N., and Klotz, L.. Urol Oncol 2004 :36-9

Effect of papillary and chromophobe cell type on disease-free survival after nephrectomy for renal cell carcinoma. Beck, S. D., Patel, M. I., Snyder, M. E., Kattan, M. W., Motzer, R. J., Reuter, V. E., and Russo, P.. Ann Surg Oncol 2004 :71-7

Operative mortality after nephrectomy for renal cell carcinoma. Thoroddsen, A., Gudbjartsson, T., Jonsson, E., Gislason, T., and Einarsson, G. V.. Scand J Urol Nephrol 2003 :507-11

The prediction of renal function 6 years after unilateral nephrectomy using preoperative risk factors. Ito, K., Nakashima, J., Hanawa, Y., Oya, M., Ohigashi, T., Marumo, K., and Murai, M.. J Urol 2004 :120-5

Renal tumors in young adults. Eggener, S. E., Rubenstein, J. N., Smith, N. D., Nadler, R. B., Kontak, J., Flanigan, R.

C., Waters, W. B., Picken, M., and Campbell, S. C.. J Urol 2004 :106-10

Racial disparity in incidence patterns and outcome of kidney cancer. Vaishampayan, U. N., Do, H., Hussain, M., and Schwartz, K.. Urology 2003 :1012-7

[Extended total nephrectomy with laparoscopy in localized renal carcinoma. Report of 25 cases compared with 32 conventional surgical cases]. Lang, H., Gimel, P., Martin, M., Nguyen Ngoc, T., Saussine, C., and Jacqmin, D.. Prog Urol 2003 :569-76

A preoperative clinical prognostic model for non-metastatic renal cell carcinoma. Cindolo, L., de la Taille, A., Messina, G., Romis, L., Abbou, C. C., Altieri, V., Rodriguez, A., and Patard, J. J.. BJU Int 2003 :901-5

Hand assisted laparoscopic radical nephrectomy: comparison with open radical nephrectomy. Lee, S. E., Ku, J. H., Kwak, C., Kim, H. H., and Paick, S. H.. J Urol 2003 :756-9

Renal cell carcinoma as a cause of end-stage renal disease in the United States: patient characteristics and survival. Stiles, K. P., Moffatt, M. J., Agodoa, L. Y., Swanson, S. J., and Abbott, K. C.. Kidney Int 2003 :247-53

Loss of expression of transforming growth factor-beta receptor as a prognostic factor in patients with renal cell carcinoma. Miyajima, A., Asano, T., Seta, K., Asano, T., Kakoi, N., and Hayakawa, M.. Urology 2003 :1072-7

Comparisons of outcome and prognostic features among histologic subtypes of renal cell carcinoma. Cheville, J. C., Lohse, C. M., Zincke, H., Weaver, A. L., and Blute, M. L.. Am J Surg Pathol 2003 :612-24

Benefits of laparoscopic renal surgery are more pronounced in patients with a high body mass index. Klingler, H. C., Remzi, M., Janetschek, G., and Marberger, M.. Eur Urol 2003 :522-7

[Correlation between the mode of presentation of renal tumors and patient survival]. Patard, J. J., Bensalah, K., Vincendeau, S., Rioux-Leclerq, N., Guille, F., and Lobel, B.. Prog Urol 2003 :23-8

Outcome and survival with nonsurgical management of renal cell carcinoma. Baird, A. D., Woolfenden, K. A., Desmond, A. D., Fordham, M. V., and Parsons, K. F.. BJU Int 2003 :600-2

Clinicopathological study of renal cell carcinoma. Nakatani, T., Yoshida, N., Iwata, H., Kuratsukuri, K., Uchida, J., Kawashima, H., Ikemoto, S., and Sugimura, K.. Oncol Rep 2003 :679-85

Prediction of progression after radical nephrectomy for patients with clear cell renal cell carcinoma: a stratification tool for prospective clinical trials. Leibovich, B. C., Blute, M. L., Cheville, J. C., Lohse, C. M., Frank, I., Kwon, E. D., Weaver, A. L., Parker, A. S., and Zincke, H.. Cancer 2003 :1663-71

Renal cell carcinoma: gender difference in incidental detection and cancer-specific survival. Beisland, C., Medby, P. C., and Beisland, H. O.. Scand J Urol Nephrol 2002 :414-8

[Laparoscopic radical nephrectomy: indications, techniques, and oncological outcome]. Wille, A. H., Roigas, J., Deger, S., Turk, I., Tullmann, M., Dubbke, A., and Schnorr, D.. Urologe A 2003 :205-10

Hand-assisted laparoscopic vs the open (flank incision) approach to radical nephrectomy. Busby, E., Das, S., Rao Tunuguntla, H. S., and Evans, C. P.. BJU Int 2003 :341-4

Influence of age on the prognosis of patients with renal cell carcinoma (RCC). Yusim, I., Mermershtain, W., Neulander, E., Eidelberg, I., Gusakova, I., and Kaneti, J.. Onkologie 2002 :548-50

Incidental and symptomatic renal tumors: impact on patient survival. Dall'Oglio, M. F., Srougi, M., Goncalves, P. D., Leite, K., Nesrallah, L., and Hering, F.. Sao Paulo Med J 2002 :165-9

Hand-assisted laparoscopy for large renal specimens: a multi-institutional study. Stifelman, M. D., Handler, T., Nieder, A. M., Del Pizzo, J., Taneja, S., Sosa, R. E., and Shichman, S. J.. Urology 2003 :78-82

Partial nephrectomy safely preserves renal function in patients with a solitary kidney. Adkins, K. L., Chang, S. S., Cookson, M. S., and Smith, J. A. Jr. J Urol 2003 :79-81

Mode of presentation of renal cell carcinoma provides prognostic information. Lee, C. T., Katz, J., Fearn, P. A., and Russo, P.. Urol Oncol 2002 :135-40

An outcome prediction model for patients with clear cell renal cell carcinoma treated with radical nephrectomy based on tumor stage, size, grade and necrosis: the SSIGN score. Frank, I., Blute, M. L., Cheville, J. C., Lohse, C. M., Weaver, A. L., and Zincke, H.. J Urol 2002 :2395-400

Sporadic renal cell carcinoma in young adults: presentation, treatment, and outcome. Abou El Fettouh, H. I., Cherullo, E. E., El-Jack, M., Al Maslamani, Y., and Novick, A. C.. Urology 2002 :806-10

Thrombocytosis is associated with a significant increase in the cancer specific death rate after radical nephrectomy. O'Keefe, S. C., Marshall, F. F., Issa, M. M., Harmon, M. P., and Petros, J. A.. J Urol 2002 :1378-80

Prognostic significance of primary-tumor extension, stage and grade of nuclear differentiation in patients with renal cell carcinoma. Fiori, E., De Cesare, A., Galati, G., Bononi, M., D'Andrea, N., Barbarosos, A., Izzo, L., and Bolognese, A.. J Exp Clin Cancer Res 2002 :229-32

Prognostic factors in patients with renal cell carcinoma: retrospective analysis of 675 cases. Ficarra, V., Righetti, R., Pilloni, S., D'amico, A., Maffei, N., Novella, G., Zanolla, L., Malossini, G., and Mobilio, G.. Eur Urol 2002 :190-8

Recurrence of renal cell carcinoma more than 5 years after nephrectomy. Uchida, K., Miyao, N., Masumori, N., Takahashi, A., Oda, T., Yanase, M., Kitamura, H., Itoh, N., Sato, M., and Tsukamoto, T.. Int J Urol 2002 :19-23

Comparison of costs and complications of radical and partial nephrectomy for treatment of localized renal cell carcinoma. Shekarriz, B., Upadhyay, J., Shekarriz, H., de Assis Mendes Goes, F. Jr, Bianco, F. J., Tiguert, R., Gheiler, E., and Wood, D. P. Jr. Urology 2002 :211-5

Laparoscopic radical nephrectomy in 100 patients: a single center experience from the United States. Gill, I. S., Meraney, A. M., Schweizer, D. K., Savage, S. S., Hobart, M. G., Sung, G. T., Nelson, D., and Novick, A. C.. Cancer 2001 :1843-55

[Renal cancer: descriptive analysis of a series of 267 intervened cases]. Medina Lopez, R. A., Congregado Ruiz, C. B., Campoy Martinez, P., Morales Lopez, A., Sanchez Gomez, E., and pascual del Pobil Moreno, J. L.. Arch Esp Urol 2001 :423-8

Results of retroperitoneal laparoscopic radical nephrectomy. Cicco, A., Salomon, L., Hoznek, A., Saint, F., Alame, W., Gasman, D., Antiphon, P., Chopin, D. K., and Abbou, C. C.. J Endourol 2001 :355-9; discussion 375-6

Laparoscopic versus open radical nephrectomy: a 9-year experience. Dunn, M. D., Portis, A. J., Shalhav, A. L., Elbahnasy, A. M., Heidorn, C., McDougall, E. M., and Clayman, R. V.. J Urol 2000 :1153-9

Prognostic indicators for renal cell carcinoma: a multivariate analysis of 643 patients using the revised 1997 TNM staging criteria. Tsui, K. H., Shvarts, O., Smith, R. B., Figlin, R. A., deKernion, J. B., and Belldegrun, A.. J Urol 2000 :1090-5; quiz 1295

Laparoscopic radical nephrectomy: a single-center experience of 51 cases. Jeschke, K., Wakonig, J., Pitzler, C., and Henning, K.. Tech Urol 2000 :9-11

Surgical management of renal tumors 4 cm. or less in a contemporary cohort. Lee, C. T., Katz, J., Shi, W., Thaler, H. T., Reuter, V. E., and Russo, P.. J Urol 2000 :730-6

Comparison of preoperative embolization followed by radical nephrectomy with radical nephrectomy alone for renal cell carcinoma. Zielinski, H., Szmigielski, S., and Petrovich, Z.. Am J Clin Oncol 2000 :6-12

Renal cell carcinoma: prognostic significance of incidentally detected tumors. Tsui, K. H., Shvarts, O., Smith, R. B., Figlin, R., de Kernion, J. B., and Belldegrun, A.. J Urol 2000 :426-30

Nephron-sparing surgery for renal cell carcinoma--is tumor size a suitable parameter for indication?. Miller, J., Fischer, C., Freese, R., Altmannsberger, M., and Weidner, W.. Urology 99 :988-93

Mortality and morbidity after nephrectomy for renal cell carcinoma using a transperitoneal anterior subcostal incision. Mejean, A., Vogt, B., Quazza, J. E., Chretien, Y., and Dufour, B.. Eur Urol 99 :298-302

[The surgical therapy of renal carcinomas. The prognostic factors and long-term results]. Scilletta, B., Di Carlo, I., Lombardo, R., Aronica, G., Di Stefano, F., Racalbuto, A., and Puleo, S.. Minerva Chir 99 :157-62

Significant prognostic factors for 5-year survival after curative resection of renal cell carcinoma. Masuda, H., Kurita, Y., Fukuta, K., Mugiya, S., Suzuki, K., and Fujita, K.. Int J Urol 98 :418-22

[Outcome of renal function in 114 patients who underwent uninephrectomy for renal cancer]. el Khader, K., Ziade, J., Bansard, J. Y., Mhidia, A., Patard, J. J., Guille, F., and Lobel, B.. Prog Urol 98 :341-6

Stage specific guidelines for surveillance after radical nephrectomy for local renal cell carcinoma. Levy, D. A., Slaton, J. W., Swanson, D. A., and Dinney, C. P.. J Urol 98 :1163-7

[Complications of radical nephrectomy in the treatment of kidney adenocarcinoma]. Herranz Amo, F., Verdu Tartajo, F., Diez Cordero, J. M., Rodriguez Fernandez, E., Lledo Garcia, E., Moncada Iribarren, I., Jara Rascon, J., Gonzalez Chamorro, F., and de Palacio Espana, A.. Actas Urol Esp 97 :15-21

Evaluation of patients who underwent radical nephrectomy due to renal tumor. Gunes M., Gecit I., Princci N., Taken K., Ceylan K., and Resit Oncu M.. East. J. Med. 2013 :108-112

Prognostic Impact of Histological Subtype on Surgically Treated Localized Renal Cell Carcinoma. Teloken P.E., Thompson R.H., Tickoo S.K., Cronin A., Savage C., Reuter V.E., and Russo P.. J. Urol. 2009 :2132-2136

Is computerized tomography reliable for detecting tumor number and adrenal gland involvement in patients with renal cell cancer? A multicenter study: Bobrek Hucreli Kanser Hastalarinda Tumor Sayisi ve Adrenal Bez Tutulumunu Belirlemede Bilgisayarli Tomografi Guvenilir Midir? Cok Merkezli Bir Calisma. Atan A., Tuncel A., Aslan Y., Caskurlu T., Eroglu M., Albayrak S., Karaman I., and Ergenekon E.. Turk Urol. Derg. 2005 :329-334

Laparoscopic radical nephrectomy for renal cell carcinoma: Oncologically safe?: Laparoscopische behandeling van niercelcarcinoom: Oncologisch verantwoord?. Schatteman P., Tuytten T., Carpentier P., Fonteyne E., and Mottrie A.. Tijdschr. Geneeskd. 2005 :179-184

The symptoms of renal cell carcinoma related to patients' survival. Ou Y.-C., Yang C.-R., Ho H.-C., Cheng C.-L., Kao Y.-L., Su C.-K., Chiu K.-Y., and Chen W.-M.. J. Chin. Med. Assoc. 2003 :537-543

Renal cell carcinoma: Clinical experience and technical success with radio-frequency ablation of 42 tumors. Gervais D.A., McGovern F.J., Arellano R.S., Scott McDougal W., and Mueller P.R.. Radiology 2003 :417-424

A retrospective analysis of serum CA 15-3 concentrations in patients with localised or metastatic renal cancer and its impact on prognosis and follow-up. A single-centre experience. Briasoulis E., Pentheroudakis G., Letsa I., and Pavlidis N.. UroOncology 2002 :179-184

Renal cancer in adults. Report of a series of 60 cases: Le cancer du rein de l'adulte. A propos de 60 cas. Benchekroun A., Lachkar A., Bensliman L., Soumana A.,

Farih M.H., Belahnech Z., Marzouk M., and Faik M.. Ann. Urol. 98 :119-127

Laparoscopic radical nephrectomy with morcellation for renal cell carcinoma: The Saskatoon experience. Barrett P.H., Fentie D.D., and Taranger L.A.. Urology 98 :23-28

Prognosis in the cases with renal cell carcinoma according to clinical parameters. Fukuda M., Satomi Y., Asakura T., Hosaka M., Noguchi S., Kishida T., Kondou I., Ida T., Hirokawa M., Kumagai H., Shiozaki H., Ishizuka E., Miyai K., Fukuoka H., Sasaki K., Oogo Y., Koudaira T., Ogawa K., Nakahashi M., Matsuura K., Moriyama M., Udagawa K., Senga Y., Ishibashi Y., and Shimura H.. Jpn. J. Urol. 98 :647-656

Prognostic factors of renal cell carcinoma: A multivariate analysis. Yasunaga Y., Shin M., Miki T., Okuyama A., and Aozasa K.. J. Surg. Oncol. 98 :11-18

Is there a role of the enhancement degree of the lesion on computerized tomography for the characterization of renal tumors?. Kutman, K., Suer, E., Beduk, Y., Ozturk, E., Gulpinar, O., Gokce, I., and Baltaci, S.. J Urol 2013 :436-40

Evaluation of malignant and benign renal lesions using diffusion-weighted MRI with multiple b values. Erbay, G., Koc, Z., Karadeli, E., Kuzgunbay, B., Goren, M. R., and Bal, N.. Acta Radiol 2012 :359-65

Contrast-enhanced ultrasonography in the diagnosis of solid renal tumors. Tamai, H., Takiguchi, Y., Oka, M., Shingaki, N., Enomoto, S., Shiraki, T., Furuta, M., Inoue, I., Iguchi, M., Yanaoka, K., Arii, K., Shimizu, Y., Nakata, H., Shinka, T., Sanke, T., and Ichinose, M.. J Ultrasound Med 2005 :1635-40

Evaluation of imaging-guided fine-needle percutaneous biopsy of renal masses. Jaff, A., Molinie, V., Mellot, F., Guth, A., Lebret, T., and Scherrer, A.. Eur Radiol 2005 :1721-6

Evaluation of sonographically guided percutaneous core biopsy of renal masses. Caoili, E. M., Bude, R. O., Higgins, E. J., Hoff, D. L., and Nghiem, H. V.. AJR Am J Roentgenol 2002 :373-8

Color Duplex sonography vs. computed tomography: accuracy in the preoperative evaluation of renal cell carcinoma. Spahn, M., Portillo, F. J., Michel, M. S., Siegsmund, M., Gaa, J., Alken, P., and Junemann, K. P.. Eur Urol 2001 :337-42

Visceral obesity is associated with better recurrence-free survival after curative surgery for Japanese patients with localized clear cell renal cell carcinoma. Kaneko, G., Miyajima, A., Yuge, K., Yazawa, S., Mizuno, R., Kikuchi, E., Jinzaki, M., and Oya, M.. Jpn J Clin Oncol 2014 :

Imaging of renal lesions: evaluation of fast MRI and helical CT. Walter, C., Kruessell, M., Gindele, A., Brochhagen, H. G., Gossmann, A., and Landwehr, P.. Br J Radiol 2003 :696-703

Renal masses--evaluation by amplitude coded colour Doppler sonography and multiphasic contrast-enhanced CT. Riccabona, M., Szolar, D., Preidler, K., Uggowitzer, M., Kugler, C., Dorfler, O., and Schreyer, H. H.. Acta Radiol 99 :457-61

[Characterization and staging of renal tumors: significance of MRI diagnostics]. Kalinka, A., Gerlach, A., Arlart, I. P., Gunes, N., Hauser, T. K., Wurstlin, S., and Bosse, A.. Rofo 2006 :298-305

Dynamic computed tomography and color Doppler ultrasound of renal parenchymal neoplasms: correlations with histopathological findings. Kitamura, H., Fujimoto, H., Tobisu, K., Mizuguchi, Y., Maeda, T., Matsuoka, N., Komiyama, M., Nakagawa, T., and Kakizoe, T.. Jpn J Clin Oncol 2004 :78-81

[Renal cancer]. Fernandez Mena, F. J. and Moreno Torres, C.. Arch Esp Urol 2001 :541-54

Renal cell carcinoma: clinical experience and technical success with radio-frequency ablation of 42 tumors. Gervais, D. A., McGovern, F. J., Arellano, R. S., McDougal, W. S., and Mueller, P. R.. Radiology 2003 :417-24

[Small incidental renal tumors. Evaluation and biological parameters]. Remzi, M. and Memarsadeghi, M.. Urologe A 2007 :478, 480-4

Renal cell carcinoma: incidental detection and pathological staging. Siow, W. Y., Yip, S. K., Ng, L. G., Tan, P. H., Cheng, W. S., and Foo, K. T.. J R Coll Surg Edinb 2000 :291-5

Characterization and staging of renal tumors: Significance of MRI diagnostics: Charakterisierung und staging von nierentumoren: Bedeutung der MRT-diagnostik. Kalinka A., Gerlach A., Arlart I.P., Gunes N., Hauser T.-K., Wurstlin S., and Bosse A.. RoFo Fortschr. Geb. Rontgenstr. Bildgebenden Verfahren 2006 :298-305

Incidental detection of preclinical renal tumors with electron beam computed tomography: Report of 26 consecutive operated patients. Mitchell T.L., Pippin J.J., Devers S.M., Kimball T.E., Gibbons L.W., Cooper L.L., Gonzalez-Dunn V., and Cooper K.H.. J. Comput. Assisted Tomogr. 2000 :843-845

Identification of the MN/CA9 protein as a reliable diagnostic biomarker of clear cell carcinoma of the kidney. Liao S.-Y., Aurelio O.N., Jan K., Zavada J., and Stanbridge E.J.. CANCER RES. 97 :2827-2831

Renal surgery for kidney cancer in Germany 2005-2006: length of stay, risk of postoperative complications and in-hospital death. Stang, A. and Buchel, C.. BMC Urol 2014 :74

CT perfusion in the characterisation of renal lesions: an added value to multiphasic CT. Mazzei, F. G., Mazzei, M. A., Cioffi Squitieri, N., Pozzessere, C., Righi, L., Cirigliano, A., Guerrini, S., D'Elia, D., Ambrosio, M. R., Barone, A., del Vecchio, M. T., and Volterrani, L.. Biomed Res Int 2014 :135013

Cancer-free survival and local tumor control after impendence-based radiofrequency ablation of biopsy-

proven renal cell carcinomas with a minimum of 1-year follow-up. Forauer, A. R., Dewey, B. J., and Seigne, J. D.. Urol Oncol 2014 :869-76

Does gender influence morbidity or mortality in the surgical treatment of renal masses?. Minnillo, B. J., Horowitz, A., Finelli, A., Alibhai, S. M., Ponsky, L. E., and Abouassaly, R.. Can Urol Assoc J 2014 :E311-6

Predictive factors for benign lesions in partially or radically resected kidneys in a single independent cancer center. Soga, N., Ogura, Y., and Hayashi, N.. Curr Urol 2013 :70-4

The 1-year decline in estimated glomerular filtration rate (eGFR) after radical nephrectomy in patients with renal masses and matched living kidney donors is the same. Hew, M. N., Opondo, D., Cordeiro, E. R., van Donselaar-van der Pant, K. A., Bemelman, F. J., Idu, M. M., de la Rosette, J. J., and Laguna, M. P.. BJU Int 2014 :E49-55

Trends in renal function after radical nephrectomy: a multicentre analysis. Chung, J. S., Son, N. H., Byun, S. S., Lee, S. E., Hong, S. K., Jeong, C. W., Lee, S. C., Chae, D. W., Choi, W. S., Park, Y. H., Hong, S. H., Kim, Y. J., and Kang, S. H.. BJU Int 2014 :408-15

Perioperative mortality and associated factors in patients undergoing radical nephrectomy. Diaz-Hung, A. M., Garcia-Perdomo, H. A., Carbonell-Gonzalez, J., Castillo-Cobaleda, D. F., and Garcia-Angel, A. F.. Actas Urol Esp 2013 :608-12

Iatrogenic splenectomy during nephrectomy for renal tumors. Wang, J. K., Tollefson, M. K., Kim, S. P., Boorjian, S. A., Leibovich, B. C., Lohse, C. M., Cheville, J. C., and Thompson, R. H.. Int J Urol 2013 :896-902

MR imaging of renal cortical tumours: qualitative and quantitative chemical shift imaging parameters. Karlo, C. A., Donati, O. F., Burger, I. A., Zheng, J., Moskowitz, C. S., Hricak, H., and Akin, O.. Eur Radiol 2013 :1738-44

Overall mortality after radical nephrectomy in patients aged over 80 years with renal cancer: a retrospective study on preoperative prognostic factors. Brassart, E., Lebdai, S., Berger, J., Traore, S., Bernhard, J. C., Fardoun, T., Muller, G., Patard, J. J., Azzouzi, A. R., and Bigot, P.. Int J Urol 2012 :626-32

Partial nephrectomy for renal masses >/= 7 cm: technical, oncological and functional outcomes. Long, C. J., Canter, D. J., Kutikov, A., Li, T., Simhan, J., Smaldone, M., Teper, E., Viterbo, R., Boorjian, S. A., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. BJU Int 2012 :1450-6

Prospective study comparing two techniques of renal clamping in laparoscopic partial nephrectomy: impact on perioperative parameters. Imbeault, A., Pouliot, F., Finley, D. S., Shuch, B., and Dujardin, T.. J Endourol 2012 :509-14

Comparison of rates and risk factors for development of osteoporosis and fractures after radical or partial nephrectomy. Bagrodia, A., Mehrazin, R., Bazzi, W. M., Silberstein, J., Malcolm, J. B., Stroup, S. P., Raheem, O., Wake, R. W., Kane, C. J., Patterson, A. L., Wan, J. Y., and Derweesh, I. H.. Urology 2011 :614-9

Oncologic long-term outcome of elective nephron-sparing surgery versus radical nephrectomy in patients with renal cell carcinoma stage pT1b or greater in a matched-pair cohort. Roos, F. C., Brenner, W., Muller, M., Schubert, C., Jager, W. J., Thuroff, J. W., and Hampel, C.. Urology 2011 :803-8

Renal function and oncologic outcomes in nephron sparing surgery for renal masses in solitary kidneys. Lee, D. J., Hruby, G., Benson, M. C., and McKiernan, J. M.. World J Urol 2011 :343-8

The role of percutaneous needle biopsy in differentiation of renal tumors. Izumi, K., Narimoto, K., Sugimoto, K., Kobori, Y., Maeda, Y., Mizokami, A., Koh, E., Yamada, T., Yano, S., and Namiki, M.. Jpn J Clin Oncol 2010 :1081-6

Predictive factors for ipsilateral recurrence after nephron-sparing surgery in renal cell carcinoma. Bernhard, J. C., Pantuck, A. J., Wallerand, H., Crepel, M., Ferriere, J. M., Bellec, L., Maurice-Tison, S., Robert, G., Albouy, B., Pasticier, G., Soulie, M., Lopes, D., Lacroix, B., Bensalah, K., Pfister, C., Thuret, R., Tostain, J., De La Taille, A., Salomon, L., Abbou, C., Colombel, M., Belldegrun, A. S., and Patard, J. J.. Eur Urol 2010 :1080-6

Laparoscopic radical nephrectomy for renal cell carcinoma: oncological outcomes at 10 years or more. Berger, A., Brandina, R., Atalla, M. A., Herati, A. S., Kamoi, K., Aron, M., Haber, G. P., Stein, R. J., Desai, M. M., Kavoussi, L. R., and Gill, I. S.. J Urol 2009 :2172-6

Partial versus radical nephrectomy in patients with adverse clinical or pathologic characteristics. Jeldres, C., Patard, J. J., Capitanio, U., Perrotte, P., Suardi, N., Crepel, M., Ficarra, V., Cindolo, L., de La Taille, A., Tostain, J., Pfister, C., Albouy, B., Colombel, M., Mejean, A., Lang, H., Jacqmin, D., Bernhard, J. C., Ferriere, J. M., Bensalah, K., and Karakiewicz, P. I.. Urology 2009 :1300-5

Preservation of renal function following partial or radical nephrectomy using 24-hour creatinine clearance. Clark, A. T., Breau, R. H., Morash, C., Fergusson, D., Doucette, S., and Cagiannos, I.. Eur Urol 2008 :143-49

[Nephron-sparing surgery versus radical nephrectomy in the treatment of renal cell carcinoma up to 7 cm.]. Antonelli, A., Zani, D., Cozzoli, A., Nicolai, M., Zanotelli, T., Perucchini, L., Cosciano Cunico, S., and Simeone, C.. Urologia 2007 :173-179

Management of renal tumors by image-guided radiofrequency ablation: experience in 105 tumors. Breen, D. J., Rutherford, E. E., Stedman, B., Roy-Choudhury, S. H., Cast, J. E., Hayes, M. C., and Smart, C. J.. Cardiovasc Intervent Radiol 2007 :936-42

Renal cell carcinoma of 4 cm or less: an appraisal of its clinical presentation and contemporary surgical management. Lee, V. T., Yip, S. K., Tan, P. H., Siow, W. Y., Lau, W. K., and Cheng, C. W.. Asian J Surg 2006 :40-3

Prognostic significance of morphologic parameters in renal cell carcinoma. Erdogan, F., Demirel, A., and Polat, O.. Int J Clin Pract 2004 :333-6

Clinicopathological factors predicting recurrence of N0M0 renal cell carcinoma: a case series analysis of one facility. Masuda, A., Aoki, M., Tokunaga, M., Usui, Y., Abe, T., Miyakita, H., Kinoshita, H., Kawamura, N., and Terachi, T.. Int J Urol 2003 :511-7

Renal cell carcinoma in the solitary kidney: an analysis of complications and outcome after nephron sparing surgery. Ghavamian, R., Cheville, J. C., Lohse, C. M., Weaver, A. L., Zincke, H., and Blute, M. L.. J Urol 2002 :454-9

Nephron sparing surgery for localized renal cell carcinoma: impact of tumor size on patient survival, tumor recurrence and TNM staging. Hafez, K. S., Fergany, A. F., and Novick, A. C.. J Urol 99 :1930-3

CT-guided bipolar and multipolar radiofrequency ablation (RF Ablation) of renal cell carcinoma: Specific technical aspects and clinical results. Sommer C.M., Lemm G., Hohenstein E., Bellemann N., Stampfl U., Goezen A.S., Rassweiler J., Kauczor H.U., Radeleff B.A., and Pereira P.L.. Cardiovasc. Intervent. Radiol. 2013 :731-737

Changes in renal function after laparoscopic partial nephrectomy: Comparison with laparoscopic radical nephrectomy. Kang S.H., Rhew H.Y., and Kim T.S.. Korean J. Urol. 2013 :22-25

Partial nephrectomy for selected renal cortical tumours of (greater-than or equal to)7 cm. Karellas M.E., Obrien M.F., Jang T.L., Bernstein M., and Russo P.. BJU Int. 2010 :1484-1487

The significance of serum ferritin level in renal cell carcinoma: Bobrek Hucrelikanserde serum ferritin duzeyinin onemi. Erdemir F., Parlaktas B.S., Uluocak N., Ozcan F., Celik M., and Gokce O.. Turk Urol. Derg. 2005 :479-484

Our initial experiences with laparoscopic nephrectomy: Laparoskopik nefrektomide baslangic deneyimlerimiz. Kural A.R., Demirkesen O., Akpinar H., Tufek I., Yalcin V., and Ozkan B.. Turk Urol. Derg. 2004 :414-421

Carcinoma of the kidney: About 47 cases: Cancer du rein: A propos de 47 cas. Janane A., Hachi H., Tijami F., Jalil A., Othmani M., Boughtab A., Benjelloun S., Ahyoud F., and Souadka A.. Ann. Urol. 2003 :57-60

Renal cell carcinoma - A retrospective study of 368 patients: Nyrekreft - En retrospektiv undersokelse av 368 pasienter. Beisland C., Medby P.C., and Beisland H.O.. Tidsskr. Nor. Laegeforen. 2002 :2431-2435

Renal cell carcinoma. Experience in the treatment and follow-up in 118 patients: Experiencia en el tr tratamiento y seguimiento de 118 pacientes con diagnostico de adenocarcinoma de celulas claras de rinon. Meza B.O., Castillo G.D.O., and Ochoa J.M.. Med. Interna Mex. 2002 :214-219

The cancer of kidney. A report of 170 cases: Le cancer du rein. A propos de 170 cas. Fekak H., Bennani S., Taha A., Rabii R., Joual A., Sarf S., Hafiani M., El Mrini M., and Benjelloun S.. Ann. Urol. 2001 :249-256

Retrospective epidemiological study of renal cancer: Cancer renal: Estudio epidemiologico retrospectivo. Ale R., Sivori F., Corbetta J.P., Attar J., Petrone J., Casal J.M., Grippo L., Deparci A., Gonzalez G., Garcik A., Krenz R., and Verdinelli J.. Prensa Med. Argent. 2000 :806-813

Lumbar radical nephrectomy: Lumbale radikale nephrektomie: Eine retrospektive analyse von 186 fallen. Wiedemann A., Holtmann G., Diekmann W.-P., and Zumbe J.. Urologe Ausg. A 2000 :154-159

Renal cancer in adults based on a series of 68 cases: Cancer du rein de l'adulte. A propos de 68 cas. Moudouni S.M., Tazi Mokha K., Nouri M., Lrhorfi M.H., Koutani A., Iben Attya Andaloussi A., Hachimi M., and Lakrissa A.. Ann. Urol. 99 :395-401

Patients on Hemodialysis

Renal cell carcinoma in patients with end-stage renal disease has favorable overall prognosis. Shrewsberry, A. B., Osunkoya, A. O., Jiang, K., Westby, R., Canter, D., Pattaras, J., Turgeon, N., Master, V. A., and Ogan, K.. Clin Transplant 2014 :211-6

De novo renal carcinoma in renal transplant recipients: effect of early treatment. Tillou, X., Demailly, M., Hakami, F., Westeel, P. F., Saint, F., and Petit, J.. Transplant Proc 2009 :3314-6

Renal cell carcinoma in patients with end-stage renal disease: relationship between histological type and duration of dialysis. Nouh, M. A., Kuroda, N., Yamashita, M., Hayashida, Y., Yano, T., Minakuchi, J., Taniguchi, S., Nomura, I., Inui, M., Sugimoto, M., and Kakehi, Y.. BJU Int 2010 :620-7

Prevalence of renal cell carcinoma in patients with autosomal dominant polycystic kidney disease and chronic renal failure. Hajj, P., Ferlicot, S., Massoud, W., Awad, A., Hammoudi, Y., Charpentier, B., Durrbach, A., Droupy, S., and Benoit, G.. Urology 2009 :631-4

Patients with familial conditions

Image guided percutaneous probe ablation for renal tumors in 65 solitary kidneys: functional and oncological outcomes. Altunrende, F., Autorino, R., Hillyer, S., Yang, B., Laydner, H., White, M. A., Khanna, R., Isac, W., Spana, G., Stein, R. J., Haber, G. P., O'Malley, C. M., Remer, E. M., and Kaouk, J. H.. J Urol 2011 :35-41

Is it safe and effective to treat complex renal cysts by the laparoscopic approach?. Pinheiro, T., Sepulveda, F.,

Natalin, R. H., Metrebian, E., Medina, R., Goldman, S. M., Ortiz, V., and Andreoni, C.. J Endourol 2011 :471-6

Percutaneous cryoablation of renal masses: impact of patient selection and treatment parameters on outcomes. Vricella, G. J., Haaga, J. R., Adler, B. L., Dean Nakamoto, Cherullo, E. E., Flick, S., and Ponsky, L. E.. Urology 2011 :649-54

The prognostic value of the width of the surgical margin in the enucleoresection of small renal cell carcinoma: an intermediate-term follow-up. Jeong, S. J., Kim, K. T., Chung, M. S., Hong, S. K., Byun, S. S., and Lee, S. E.. Urology 2010 :587-92

Partial nephrectomy for renal tumours: the Singapore General Hospital experience. Yip, S. K., Cheng, W. S., Tan, B. S., Li, M. K., and Foo, K. T.. J R Coll Surg Edinb 99 :156-60

No Original Data

[Controversies of partial nephrectomy for renal cell carcinoma : survey in the German-speaking countries]. Tietze, S., Herms, M., Behrendt, W., Krause, J., and Hamza, A.. Urologe A 2014 :1181-5

The challenges of managing urological malignancy in the elderly. Abu-Ghanem, Y., Dhesi, J. K., and Challacombe, B. J.. BJU Int 2014 :12-5

[Radiofrequency ablation of kidney tumors]. Souteyrand, P., Chagnaud, C., Lechevallier, E., and Andre, M.. Prog Urol 2013 :1163-7

Initial experience with arterial spin-labeling MR imaging to assess histology of renal masses. Masarapu, V. and Kim, H. L.. Quant Imaging Med Surg 2013 :130-1

Cost-utility analysis of radical nephrectomy versus partial nephrectomy in the management of small renal masses: Adjusting for the burden of ensuing chronic kidney disease. Klinghoffer, Z., Tarride, J. E., Novara, G., Ficarra, V., Kapoor, A., Shayegan, B., and Braga, L. H.. Can Urol Assoc J 2013 :108-13

The management of a clinical t1b renal tumor in the presence of a normal contralateral kidney. Weight, C. J., Miller, D. C., Campbell, S. C., Derweesh, I. H., Lane, B. R., and Messing, E. M.. J Urol 2013 :1198-202

[Nephron-sparing treatments for kidney cancer]. Casuscelli, J., Fischereder, M., Gratzke, C., Staehler, M., and Stief, C. G.. MMW Fortschr Med 2012 :45-6, 48

Re: Features associated with recurrence beyond 5 years after nephrectomy and nephron-sparing surgery for renal cell carcinoma: development and internal validation of a risk model (PRELANE score) to predict late recurrence based on a large multicenter database (CORONA/SATURN project). Taneja, S. S.. J Urol 2013 :67-8

Lymph node excision for renal cancer. Montgomery, J. S. and Leibovich, B. C.. J Urol 2013 :419-21

A novel technique to limit renal warm ischaemia time during laparoscopic partial nephrectomy. Sapre, N., Corcoran, N. M., Costello, A. J., and Agarwal, D.. BJU Int 2012 :1216-9

Laparoscopic cryotherapy for renal tumours. Grange, P., Rouse, P., Kouriefs, C., Rao, A., Karamanolakis, D., Roy, A., and Arya, M.. BJU Int 2012 :808-17

Focal therapy for renal mass lesions: where do we stand in 2012?. Rane, A., Stein, R., and Cadeddu, J.. BJU Int 2012 :491-2

Application of gasless laparoendoscopic single port surgery, GasLESS, to partial nephrectomy for renal cell carcinoma: GasLESS-clampless partial nephrectomy as a multiply satisfactory method. Kihara, K.. Int J Urol 2012 :3-4

Zero-ischaemia robotic and laparoscopic partial nephrectomy (PN). Patil, M. B. and Gill, I. S.. BJU Int 2011 :780-92

Preferred management option for small renal masses: laparoscopic partial nephrectomy. Kapoor, A.. Can Urol Assoc J 2010 :139-41

Active surveillance as the preferred management option for small renal masses. Rendon, R. A.. Can Urol Assoc J 2010 :136-8

Determining failure after renal ablative therapy for renal cell carcinoma: false-negative and false-positive imaging findings. Matin, S. F.. Urology 2010 :1254-7

Open to debate. The motion: Cryotherapy is an efficient alternative for kidney cancer. Guazzoni, G., Nava, L., Lazzeri, M., Cestari, A., Volpe, A., and Kirkali, Z.. Eur Urol 2010 :168-70

Current role of robotic assisted partial nephrectomy. Cestari, A., Guazzoni, G., Buffi, N. M., Scapaticci, E., Zanoni, M., Fabbri, F., Gadda, G., and Rigatti, P.. Arch Ital Urol Androl 2009 :76-9

Reporting standards for percutaneous thermal ablation of renal cell carcinoma. Clark, T. W., Millward, S. F., Gervais, D. A., Goldberg, S. N., Grassi, C. J., Kinney, T. B., Phillips, D. A., Sacks, D., and Cardella, J. F.. J Vasc Interv Radiol 2009 :S409-16

Robotic-assisted partial nephrectomy: surgical technique using a 3-arm approach and sliding-clip renorrhaphy. Cabello, J. M., Benway, B. M., and Bhayani, S. B.. Int Braz J Urol 2009 :199-203; discussion 203-4

Robotic-assisted partial nephrectomy. Patel, M. N., Bhandari, M., Menon, M., and Rogers, C. G.. BJU Int 2009 :1296-311

Robot-assisted partial nephrectomy. Sairam, K. and Dasgupta, P.. BJU Int 2008 :266-7

Evolution to nephron-sparing surgery for renal cell carcinoma. O'Malley, P. J., Bruyere, F., and Costello, A. J.. ANZ J Surg 2007 :2-3

Organ-preserving endoscopic kidney cancer resection. Heinrich, E., Egner, T., Noe, M., Schiefelbein, F., and Schoen, G.. Eur Urol 2006 :732-7

Laparoscopic partial nephrectomy: contemporary technique and outcomes. Haber, G. P. and Gill, I. S.. Eur Urol 2006 :660-5

Percutaneous CT-guided radiofrequency ablation of renal neoplasms: factors influencing success. Marshall, F. F.. J Urol 2005 :1782

[Laparoscopic tumor nephrectomy]. Janetschek, G., al-Zachrani, H., Vrabec, G., and Leeb, K.. Urologe A 2002 :101-6

Matched comparison of radical nephrectomy vs nephron-sparing surgery in patients with unilateral renal cell carcinoma and a normal contralateral kidney. Lau, W. K., Blute, M. L., Weaver, A. L., Torres, V. E., and Zincke, H.. Mayo Clin Proc 2000 :1236-42

Impact of kidney cancer surgery on oncologic and kidney functional outcomes. Han J.S. and Huang W.C.. Am. J. Kidney Dis. 2011 :846-854

Renal artery pseudoaneurysm after partial nephrectomy: Three case reports and a literature review. Albani J.M. and Novick A.C.. Urology 2003 :227-231

A tumor of the kidney which should not be misdiagnosed: Une tumeur du rein a ne pas meconnaitre. Ismail O., Tissier F., Colin D., Flam T., Vieillefond A., and De Pinieux G.. Ann. Pathol. 2002 :489-490

A prospective, randomised EORTC intergroup phase 3 study comparing the oncologic outcome of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. Taneja, S. S.. Journal of urology 2011 :1637-8

Management of small indeterminate renal tumours: is there a case for needle biopsy?. Khan, A. A., Shergill, I. S., Gujral, S. S., and Timoney, A. G.. BJU Int 2007 :1-3

To biopsy or not to biopsy: Results of 1000 renal mass biopsies at a single institution. Deshmukh S.M., Dhyani M., McGovern F.J., McDougal W.S., Olumi A.F., Dahl D.M., Arellano R., Samir A., Blute M.L., and Feldman A.S.. J. Urol. 2013 :e437

Study address KQ1 but does not include imaging or one element from at least 2 of the categories - Demographic characteristics, Clinical, Blood/urine test

Comparative Studies of the Proteome, Glycoproteome, and N-Glycome of Clear Cell Renal Cell Carcinoma Plasma before and after Curative Nephrectomy. Gbormittah, F. O., Lee, L. Y., Taylor, K., Hancock, W. S., and Iliopoulos, O.. J Proteome Res 2014 :

The impact of tumour size on the probability of synchronous metastasis and survival in renal cell carcinoma patients: a population-based study. Ingimarsson, J. P., Sigurdsson, M. I., Hardarson, S., Petursdottir, V., Jonsson, E., Einarsson, G. V., and Gudbjartsson, T.. BMC Urol 2014 :72

Diabetes mellitus as a risk factor for high grade renal cell carcinoma. Otunctemur, A., Ozbek, E., Sahin, S., Dursun, M., Besiroglu, H., Koklu, I., Erkoc, M., Danis, E., Bozkurt, M., and Gurbuz, A.. Asian Pac J Cancer Prev 2014 :3993-6

Diagnostic and prognostic role of preoperative circulating CA 15-3, CA 125, and beta-2 microglobulin in renal cell carcinoma. Lucarelli, G., Ditonno, P., Bettocchi, C., Vavallo, A., Rutigliano, M., Galleggiante, V., Larocca, A. M., Castellano, G., Gesualdo, L., Grandaliano, G., Selvaggi, F. P., and Battaglia, M.. Dis Markers 2014 :689795

Elevated serum-circulating RNA in patients with conventional renal cell cancer. Feng, G., Li, G., Gentil-Perret, A., Tostain, J., and Genin, C.. Anticancer Res 2008 :321-6

Study does not give an adequate description of how complications and peri-operative outcomes were assessed

Enhanced computed tomography after partial nephrectomy in early postoperative period to detect asymptomatic renal artery pseudoaneurysm. Takagi, T., Kondo, T., Tajima, T., Campbell, S. C., and Tanabe, K.. Int J Urol 2014 :880-5

Incidence of hypercoagulable events after image-guided percutaneous cryoablation of renal tumors: a single-center experience. Hartman, J. B., Bhojwani, N., Corn, D. J., Cooney, M. M., Haaga, J., Ponsky, L., Abouassaly, R., Paspulati, A., and Prologo, J. D.. J Vasc Interv Radiol 2014 :776-9

Renal function outcomes following selective angioembolization for iatrogenic vascular lesions after partial nephrectomy. Gahan, J. C., Gaitonde, M., Wadskier, L., Cadeddu, J. A., and Trimmer, C.. J Endourol 2013 :1516-9

Sutureless hemostatic control during laparoscopic NSS for the treatment of small renal masses. Minervini, A., Siena,

G., Tuccio, A., Lapini, A., Serni, S., and Carini, M.. Surg Innov 2014 :32-8

Robot-assisted partial nephrectomy: a comparison of the transperitoneal and retroperitoneal approaches. Hughes-Hallett, A., Patki, P., Patel, N., Barber, N. J., Sullivan, M., and Thilagarajah, R.. J Endourol 2013 :869-74

Rates of open versus laparoscopic and partial versus radical nephrectomy for T1a renal cell carcinoma: a population-based evaluation. Bianchi, M., Becker, A., Abdollah, F., Trinh, Q. D., Hansen, J., Tian, Z., Shariat, S. F., Perrotte, P., Karakiewicz, P. I., and Sun, M.. Int J Urol 2013 :1064-71

Fast access and early ligation of the renal pedicle significantly facilitates retroperitoneal laparoscopic radical nephrectomy procedures: modified laparoscopic radical nephrectomy. Yang, Q., Du, J., Zhao, Z. H., Chen, X. S., Zhou, L., and Yao, X.. World J Surg Oncol 2013 :27

Bipolar versus multipolar radiofrequency (RF) ablation for the treatment of renal cell carcinoma: differences in technical and clinical parameters. Sommer, C. M., Lemm, G., Hohenstein, E., Stampfl, U., Bellemann, N., Teber, D., Rassweiler, J., Kauczor, H. U., Radeleff, B. A., and Pereira, P. L.. Int J Hyperthermia 2013 :21-9

Antimicrobial prophylaxis is not necessary in clean category minimally invasive surgery for renal and adrenal tumors: a prospective study of 373 consecutive patients. Kijima, T., Masuda, H., Yoshida, S., Tatokoro, M., Yokoyama, M., Numao, N., Saito, K., Koga, F., Fujii, Y., and Kihara, K.. Urology 2012 :570-5

[Clinical comparison between microporous polysaccharide hemispheres (MPH) and fibrin glue]. Sakata, R., Makiyama, K., Noguchi, G., Sano, F., Nakaigawa, N., Yao, M., and Kubota, Y.. Nihon Hinyokika Gakkai Zasshi 2012 :8-13

Correlation of the RENAL nephrometry score with warm ischemia time after robotic partial nephrectomy. Altunrende, F., Laydner, H., Hernandez, A. V., Autorino, R., Khanna, R., White, M. A., Isac, W., Spana, G., Hillyer, S., Yang, B., Yakoubi, R., Haber, G. P., Kaouk, J. H., and Stein, R. J.. World J Urol 2013 :1165-9

Integrating robotic partial nephrectomy to an existing robotic surgery program. Yuh, B., Muldrew, S., Menchaca, A., Yip, W., Lau, C., Wilson, T., and Josephson, D.. Can J Urol 2012 :6193-200

Multiple factor analysis of urine leaks after retroperitoneal laparoscopic partial nephrectomy. Wang, P., Xia, D., and Wang, S.. Urol Int 2011 :411-5

Implementation and external validation of Preoperative Aspects and Dimensions Used for an Anatomical (PADUA) score for predicting complications in 74 consecutive partial nephrectomies. Tyritzis, S. I., Papadoukakis, S., Katafigiotis, I., Adamakis, I., Anastasiou, I., Stravodimos, K. G., Alamanis, C., Mitropoulos, D., and Constantinides, C. A.. BJU Int 2012 :1813-8

The comparison of three renal tumor scoring systems: C-Index, P.A.D.U.A., and R.E.N.A.L. nephrometry scores. Okhunov, Z., Rais-Bahrami, S., George, A. K., Waingankar, N., Duty, B., Montag, S., Rosen, L., Sunday, S., Vira, M. A., and Kavoussi, L. R.. J Endourol 2011 :1921-4

Does partial nephrectomy at an academic institution result in better outcomes?. Trinh, Q. D., Schmitges, J., Sun, M., Sammon, J., Shariat, S. F., Sukumar, S., Zorn, K., Bianchi, M., Jeldres, C., Perrotte, P., Graefen, M., Rogers, C. G., Peabody, J. O., Menon, M., and Karakiewicz, P. I.. World J Urol 2012 :505-10

The effect of insurance status on outcomes after partial nephrectomy. Abdo, A., Trinh, Q. D., Sun, M., Schmitges, J., Bianchi, M., Sammon, J., Shariat, S. F., Sukumar, S., Zorn, K., Jeldres, C., Perrotte, P., Rogers, C. G., Peabody, J. O., Menon, M., and Karakiewicz, P. I.. Int Urol Nephrol 2012 :343-51

Two-port robot-assisted vs standard robot-assisted laparoscopic partial nephrectomy: a matched-pair comparison. Arkoncel, F. R., Lee, J. W., Rha, K. H., Han, W. K., Jeoung, H. B., and Oh, C. K.. Urology 2011 :581-5

Critical appraisal of the PADUA classification and assessment of the R.E.N.A.L. nephrometry score in patients undergoing partial nephrectomy. Hew, M. N., Baseskioglu, B., Barwari, K., Axwijk, P. H., Can, C., Horenblas, S., Bex, A., Rosette, J. J., and Pes, M. P.. J Urol 2011 :42-6

Robot-assisted partial nephrectomy: evaluation of learning curve for an experienced renal surgeon. Haseebuddin, M., Benway, B. M., Cabello, J. M., and Bhayani, S. B.. J Endourol 2010 :57-61

Current role of robotic assisted partial nephrectomy. Cestari, A., Guazzoni, G., Buffi, N. M., Scapaticci, E., Zanoni, M., Fabbri, F., Gadda, G., and Rigatti, P.. Arch Ital Urol Androl 2009 :76-9

Retroperitoneal laparoscopic and open radical nephrectomy for T1 renal cell carcinoma. Wang, L., Wang, L., Yang, Q., Xiao, C., and Sun, Y.. J Endourol 2009 :1509-12

Outcomes of laparoscopic partial nephrectomy after fellowship training. Shah, S. K., Matin, S. F., Singer, E. A., Eichel, L., and Kim, H. L.. JSLS 2009 :154-9

Prospective comparative study between retroperitoneoscopic and hand-assisted laparoscopic approach for radical nephrectomy. Tobias-Machado, M., Ravizzini, P. I., Pertusier, L. O., Pedroso, E., and Wroclawski, E. R.. Int Braz J Urol 2009 :284-91; discussion 291-2

Decision tree for laparoscopic partial nephrectomy versus laparoscopic renal cryoablation for small renal masses. Nisbet, A. A., Rieder, J. M., Tran, V. Q., Williams, S. G., and Chien, G. W.. J Endourol 2009 :431-7

Impact of renal lesion size on perioperative and pathologic outcomes in patients undergoing laparoscopic partial nephrectomy. Eng, M. K., Bernstein, A. J., Katz, M. H., Shikanov, S., Zorn, K. C., and Shalhav, A. L.. J Endourol 2009 :439-43

Comparison of different extraction sites used during laparoscopic radical nephrectomy. Bird, V. G., Au, J. K., Sandman, Y., De Los Santos, R., Ayyathurai, R., and Shields, J. M.. J Urol 2009 :1565-70

Management of renal masses with laparoscopic-guided radiofrequency ablation versus laparoscopic partial nephrectomy. Bird, V. G., Carey, R. I., Ayyathurai, R., and Bird, V. Y.. J Endourol 2009 :81-8

Retroperitoneoscopic nephrectomy in overweight and obese Japanese patients: complications and outcomes. Makiyama, K., Nakaigawa, N., Miyoshi, Y., Murakami, T., Yao, M., and Kubota, Y.. Urol Int 2008 :427-30

Clinical experience with laparoscopic radical nephrectomy for renal cell carcinoma. Tsujihata, M., Nonomura, N., Momohara, C., Nishimura, K., Tsujimura, A., and Okuyama, A.. Urol Int 2008 :301-5

[Laparoscopic radical nephrectomy--the cohort of 150 patients]. Eret, V., Hora, M., Klecka, J., Stransky, P., Ferda, J., Hes, O., and Urge, T.. Cas Lek Cesk 2007 :758-62

Technical difficulties in retro-peritoneoscopic radical nephrectomy. Is tumor location important?. Lucan, M., Lucan, V., Ghervan, L., Elec, F., Iacob, G., and Barbos, A.. Chirurgia (Bucur) 2007 :185-90

Analysis of complications following partial and total nephrectomy for renal cancer in a population based sample. Joudi, F. N., Allareddy, V., Kane, C. J., and Konety, B. R.. J Urol 2007 :1709-14

Analysis of impact of body mass index on outcomes of laparoscopic renal surgery. Gong, E. M., Orvieto, M. A., Lyon, M. B., Lucioni, A., Gerber, G. S., and Shalhav, A. L.. Urology 2007 :38-43

A prospective comparison of transperitoneal and retroperitoneal laparoscopic nephrectomy in the extremely obese patient. Berglund, R. K., Gill, I. S., Babineau, D., Desai, M., and Kaouk, J. H.. BJU Int 2007 :871-4

The efficacy and safety of laparoscopic nephrectomy in patients with three or more comorbidities. Naya, Y., Tobe, T., Suyama, T., Araki, K., Komiya, A., Suzuki, H., Igarashi, T., and Ichikawa, T.. Int J Urol 2007 :17-20

A prospective randomized EORTC intergroup phase 3 study comparing the complications of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. Van Poppel, H., Da Pozzo, L., Albrecht, W., Matveev, V., Bono, A., Borkowski, A., Marechal, J. M., Klotz, L., Skinner, E., Keane, T., Claessens, I., and Sylvester, R.. Eur Urol 2007 :1606-15

Perioperative clinical thromboembolic events after radical or partial nephrectomy. Pettus, J. A., Eggener, S. E., Shabsigh, A., Yanke, B., Snyder, M. E., Serio, A., Vickers, A., Russo, P., and Donat, S. M.. Urology 2006 :988-92

Obesity as a risk factor for complications during laparoscopic surgery for renal cancer: multivariate analysis. Kurzer, E., Leveillee, R., and Bird, V.. J Endourol 2006 :794-9

Minimizing knot tying during reconstructive laparoscopic urology. Shalhav, A. L., Orvieto, M. A., Chien, G. W., Mikhail, A. A., Zagaja, G. P., and Zorn, K. C.. Urology 2006 :508-13

Organ-preserving endoscopic kidney cancer resection. Heinrich, E., Egner, T., Noe, M., Schiefelbein, F., and Schoen, G.. Eur Urol 2006 :732-7

Sutureless nephron-sparing surgery: use of albumin glutaraldehyde tissue adhesive (BioGlue). Hidas, G., Kastin, A., Mullerad, M., Shental, J., Moskovitz, B., and Nativ, O.. Urology 2006 :697-700; discussion 700

Incidence and treatment of complications in nephron sparing surgery. Seveso, M., Maugeri, O., Taverna, G., Giusti, G., Piccinelli, A., Benetti, A., Pasini, L., and Graziotti, P.. Arch Ital Urol Androl 2005 :206-10

Renal artery pseudoaneurysm following laparoscopic partial nephrectomy. Singh, D. and Gill, I. S.. J Urol 2005 :2256-9

Laparoscopic partial nephrectomy: is it advantageous and safe to clamp the renal artery?. Nadu, A., Kitrey, N., Mor, Y., Golomb, J., and Ramon, J.. Urology 2005 :279-82

Urological retroperitoneoscopic surgery for patients with prior intra-abdominal surgery. Mita, K., Shigeta, M., Mutaguchi, K., Matsubara, A., Yoshino, T., Seki, M., Mochizuki, H., Kato, M., Teishima, J., Kadonishi, Y., Yasumoto, H., and Usui, T.. Eur Urol 2005 :97-101

Retroperitoneal laparoscopic nephron-sparing surgery for renal tumors: report of 32 cases. Zhang, X., Li, H. Z., Ma, X., Zheng, T., Li, L. C., and Ye, Z. Q.. Urology 2005 :1080-4; discussion 1084-5

Laparoscopic partial nephrectomy: hand-assisted technique. Strup, S., Garrett, J., Gomella, L., and Rowland, R.. J Endourol 2005 :456-9; discussion 459-60

Hemorrhagic complications after nephron-sparing surgery: angiographic diagnosis and management by transcatheter embolization. Heye, S., Maleux, G., Van Poppel, H., Oyen, R., and Wilms, G.. AJR Am J Roentgenol 2005 :1661-4

Closed suction or penrose drainage after partial nephrectomy: does it matter?. Sanchez-Ortiz, R., Madsen, L. T., Swanson, D. A., Canfield, S. E., and Wood, C. G.. J Urol 2004 :244-6

Benefits of laparoscopic renal surgery are more pronounced in patients with a high body mass index. Klingler, H. C., Remzi, M., Janetschek, G., and Marberger, M.. Eur Urol 2003 :522-7

[Perioperative antibiotic prophylaxis in transperitoneal tumor nephrectomy: does it lower the rate of clinically significant postoperative infections?]. Steiner, T., Traue, C., and Schubert, J.. Urologe A 2003 :34-7

Improvement of hemostasis in open and laparoscopically performed partial nephrectomy using a gelatin matrix-thrombin tissue sealant (FloSeal). Richter, F., Schnorr, D., Deger, S., Trk, I., Roigas, J., Wille, A., and Loening, S. A.. Urology 2003 :73-7

Blood loss and the need for transfusion in patients who undergo partial or radical nephrectomy for renal cell carcinoma. Shvarts, O., Tsui, K. H., Smith, R. B., Kernion, J. B., and Belldegrun, A.. J Urol 2000 :1160-3

Incisional hernia after laparoscopic nephrectomy with intact specimen removal: caveat emptor. Elashry, O. M., Giusti, G., Nadler, R. B., McDougall, E. M., and Clayman, R. V.. J Urol 97 :363-9

Risk factors for postoperative hemorrhage after partial nephrectomy. Jung S., Min G.E., Chung B.I., and Jeon S.H.. Korean J. Urol. 2014 :17-22

Robotic assisted Laparoscopic partial Nephrectomy for suspected Renal Cell Carcinoma: Retrospective review of surgical outcomes of 35 Cases. Bhayani S.B. and Das N.. BMC Surg. 2008 :

Use of Haemostatic Agents and Glues during Laparoscopic Partial Nephrectomy: A Multi-Institutional Survey from the United States and Europe of 1347 Cases{A figure is presented}. Breda A., Stepanian S.V., Lam J.S., Liao J.C., Gill I.S., Colombo J.R., Guazzoni G., Stifelman M.D., Perry K.T., Celia A., Breda G., Fornara P., Jackman S.V., Rosales A., Palou J., Grasso M., Pansadoro V., Disanto V., Porpiglia F., Milani C., Abbou C.C., Gaston R., Janetschek G., Soomro N.A., De la Rosette J.J., Laguna P.M., and Schulam P.G.. Eur. Urol. 2007 :798-803

Direct real-time temperature monitoring for laparoscopic and CT-guided radiofrequency ablation of renal tumors between 3 and 5 cm. Carey R.I. and Leveillee R.J.. J. Endourol. 2007 :807-813

Percutaneous renal cryoablation: Feasibility under local anesthesia. De Kerviler E., Coffin A., De Bazelaire C., Meria P., Mongiat-Artus P., and Desgrandchamps F.. Cardiovasc. Intervent. Radiol. 2014 :S234

The impact of hospital volume on postoperative complications following robot-assisted partial nephrectomy. Monn, M. F., Bahler, C. D., Flack, C. K., Dube, H. T., and Sundaram, C. P.. J Endourol 2014 :1231-6

Laparoscopic partial nephrectomy for multilocular cystic renal cell carcinoma: a potential gold standard treatment with excellent perioperative outcomes. Xu, B., Mi, Y., Zhou, L. Q., Jin, J., Zhang, Q., and Chen, G. F.. World J Surg Oncol 2014 :111

Growth kinetics and short-term outcomes of cT1b and cT2 renal masses under active surveillance. Mehrazin, R., Smaldone, M. C., Kutikov, A., Li, T., Tomaszewski, J. J., Canter, D. J., Viterbo, R., Greenberg, R. E., Chen, D. Y., and Uzzo, R. G.. J Urol 2014 :659-64

A single overnight stay is possible for most patients undergoing robotic partial nephrectomy. Abaza, R. and Shah, K.. Urology 2013 :301-6

Near-infrared fluorescence imaging to facilitate super-selective arterial clamping during zero-ischaemia robotic partial nephrectomy. Borofsky, M. S., Gill, I. S., Hemal, A. K., Marien, T. P., Jayaratna, I., Krane, L. S., and Stifelman, M. D.. BJU Int 2013 :604-10

Application of retroperitoneal laparoscopic partial nephrectomy for renal cell carcinoma of the early stage. Wang, J., Qi, L., Zu, X., and Chen, M.. Zhong Nan Da Xue Xue Bao Yi Xue Ban 2012 :485-90

Comparison of total, selective, and nonarterial clamping techniques during laparoscopic and robot-assisted partial nephrectomy. Martin, G. L., Warner, J. N., Nateras, R. N., Andrews, P. E., Humphreys, M. R., and Castle, E. P.. J Endourol 2012 :152-6

Complications of renal cryoablation: a single center experience. Sidana, A., Aggarwal, P., Feng, Z., Georgiades, C. S., Trock, B. J., and Rodriguez, R.. J Urol 2010 :42-7

Laparoscopic and open partial nephrectomy: frequency and long-term follow-up of postoperative collections. Hecht, E. M., Bennett, G. L., Brown, K. W., Robbins, D., Hyams, E. S., Taneja, S. S., and Stifelman, M. A.. Radiology 2010 :476-84

Laparoscopic partial nephrectomy for technically challenging tumours. Shikanov, S., Lifshitz, D. A., Deklaj, T., Katz, M. H., and Shalhav, A. L.. BJU Int 2010 :91-4

Robotic partial nephrectomy versus laparoscopic partial nephrectomy for renal cell carcinoma: single-surgeon analysis of >100 consecutive procedures. Wang, A. J. and Bhayani, S. B.. Urology 2009 :306-10

The impact of minimally invasive techniques on open partial nephrectomy: a 10-year single institutional experience. Weight, C. J., Fergany, A. F., Gunn, P. W., Lane, B. R., and Novick, A. C.. J Urol 2008 :84-8

Laparoscopic partial nephrectomy: fifty cases. Bhayani, S. B.. J Endourol 2008 :313-6

Comparison of transperitoneal versus retroperitoneal approach in laparoscopic radical nephrectomy for renal cell carcinoma: a single-center experience of 63 cases. Berdjis, N., Hakenberg, O. W., Leike, S., Zastrow, S., Manseck, A., Oehlschlager, S., and Wirth, M. P.. Urol Int 2006 :166-9

Retroperitoneoscopic radical nephrectomy in obese patients: outcomes and considerations. Inoue, S., Mita, K., Shigeta, M., Mochizuki, H., Tanabe, T., Moriyama, H., and Usui, T.. Urol Int 2006 :252-5

Laparoscopic versus open partial nephrectomy. Beasley, K. A., Al Omar, M., Shaikh, A., Bochinski, D., Khakhar, A., Izawa, J. I., Welch, R. O., Chin, J. L., Kapoor, A., and Luke, P. P.. Urology 2004 :458-61

Renal artery occlusion during nephron-sparing surgery: Retrospective review of 301 cases. Duvdevani M., Mor Y., Kastin A., Laufer M., Nadu A., Golomb J., Zilberman D., Nativ O., and Ramon J.. Urology 2006 :960-963

Not relevant to key questions

The preoperative prognostic nutritional index is an independent predictor of survival in patients with renal cell

carcinoma. Hofbauer, S. L., Pantuck, A. J., de Martino, M., Lucca, I., Haitel, A., Shariat, S. F., Belldegrun, A. S., and Klatte, T.. Urol Oncol 2014 :

Validation of mammalian target of rapamycin biomarker panel in patients with clear cell renal cell carcinoma. Haddad, A. Q., Kapur, P., Singla, N., Raman, J. D., Then, M. T., Nuhn, P., Buchner, A., Bastian, P., Seitz, C., Shariat, S. F., Bensalah, K., Rioux-Leclercq, N., Sagalowsky, A., Lotan, Y., and Margulis, V.. Cancer 2014 :

Comparative Studies of the Proteome, Glycoproteome, and N-Glycome of Clear Cell Renal Cell Carcinoma Plasma before and after Curative Nephrectomy. Gbormittah, F. O., Lee, L. Y., Taylor, K., Hancock, W. S., and Iliopoulos, O.. J Proteome Res 2014 :

Tumor miR-125b predicts recurrence and survival of patients with clear-cell renal cell carcinoma after surgical resection. Fu, Q., Liu, Z., Pan, D., Zhang, W., Xu, L., Zhu, Y., Liu, H., and Xu, J.. Cancer Sci 2014 :

Increased expression of Chitinase 3-like 1 and microvessel density predicts metastasis and poor prognosis in clear cell renal cell carcinoma. Zhang, J. P., Yuan, H. X., Kong, W. T., Liu, Y., Lin, Z. M., Wangs, W. P., and Guo, J. M.. Tumour Biol 2014 :

Clinical Symptoms Predict Poor Overall Survival in Chronic-dialysis Patients with Renal Cell Carcinoma Associated with End-stage Renal Disease. Ikezawa, E., Kondo, T., Hashimoto, Y., Kobayashi, H., Iizuka, J., Takagi, T., Omae, K., and Tanabe, K.. Jpn J Clin Oncol 2014 :

High preoperative C-reactive protein values predict poor survival in patients on chronic hemodialysis undergoing nephrectomy for renal cancer. Omae, K., Kondo, T., and Tanabe, K.. Urol Oncol 2014 :

Pretherapeutic gamma-glutamyltransferase is an independent prognostic factor for patients with renal cell carcinoma. Hofbauer, S. L., Stangl, K. I., de Martino, M., Lucca, I., Haitel, A., Shariat, S. F., and Klatte, T.. Br J Cancer 2014 :

Expression of Neural Wiskott-Aldrich Syndrome Protein in Clear Cell Renal Cell Carcinoma and Its Correlation with Clinicopathological Features. Liu, G. H., Chen, J., Ji, Z. G., and Zhou, L.. Urol Int 2014 :

Factors Associated With Diagnostic Accuracy When Performing a Pre-Ablation Renal Biopsy. Lorber, G., Jorda, M., and Leveillee, R. J.. J Endourol 2014 :

Clinicopathologic Outcomes of Cystic Renal Cell Carcinoma. Donin, N. M., Mohan, S., Pham, H., Chandarana, H., Doshi, A., Deng, F. M., Stifelman, M. D., Taneja, S. S., and Huang, W. C.. Clin Genitourin Cancer 2014 :

Low preoperative lymphocyte-monocyte ratio (LMR) represents a potentially poor prognostic factor in nonmetastatic clear cell renal cell carcinoma. Hutterer, G. C., Stoeckigt, C., Stojakovic, T., Jesche, J., Eberhard, K., Pummer, K., Zigeuner, R., and Pichler, M.. Urol Oncol 2014 :

Surgeon-specific factors affecting treatment decisions among Canadian urologists in the management of pT1a renal tumours. Millman, A. L., Pace, K. T., Ordon, M., and Lee, J. Y.. Can Urol Assoc J 2014 :183-9

Neutrophil-lymphocyte ratio in small renal masses. Bazzi, W. M., Dejbakhsh, S. Z., Bernstein, M., and Russo, P.. ISRN Urol 2014 :759253

Comparison of diameter-axial-polar nephrometry and RENAL nephrometry score for treatment decision-making in patients with small renal mass. Naya, Y., Kawauchi, A., Oishi, M., Ueda, T., Fujihara, A., Naito, Y., Nakamura, T., Hongo, F., Kamoi, K., Okihara, K., and Miki, T.. Int J Clin Oncol 2014 :

Diabetes Mellitus Is Independently Associated with an Increased Risk of Mortality in Patients with Clear Cell Renal Cell Carcinoma. Psutka, S. P., Stewart, S. B., Boorjian, S. A., Lohse, C. M., Tollefson, M. K., Cheville, J. C., Leibovich, B. C., and Thompson, R. H.. J Urol 2014 :

Tumor signatures of PTHLH overexpression, high serum calcium, and poor prognosis were observed exclusively in clear cell but not non clear cell renal carcinomas. Yao, M., Murakami, T., Shioi, K., Mizuno, N., Ito, H., Kondo, K., Hasumi, H., Sano, F., Makiyama, K., Nakaigawa, N., Kishida, T., Nagashima, Y., Yamanaka, S., and Kubota, Y.. Cancer Med 2014 :845-54

Extent of lymph node dissection at nephrectomy affects cancer-specific survival and metastatic progression in specific sub-categories of patients with renal cell carcinoma (RCC). Capitanio, U., Suardi, N., Matloob, R., Roscigno, M., Abdollah, F., Di Trapani, E., Moschini, M., Gallina, A., Salonia, A., Briganti, A., Montorsi, F., and Bertini, R.. BJU Int 2014 :210-5

Is the follow-up of small renal angiomyolipomas a necessary precaution?. Maclean, D. F., Sultana, R., Radwan, R., McKnight, L., and Khastgir, J.. Clin Radiol 2014 :822-6

[Significance of the R.E.N. A.L. nephrometry scoring system in renal tumour of T1 stage]. Liu, Y., Wang, H., Mao, X., Jing, T., Jiang, D., Ji, J., Liu, S., and Song, S.. Zhonghua Wai Ke Za Zhi 2014 :139-42

Prognostic value of clinical and pathological factors for surgically treated localized clear cell renal cell carcinoma. Teng, J., Gao, Y., Chen, M., Wang, K., Cui, X., Liu, Y., and Xu, D.. Chin Med J (Engl) 2014 :1640-4

GALNT4 Predicts Clinical Outcome in Patients with Clear Cell Renal Cell Carcinoma. Liu, Y., Liu, W., Xu, L., Liu, H., Zhang, W., Zhu, Y., Xu, J., and Gu, J.. J Urol 2014 :

Analysis and validation of tissue biomarkers for renal cell carcinoma using automated high-throughput evaluation of protein expression. Abel, E. J., Bauman, T. M., Weiker, M., Shi, F., Downs, T. M., Jarrard, D. F., and Huang, W.. Hum Pathol 2014 :1092-9

Preoperative butyrylcholinesterase level as an independent predictor of overall survival in clear cell renal cell carcinoma patients treated with nephrectomy. Koie, T., Ohyama, C., Mikami, J., Iwamura, H., Fujita, N., Sato, T.,

Kojima, Y., Fukushi, K., Yamamoto, H., Imai, A., Hatakeyama, S., Yoneyama, T., Hashimoto, Y., Kitayama, M., and Hirota, K.. ScientificWorldJournal 2014 :948305

Novel prognostic model for patients with sarcomatoid renal cell carcinoma. Zhang, B. Y., Thompson, R. H., Lohse, C. M., Leibovich, B. C., Boorjian, S. A., Cheville, J. C., and Costello, B. A.. BJU Int 2014 :

Prognostic Significance of p21-activated Kinase 6 Expression in Patients with Clear Cell Renal Cell Carcinoma. Liu, W., Liu, H., Liu, Y., Xu, L., Zhang, W., Zhu, Y., Xu, J., and Gu, J.. Ann Surg Oncol 2014 :

Enhanced computed tomography after partial nephrectomy in early postoperative period to detect asymptomatic renal artery pseudoaneurysm. Takagi, T., Kondo, T., Tajima, T., Campbell, S. C., and Tanabe, K.. Int J Urol 2014 :880-5

Approach via a small retroperitoneal anterior subcostal incision in the supine position for gasless laparoendoscopic single-port radical nephrectomy: initial experience of 42 patients. Morita, T., Fujisaki, A., Kubo, T., and Kurokawa, S.. BMC Urol 2014 :29

Preoperative serum cholesterol is an independent prognostic factor for patients with renal cell carcinoma (RCC). de Martino, M., Leitner, C. V., Seemann, C., Hofbauer, S. L., Lucca, I., Haitel, A., Shariat, S. F., and Klatte, T.. BJU Int 2014 :

Chromosome 9p deletions are an independent predictor of tumor progression following nephrectomy in patients with localized clear cell renal cell carcinoma. de Oliveira, D., Dall'Oglio, M. F., Reis, S. T., Zerati, M., Souza, I. C., Leite, K. R., and Srougi, M.. Urol Oncol 2014 :601-6

Use and outcomes of extended antibiotic prophylaxis in urological cancer surgery. Calvert, J. K., Holt, S. K., Mossanen, M., James, A. C., Wright, J. L., Porter, M. P., and Gore, J. L.. J Urol 2014 :425-9

Delay in nephrectomy and cancer control outcomes in elderly patients with small renal masses. Becker, A., Roghmann, F., Ravi, P., Tian, Z., Kluth, L. A., Gandaglia, G., Noldus, J., Dahlem, R., Schlomm, T., Graefen, M., Karakiewicz, P. I., Trinh, Q. D., and Sun, M.. Urol Int 2014 :455-61

Factors Influencing the Operative Approach to Renal Tumors: Analyses According to RENAL Nephrometry Scores. Oh, J. H., Rhew, H. Y., and Kim, T. S.. Korean J Urol 2014 :97-101

Growth kinetics of small renal masses: A prospective analysis from the Renal Cell Carcinoma Consortium of Canada. Organ, M., Jewett, M., Basiuk, J., Morash, C., Pautler, S., Siemens, D. R., Tanguay, S., Gleave, M., Drachenberg, D., Chow, R., Chin, J., Evans, A., Fleshner, N., Gallie, B., Haider, M., Kachura, J., Finelli, A., and Rendon, R. A.. Can Urol Assoc J 2014 :24-7

Association of type of renal surgery and access to robotic technology for kidney cancer: results from a population-based cohort. Kardos, S. V., Gross, C. P., Shah, N. D., Schulam, P. G., Trinh, Q. D., Smaldone, M. C., Sun, M., Weight, C. J., Sammon, J., Han, L. C., and Kim, S. P.. BJU Int 2014 :549-54

Current patterns of presentation and treatment of renal masses: a clinical research office of the endourological society prospective study. Laguna, M. P., Algaba, F., Cadeddu, J., Clayman, R., Gill, I., Gueglio, G., Hohenfellner, M., Joyce, A., Landman, J., Lee, B., and van Poppel, H.. J Endourol 2014 :861-70

Simple enucleation versus standard partial nephrectomy for clinical T1 renal masses: perioperative outcomes based on a matched-pair comparison of 396 patients (RECORd project). Longo, N., Minervini, A., Antonelli, A., Bianchi, G., Bocciardi, A. M., Cunico, S. C., Fiori, C., Fusco, F., Giancane, S., Mari, A., Martorana, G., Mirone, V., Morgia, G., Novara, G., Porpiglia, F., Raspollini, M. R., Rocco, F., Rovereto, B., Schiavina, R., Serni, S., Simeone, C., Verze, P., Volpe, A., Ficarra, V., and Carini, M.. Eur J Surg Oncol 2014 :762-8

Utilization of renal mass biopsy in patients with renal cell carcinoma. Leppert, J. T., Hanley, J., Wagner, T. H., Chung, B. I., Srinivas, S., Chertow, G. M., Brooks, J. D., and Saigal, C. S.. Urology 2014 :774-9

Impact of Recurrent Copy Number Alterations and Cancer Gene Mutations on the Predictive Accuracy of Prognostic Models in Clear Cell Renal Cell Carcinoma. Hakimi, A. A., Mano, R., Ciriello, G., Gonen, M., Mikkilineni, N., Sfakianos, J. P., Kim, P. H., Motzer, R. J., Russo, P., Reuter, V. E., Hsieh, J. J., and Ostrovnaya, I.. J Urol 2014 :

Quantitative proteomic analysis reveals potential diagnostic markers and pathways involved in pathogenesis of renal cell carcinoma. White, N. M., Masui, O., Desouza, L. V., Krakovska, O., Metias, S., Romaschin, A. D., Honey, R. J., Stewart, R., Pace, K., Lee, J., Jewett, M. A., Bjarnason, G. A., Siu, K. W., and Yousef, G. M.. Oncotarget 2014 :506-18

MALDI imaging mass spectrometry profiling of proteins and lipids in clear cell renal cell carcinoma. Jones, E. E., Powers, T. W., Neely, B. A., Cazares, L. H., Troyer, D. A., Parker, A. S., and Drake, R. R.. Proteomics 2014 :924-35

The impact of perioperative blood transfusion on survival after nephrectomy for non-metastatic renal cell carcinoma (RCC). Linder, B. J., Thompson, R. H., Leibovich, B. C., Cheville, J. C., Lohse, C. M., Gastineau, D. A., and Boorjian, S. A.. BJU Int 2014 :368-74

A novel 3-dimensional image analysis system for case-specific kidney anatomy and surgical simulation to facilitate clampless partial nephrectomy. Komai, Y., Sakai, Y., Gotohda, N., Kobayashi, T., Kawakami, S., and Saito, N.. Urology 2014 :500-6

Subtyping of renal cortical neoplasms in fine needle aspiration biopsies using a decision tree based on genomic alterations detected by fluorescence in situ hybridization. Gowrishankar, B., Cahill, L., Arndt, A. E., Al-Ahmadie, H., Lin, O., Chadalavada, K., Chaganti, S., Nanjangud, G. J., Murty, V. V., Chaganti, R. S., Reuter, V. E., and Houldsworth, J.. BJU Int 2014 :

Renal cell carcinoma is more aggressive in Turkish patients with the metabolic syndrome. Ozbek, E., Otunctemur, A., Sahin, S., Dursun, M., Besiroglu, H., Koklu, I., Polat, E. C., Erkoc, M., Danis, E., and Bozkurt, M.. Asian Pac J Cancer Prev 2013 :7351-4

Interleukin-6 (IL-6) and C-reactive protein (CRP) concentration prior to total nephrectomy are prognostic factors in localized renal cell carcinoma (RCC). Hrab, M., Olek-Hrab, K., Antczak, A., Kwias, Z., and Milecki, T.. Rep Pract Oncol Radiother 2013 :304-9

Loss of BAP1 protein expression is an independent marker of poor prognosis in patients with low-risk clear cell renal cell carcinoma. Joseph, R. W., Kapur, P., Serie, D. J., Eckel-Passow, J. E., Parasramka, M., Ho, T., Cheville, J. C., Frenkel, E., Rakheja, D., Brugarolas, J., and Parker, A.. Cancer 2014 :1059-67

Gender disparity in kidney cancer treatment: women are more likely to undergo radical excision of a localized renal mass. O'Malley, R. L., Underwood, W. 3rd, Brewer, K. A., Hayn, M. H., Kim, H. L., Mehedint, D. C., Safwat, M. W., Huang, W. C., and Schwaab, T.. Urology 2013 :1065-9

Costs analysis of laparoendoscopic, single-site laparoscopic and open surgery for cT1 renal masses in a European high-volume centre. Pini, G., Ascalone, L., Greco, F., Mohammed, N., and Fornara, P.. World J Urol 2013 :

The impact of metformin use on recurrence and cancer-specific survival in clinically localized high-risk renal cell carcinoma. Hakimi, A. A., Chen, L., Kim, P. H., Sjoberg, D., Glickman, L., Walker, M. R., and Russo, P.. Can Urol Assoc J 2013 :E687-91

Age distribution for partial and radical nephrectomy: whose nephrons are being spared?. von Klot, C., Herrmann, T. R., Wegener, G., Kuczyk, M. A., Hupe, M. C., Akkoyun, M., Peters, I., Kramer, M. W., and Merseburger, A. S.. Adv Ther 2013 :924-32

Comparison of baseline quality of life measures between renal cell carcinoma patients undergoing partial versus radical nephrectomy. Arnold, M. L., Thiel, D. D., Diehl, N., Wu, K. J., Ames, S., and Parker, A. S.. BMC Urol 2013 :52

Evolving epidemiologic trends in nonclear cell renal cell cancer: an analysis of the California Cancer Registry. Pai, A., Brunson, A., Brown, M., Pan, C. X., and Lara, P. N. Jr. Urology 2013 :840-5

Role of CT in the assessment of muscular venous branch invasion in patients with renal cell carcinoma. Karlo, C. A., Donati, O. F., Marigliano, C., Tickoo, S. K., Hricak, H., Russo, P., and Akin, O.. AJR Am J Roentgenol 2013 :847-52

Can the Leibovich score for clear cell renal cell carcinoma (ccRCC) be accurately reported by a general pathologist?. Vasdev, N., Altal, Y., Mafeld, S., Wong, K., Chadwick, D., Gowda, B. D., Mutton, A., Nagarajan, S., and Bhatti, A.. BJU Int 2014 :581-5

Do young patients with renal cell carcinoma feature a distinct outcome after surgery? A comparative analysis of patient age based on the multinational CORONA database. Aziz, A., May, M., Zigeuner, R., Pichler, M., Chromecki, T., Cindolo, L., Schips, L., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Hoschke, B., Gilfrich, C., Feciche, B., Fenske, F., Sountoulides, P., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Del Carmen Santiago Martin, M., Wieland, W. F., Salzano, L., Lotrecchiano, G., Waidelich, R., Stief, C., and Brookman-May, S.. J Urol 2014 :310-5

Multi-institutional analysis of localized renal cell carcinoma that demonstrates the impact of diabetic status on prognosis after nephrectomy. Ha, Y. S., Kim, W. T., Yun, S. J., Lee, S. C., Kim, W. J., Park, Y. H., Kang, S. H., Hong, S. H., Byun, S. S., and Kim, Y. J.. Ann Surg Oncol 2013 :3662-8

Time to recurrence is a significant predictor of cancer-specific survival after recurrence in patients with recurrent renal cell carcinoma--results from a comprehensive multi-centre database (CORONA/SATURN-Project). Brookman-May, S. D., May, M., Shariat, S. F., Novara, G., Zigeuner, R., Cindolo, L., De Cobelli, O., De Nunzio, C., Pahernik, S., Wirth, M. P., Longo, N., Simonato, A., Serni, S., Siracusano, S., Volpe, A., Morgia, G., Bertini, R., Dalpiaz, O., Stief, C., and Ficarra, V.. BJU Int 2013 :909-16

Clear cell renal cell carcinoma and papillary renal cell carcinoma: differentiation of distinct histological types with multiphase CT. Bata, P., Gyebnar, J., Tarnoki, D. L., Tarnoki, A. D., Kekesi, D., Szendroi, A., Fejer, B., Szasz, A. M., Nyirady, P., Karlinger, K., and Berczi, V.. Diagn Interv Radiol 2013 :387-92

Use of surveillance imaging following treatment of small renal masses. Kowalczyk, K. J., Harbin, A. C., Choueiri, T. K., Hevelone, N. D., Lipsitz, S. R., Trinh, Q. D., Tina Shih, Y. C., and Hu, J. C.. J Urol 2013 :1680-5

Active surveillance, radiofrequency ablation, or cryoablation for the nonsurgical management of a small renal mass: a cost-utility analysis. Bhan, S. N., Pautler, S. E., Shayegan, B., Voss, M. D., Goeree, R. A., and You, J. J.. Ann Surg Oncol 2013 :3675-84

Overall survival advantage with partial nephrectomy: a bias of observational data?. Shuch, B., Hanley, J., Lai, J., Vourganti, S., Kim, S. P., Setodji, C. M., Dick, A. W., Chow, W. H., and Saigal, C.. Cancer 2013 :2981-9

Cost-utility analysis of radical nephrectomy versus partial nephrectomy in the management of small renal masses: Adjusting for the burden of ensuing chronic kidney disease. Klinghoffer, Z., Tarride, J. E., Novara, G., Ficarra, V., Kapoor, A., Shayegan, B., and Braga, L. H.. Can Urol Assoc J 2013 :108-13

Patient and caregiver knowledge and utilization of partial versus radical nephrectomy: results of a national kidney foundation survey to assess educational needs of kidney cancer patients and caregivers. Russo, P., Szczech, L. A., Torres, G. S., and Swartz, M. D.. Am J Kidney Dis 2013 :939-46

Validation of serum C-reactive protein (CRP) as an independent prognostic factor for disease-free survival in

patients with localised renal cell carcinoma (RCC). de Martino, M., Klatte, T., Seemann, C., Waldert, M., Haitel, A., Schatzl, G., Remzi, M., and Weibl, P.. BJU Int 2013 :E348-53

Trends in the surgical management of localized renal masses: thermal ablation, partial and radical nephrectomy in the USA, 1998-2008. Woldrich, J. M., Palazzi, K., Stroup, S. P., Sur, R. L., Parsons, J. K., Chang, D., and Derweesh, I. H.. BJU Int 2013 :1261-8

Trends in partial and radical nephrectomy: an analysis of case logs from certifying urologists. Poon, S. A., Silberstein, J. L., Chen, L. Y., Ehdaie, B., Kim, P. H., and Russo, P.. J Urol 2013 :464-9

Impact of clinical and histopathological parameters on disease specific survival in patients with collecting duct renal cell carcinoma: development of a disease specific risk model. May, M., Ficarra, V., Shariat, S. F., Zigeuner, R., Chromecki, T., Cindolo, L., Burger, M., Gunia, S., Feciche, B., Wenzl, V., Aziz, A., Chun, F., Becker, A., Pahernik, S., Simeone, C., Longo, N., Zucchi, A., Antonelli, A., Mirone, V., Stief, C., Novara, G., and Brookman-May, S.. J Urol 2013 :458-63

Use of nephron-sparing surgery among renal cell carcinoma patients with diabetes and hypertension. Filson, C. P., Schwartz, K., Colt, J. S., Ruterbusch, J., Linehan, W. M., Chow, W. H., and Miller, D. C.. Urol Oncol 2014 :27.e15-21

Rates of open versus laparoscopic and partial versus radical nephrectomy for T1a renal cell carcinoma: a population-based evaluation. Bianchi, M., Becker, A., Abdollah, F., Trinh, Q. D., Hansen, J., Tian, Z., Shariat, S. F., Perrotte, P., Karakiewicz, P. I., and Sun, M.. Int J Urol 2013 :1064-71

Fenoldopam and renal function after partial nephrectomy in a solitary kidney: a randomized, blinded trial. O'Hara, J. F. Jr, Mahboobi, R., Novak, S. M., Bonilla, A. M., Mascha, E. J., Fergany, A. F., Campbell, S. C., Kaouk, J. H., Kaple, K. M., Gill, I. S., Ziegman, S. A., and Sessler, D. I.. Urology 2013 :340-5

Clinical characteristics associated with treatment type for localized renal tumors: implications for practice pattern assessment. Smaldone, M. C., Churukanti, G., Simhan, J., Kim, S. P., Reyes, J., Zhu, F., Kutikov, A., Viterbo, R., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Urology 2013 :269-75

Differential use of partial nephrectomy for intermediate and high complexity tumors may explain variability in reported utilization rates. Lane, B. R., Golan, S., Eggener, S., Tobert, C. M., Kahnoski, R. J., Kutikov, A., Smaldone, M., Whelan, C. M., Shalhav, A., and Uzzo, R. G.. J Urol 2013 :2047-53

Does mechanical bowel preparation improve quality of laparoscopic nephrectomy? Propensity score-matched analysis in Japanese series. Sugihara, T., Yasunaga, H., Horiguchi, H., Fujimura, T., Nishimatsu, H., Ohe, K., Matsuda, S., Fushimi, K., Kattan, M. W., and Homma, Y.. Urology 2013 :74-9

Radiofrequency ablation of small renal masses as an alternative to nephron-sparing surgery: preliminary results. Jasinski, M., Siekiera, J., Chlosta, P., Mikolajczak, W., and Drewa, T.. Wideochir Inne Tech Malo Inwazyjne 2011 :242-5

Pre-operative imaging may overestimate the kidney tumor size. Nasseh, H. R., Falahatkar, S., Ghanbari, A., and Bagheri Chenari, H.. Urol J 2012 :662-6

Single nucleotide polymorphisms and risk of recurrence of renal-cell carcinoma: a cohort study. Schutz, F. A., Pomerantz, M. M., Gray, K. P., Atkins, M. B., Rosenberg, J. E., Hirsch, M. S., McDermott, D. F., Lampron, M. E., Lee, G. S., Signoretti, S., Kantoff, P. W., Freedman, M. L., and Choueiri, T. K.. Lancet Oncol 2013 :81-7

Wide range and variation in minimally invasive surgery for renal malignancy in Japan: a population-based analysis. Sugihara, T., Yasunaga, H., Horiguchi, H., Tsuru, N., Fujimura, T., Nishimatsu, H., Kume, H., Ohe, K., Matsuda, S., Fushimi, K., and Homma, Y.. Int J Clin Oncol 2013 :1070-7

[The use of Surgisis(R) optimizes and simplifies partial nephrectomy for large renal tumors]. Schnoeller, T. J., de Petriconi, R., Hefty, R., Jentzmik, F., Al Ghazal, A., Steinestel, J., Mueller, J., Zengerling, F., Schrader, M., and Schrader, A. J.. Urologe A 2013 :246-51

Nature of lesions undergoing radical nephrectomy for renal cancer. Mustafa, G., Ilhan, G., Necip, P., Kerem, T., and Kadir, C.. Asian Pac J Cancer Prev 2012 :4431-3

A preoperative prognostic model predicting recurrence-free survival for patients with kidney cancer. Yaycioglu, O., Eskicorapci, S., Karabulut, E., Soyupak, B., Gogus, C., Divrik, T., Turkeri, L., Yazici, S., and Ozen, H.. Jpn J Clin Oncol 2013 :63-8

Uric acid levels correlate with baseline renal function and high levels are a potent risk factor for postoperative chronic kidney disease in patients with renal cell carcinoma. Jeon, H. G., Choo, S. H., Jeong, B. C., Seo, S. I., Jeon, S. S., Choi, H. Y., and Lee, H. M.. J Urol 2013 :1249-54

Cyclooxygenase-2 expression and its prognostic significance in clear cell renal cell carcinoma. Lee, J. W., Park, J. H., Suh, J. H., Nam, K. H., Choe, J. Y., Jung, H. Y., Chae, J. Y., and Moon, K. C.. Korean J Pathol 2012 :237-45

Predictive ability of the 2002 and 2010 versions of the Tumour-Node-Metastasis classification system regarding metastasis-free, cancer-specific and overall survival in a European renal cell carcinoma single-centre series. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Groselj-Strele, A., Pummer, K., and Zigeuner, R.. BJU Int 2013 :E191-5

Competing risks of death in patients with localized renal cell carcinoma: a comorbidity based model. Kutikov, A., Egleston, B. L., Canter, D., Smaldone, M. C., Wong, Y. N., and Uzzo, R. G.. J Urol 2012 :2077-83

A novel technique to limit renal warm ischaemia time during laparoscopic partial nephrectomy. Sapre, N.,

Corcoran, N. M., Costello, A. J., and Agarwal, D.. BJU Int 2012 :1216-9

CD44 is associated with tumor recurrence and is an independent poor prognostic factor for patients with localized clear cell renal cell carcinoma after nephrectomy. Jeong, B. J., Liang, Z. L., Huang, S. M., Lim, J. S., Kim, J. M., and Lee, H. J.. Exp Ther Med 2012 :811-817

[Analysis of clinicopathological features and prognosis in 68 patients with chromophobe renal cell carcinoma]. Huang, J. W., Zhang, J., Dong, B. J., Kong, W., Niu, S. X., Chen, Y. H., Xue, W., Liu, D. M., and Huang, Y. R.. Zhonghua Zhong Liu Za Zhi 2012 :510-3

Renal volumetric analysis: a new paradigm in renal mass treatment assessment. Gorbatiy, V., Iremashvili, V., Castro, A., Mure, A., Ortiz, N., Castle, S. M., and Leveillee, R. J.. J Endourol 2013 :361-5

Association of clinical and radiographic features with perinephric "sticky" fat. Bylund, J. R., Qiong, H., Crispen, P. L., Venkatesh, R., and Strup, S. E.. J Endourol 2013 :370-3

Validation of CRP as prognostic marker for renal cell carcinoma in a large series of patients. Steffens, S., Kohler, A., Rudolph, R., Eggers, H., Seidel, C., Janssen, M., Wegener, G., Schrader, M., Kuczyk, M. A., and Schrader, A. J.. BMC Cancer 2012 :399

Partial nephrectomy: is there an advantage of the self-retaining barbed suture in the perioperative period? A matched case-control comparison. Zondervan, P. J., Gozen, A. S., Opondo, D., Rassweiler, J. J., de la Rosette, J. J., and Laguna, M. P.. World J Urol 2012 :659-64

Assessment of the pathologic inclusion criteria from contemporary adjuvant clinical trials for predicting disease progression after nephrectomy for renal cell carcinoma. Kim, S. P., Crispen, P. L., Thompson, R. H., Weight, C. J., Boorjian, S. A., Costello, B. A., Lohse, C. M., and Leibovich, B. C.. Cancer 2012 :4412-20

Carcinoma of the collecting ducts of Bellini and renal medullary carcinoma: clinicopathologic analysis of 52 cases of rare aggressive subtypes of renal cell carcinoma with a focus on their interrelationship. Gupta, R., Billis, A., Shah, R. B., Moch, H., Osunkoya, A. O., Jochum, W., Hes, O., Bacchi, C. E., de Castro, M. G., Hansel, D. E., Zhou, M., Vankalakunti, M., Salles, P. G., Cabrera, R. A., Gown, A. M., and Amin, M. B.. Am J Surg Pathol 2012 :1265-78

Prognostic significance of high nuclear grade in patients with pathologic T1a renal cell carcinoma. Suzuki, K., Mizuno, R., Mikami, S., Tanaka, N., Kanao, K., Kikuchi, E., Miyajima, A., Nakagawa, K., and Oya, M.. Jpn J Clin Oncol 2012 :831-5

Tumour-related imaging parameters predicting the percentage of preserved normal renal parenchyma following nephron sparing surgery: a retrospective study. Aertsen, M., De Keyzer, F., Van Poppel, H., Joniau, S., De Wever, L., Lerut, E., Oyen, R., and Claus, F.. Eur Radiol 2013 :280-6

Kidney size and cancer-specific survival for patients undergoing nephrectomy for pT1 clear cell renal cell carcinoma. Jorns, J. J., Thiel, D. D., Lohse, C., Williams, A., Arnold, M., Cheville, J., Leibovich, B., and Parker, A. S.. Urology 2012 :147-50

Antimicrobial prophylaxis is not necessary in clean category minimally invasive surgery for renal and adrenal tumors: a prospective study of 373 consecutive patients. Kijima, T., Masuda, H., Yoshida, S., Tatokoro, M., Yokoyama, M., Numao, N., Saito, K., Koga, F., Fujii, Y., and Kihara, K.. Urology 2012 :570-5

[Analysis of the evolution of surgery for the treatment of primary renal tumors during the period 2006-2010: report of 458 consecutive surgeries]. Bellec, L., Thoulouzan, M., Soler, P., Khedis, M., Walschaerts, M., Delaunay, B., Crenn, G., Salloum, A., Rouvellat, P., Malavaud, B., Rischmann, P., Plante, P., Soulie, M., and Huyghe, E.. Prog Urol 2012 :520-8

Assessing performance trends in laparoscopic nephrectomy and nephron-sparing surgery for localized renal tumors. Smaldone, M. C., Kutikov, A., Egleston, B., Simhan, J., Canter, D. J., Teper, E., Viterbo, R., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Urology 2012 :286-91

Staging lymphadenectomy in renal cell carcinoma must be extended: a sensitivity curve analysis. Capitanio, U., Suardi, N., Matloob, R., Abdollah, F., Castiglione, F., Briganti, A., Carenzi, C., Roscigno, M., Montorsi, F., and Bertini, R.. BJU Int 2013 :412-8

Histopathology of surgically treated renal cell carcinoma: survival differences by subtype and stage. Keegan, K. A., Schupp, C. W., Chamie, K., Hellenthal, N. J., Evans, C. P., and Koppie, T. M.. J Urol 2012 :391-7

The effect of race and gender on the surgical management of the small renal mass. Kates, M., Whalen, M. J., Badalato, G. M., and McKiernan, J. M.. Urol Oncol 2013 :1794-9

Comparison of two core biopsy techniques before and after laparoscopic cryoablation of small renal cortical neoplasms. Truesdale, M. D., Mues, A. C., Sartori, S., Casazza, C. N., Hruby, G. W., Harik, L. R., O'Toole, K. M., Badani, K. K., Perez-Lanzac, A., and Landman, J.. JSLS 2011 :509-16

RENAL nephrometry score predicts surgery type independent of individual surgeon's use of nephron-sparing surgery. Tobert, C. M., Kahnoski, R. J., Thompson, D. E., Anema, J. G., Kuntzman, R. S., and Lane, B. R.. Urology 2012 :157-61

Characteristics and outcomes of tumors arising from the distal nephron. Abern, M. R., Tsivian, M., Polascik, T. J., and Coogan, C. L.. Urology 2012 :140-6

Perioperative outcomes of laparoscopic radical nephrectomy for renal cell carcinoma in patients with dialysis-dependent end-stage renal disease. Yamashita, K., Ito, F., and Nakazawa, H.. Ther Apher Dial 2012 :254-9

Integrating robotic partial nephrectomy to an existing robotic surgery program. Yuh, B., Muldrew, S., Menchaca,

A., Yip, W., Lau, C., Wilson, T., and Josephson, D.. Can J Urol 2012 :6193-200

Simplified hemostatic technique during laparoscopic partial nephrectomy. Tsivian, A., Tsivian, M., Benjamin, S., and Sidi, A. A.. Int Braz J Urol 2012 :84-8

The fate of small renal masses, less then 1 cm size: outcome study. Lang, E. K., Hanano, A., Rudman, E., Thomas, R., Myers, L., Nguyen, Q., and Macchia, R. J.. Int Braz J Urol 2012 :40-8; discussion 48

Prognostic nomogram for disease-free survival in patients with renal adenocarcinoma. Di Capua Sacoto, C., Budia, A., Garcia-Fadrique, G., Lujan, S., Ruiz-Cerda, J. L., and Jimenez-Cruz, J. F.. Urol Int 2012 :271-6

Evolving practice patterns for the management of small renal masses in the USA. Yang, G., Villalta, J. D., Meng, M. V., and Whitson, J. M.. BJU Int 2012 :1156-61

[Relevance of the clinical-pathological predictive factors in force in chromophobe renal cell cancer]. Pardo, P., Rodriguez-Faba, O., Palou, J., Algaba, F., Breda, A., Esquena, S., and Villavicencio, H.. Actas Urol Esp 2012 :527-31

Treatment management of small renal masses in the 21st century: a paradigm shift. Sun, M., Abdollah, F., Bianchi, M., Trinh, Q. D., Jeldres, C., Thuret, R., Tian, Z., Shariat, S. F., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. Ann Surg Oncol 2012 :2380-7

Safety and outcomes of surgical treatment of renal cell carcinoma in the elderly. O'Malley, R. L., Hayn, M. H., Hellenthal, N. J., Kim, H. L., Underwood, W. 3rd, and Schwaab, T.. Can J Urol 2012 :6111-7

Radiofrequency ablation of incidental benign small renal mass: outcomes and follow-up protocol. Tan, Y. K., Best, S. L., Olweny, E., Park, S., Trimmer, C., and Cadeddu, J. A.. Urology 2012 :827-30

Prediction of growth rate of solid renal masses: utility of MR imaging features--preliminary experience. Dodelzon, K., Mussi, T. C., Babb, J. S., Taneja, S. S., and Rosenkrantz, A. B.. Radiology 2012 :884-93

Histologic tumor necrosis is an independent prognostic indicator for clear cell and papillary renal cell carcinoma. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Rehak, P., Pummer, K., and Zigeuner, R.. Am J Clin Pathol 2012 :283-9

National trends in the use of partial nephrectomy: a rising tide that has not lifted all boats. Patel, S. G., Penson, D. F., Pabla, B., Clark, P. E., Cookson, M. S., Chang, S. S., Herrell, S. D., Smith, J. A. Jr, and Barocas, D. A.. J Urol 2012 :816-21

NDRG2 is involved in the oncogenic properties of renal cell carcinoma and its loss is a novel independent poor prognostic factor after nephrectomy. Liang, Z. L., Kang, K., Yoon, S., Huang, S. M., Lim, J. S., Kim, J. M., Lim, J. S., and Lee, H. J.. Ann Surg Oncol 2012 :2763-72

Low local metastatic rate may widen indication of nephron-sparing surgery for renal cell carcinoma. Xiong, Z. Q., Zheng, J., Feng, C. C., Bao, Y., Ding, Q., and Fang, Z. J.. Ann Diagn Pathol 2012 :190-5

Chromophobe renal cell carcinoma: analysis of 53 cases. Zhao, P. J., Chen, X. P., Li, X. S., Yao, L., Zhang, C. J., Yu, W., He, Q., He, Z. S., and Zhou, L. Q.. J Cancer Res Clin Oncol 2012 :451-4

Do we continue to unnecessarily perform ipsilateral adrenalectomy at the time of radical nephrectomy? A population based study. Yap, S. A., Alibhai, S. M., Abouassaly, R., Timilshina, N., and Finelli, A.. J Urol 2012 :398-404

Direct upper kidney pole access and early ligation of renal pedicle significantly facilitates transperitoneal laparoscopic nephrectomy procedures: Tunc technique. Tunc, L., Canda, A. E., Polat, F., Onaran, M., Atkin, S., Biri, H., and Bozkirli, I.. Surg Laparosc Endosc Percutan Tech 2011 :453-7

Trends in the use of of nephron-sparing surgery (NSS) at an Australian tertiary referral centre: an analysis of surgical decision-making using the R.E.N.A.L. nephrometry scoring system. Satasivam, P., Rajarubendra, N., Chia, P. H., Munshey, A., Sengupta, S., and Bolton, D.. BJU Int 2012 :1341-4

Contemporary trends in nephrectomy for renal cell carcinoma in the United States: results from a population based cohort. Kim, S. P., Shah, N. D., Weight, C. J., Thompson, R. H., Moriarty, J. P., Shippee, N. D., Costello, B. A., Boorjian, S. A., and Leibovich, B. C.. J Urol 2011 :1779-85

Tumour size, tumour complexity, and surgical approach are associated with nephrectomy type in small renal cortical tumours treated electively. Broughton, G. J., Clark, P. E., Barocas, D. A., Cookson, M. S., Smith, J. A. Jr, Herrell, S. D., and Chang, S. S.. BJU Int 2012 :1607-13

Bilateral synchronous sporadic renal tumors: pathologic concordance and clinical implications. Patel, A. R., Lee, B. H., Campbell, S. C., Zhou, M., and Fergany, A. F.. Urology 2011 :1095-9

Prognostic significance of CD45RO+ memory T cells in renal cell carcinoma. Hotta, K., Sho, M., Fujimoto, K., Shimada, K., Yamato, I., Anai, S., Konishi, N., Hirao, Y., Nonomura, K., and Nakajima, Y.. Br J Cancer 2011 :1191-6

Absent Toll-like receptor-9 expression predicts poor prognosis in renal cell carcinoma. Ronkainen, H., Hirvikoski, P., Kauppila, S., Vuopala, K. S., Paavonen, T. K., Selander, K. S., and Vaarala, M. H.. J Exp Clin Cancer Res 2011 :84

Prognostic factors in a large multi-institutional series of papillary renal cell carcinoma. Zucchi, A., Novara, G., Costantini, E., Antonelli, A., Carini, M., Carmignani, G., Cosciani Cunico, S., Fontana, D., Longo, N., Martignoni, G., Minervini, A., Mirone, V., Porena, M., Roscigno, M., Schiavina, R., Simeone, C., Simonato, A., Siracusano, S., Terrone, C., and Ficarra, V.. BJU Int 2012 :1140-6

Incidence of multiple sporadic renal cell carcinomas in patients referred for renal radiofrequency ablation: implications for imaging follow-up. Beland, M. D., Wolf, F. J., Grand, D. J., Dupuy, D. E., and Mayo-Smith, W. W.. AJR Am J Roentgenol 2011 :671-5

Zero-ischaemia robotic and laparoscopic partial nephrectomy (PN). Patil, M. B. and Gill, I. S.. BJU Int 2011 :780-92

Iatrogenic splenectomy during left nephrectomy: a single-institution experience of eight years. Tan, K., Lewis, G. R., Chahal, R., Browning, A. J., Sundaram, S. K., Weston, P. M., Harrison, S. C., and Biyani, C. S.. Urol Int 2011 :59-63

Metastatic potential of a renal mass according to original tumour size at presentation. Umbreit, E. C., Shimko, M. S., Childs, M. A., Lohse, C. M., Cheville, J. C., Leibovich, B. C., Blute, M. L., and Thompson, R. H.. BJU Int 2012 :190-4; discussion 194

Lymphadenectomy improves survival of patients with renal cell carcinoma and nodal metastases. Whitson, J. M., Harris, C. R., Reese, A. C., and Meng, M. V.. J Urol 2011 :1615-20

Robot-assisted retroperitoneal partial nephrectomy: technique and perioperative results. Weizer, A. Z., Palella, G. V., Montgomery, J. S., Miller, D. C., and Hafez, K. S.. J Endourol 2011 :553-7

Laparoendoscopic single-site surgeries: a single-center experience of 171 consecutive cases. Choi, K. H., Ham, W. S., Rha, K. H., Lee, J. W., Jeon, H. G., Arkoncel, F. R., Yang, S. C., and Han, W. K.. Korean J Urol 2011 :31-8

Clinicopathological outcomes of clinical T1a renal cell carcinoma by tumor size. Kitagawa, Y., Nakashima, K., Shima, T., Izumi, K., Narimoto, K., Miwa, S., Miyagi, T., Maeda, Y., Kadono, Y., Konaka, H., Mizokami, A., and Namiki, M.. Jpn J Clin Oncol 2011 :637-41

Preoperative nutritional status is an important predictor of survival in patients undergoing surgery for renal cell carcinoma. Morgan, T. M., Tang, D., Stratton, K. L., Barocas, D. A., Anderson, C. B., Gregg, J. R., Chang, S. S., Cookson, M. S., Herrell, S. D., Smith, J. A. Jr, and Clark, P. E.. Eur Urol 2011 :923-8

Is there a need to further subclassify pT2 renal cell cancers as implemented by the revised 7th TNM version?. Waalkes, S., Becker, F., Schrader, A. J., Janssen, M., Wegener, G., Merseburger, A. S., Schrader, M., Hofmann, R., Stockle, M., and Kuczyk, M. A.. Eur Urol 2011 :258-63

Late recurrence of renal cell carcinoma: retrospective and collaborative study of the Japanese Society of Renal Cancer. Miyao, N., Naito, S., Ozono, S., Shinohara, N., Masumori, N., Igarashi, T., Nakao, M., Tsushima, T., Senga, Y., Horie, S., Kanayama, H. O., Tokuda, N., and Kobayashi, M.. Urology 2011 :379-84

Validation of the 2009 TNM version in a large multi-institutional cohort of patients treated for renal cell carcinoma: are further improvements needed?. Novara, G., Ficarra, V., Antonelli, A., Artibani, W., Bertini, R., Carini, M., Cosciani Cunico, S., Imbimbo, C., Longo, N., Martignoni, G., Martorana, G., Minervini, A., Mirone, V., Montorsi, F., Schiavina, R., Simeone, C., Serni, S., Simonato, A., Siracusano, S., Volpe, A., and Carmignani, G.. Eur Urol 2010 :588-95

Feasibility of differential diagnosis of kidney tumors by comparative genomic hybridization of fine needle aspiration biopsies. Vieira, J., Henrique, R., Ribeiro, F. R., Barros-Silva, J. D., Peixoto, A., Santos, C., Pinheiro, M., Costa, V. L., Soares, M. J., Oliveira, J., Jeronimo, C., and Teixeira, M. R.. Genes Chromosomes Cancer 2010 :935-47

A collaborative approach reduces the learning curve and improves outcomes in laparoscopic nephrectomy. Schneider, C. L., Cobb, W. S., Carbonell, A. M., Hill, L. K., and Flanagan, W. F.. Surg Endosc 2011 :182-5

Comparison of accuracy of 14-, 18- and 20-G needles in ex-vivo renal mass biopsy: a prospective, blinded study. Breda, A., Treat, E. G., Haft-Candell, L., Leppert, J. T., Harper, J. D., Said, J., Raman, S., Smith, R. B., Belldegrun, A. S., and Schulam, P. G.. BJU Int 2010 :940-5

[Primary treatment of renal cell carcinoma. Yesterday, today, tomorrow]. Dufour, B.. Bull Acad Natl Med 2009 :691-707; discussion 707-8

[Laparoscopic radical nephrectomy in big surgical specimens]. Alonso, y. Gregorio S, Sanchez, S., Soler, C., Rando, A., Giron, M., Tabernero Gomez, A. J., Aguilera, A., Cisneros Ledo, J., and de la Pena Barthel, J.. Actas Urol Esp 2009 :755-8

Predicting collecting system transection at laparoscopic partial nephrectomy: analysis of tumor parameters. Shikanov, S., Lifshitz, D. A., Deklaj, T., Katz, M. H., and Shalhav, A. L.. J Endourol 2009 :1863-6

Incidental angiomyolipoma resected during renal surgery for an enhancing renal mass. Berglund, R. K., Bernstein, M., Manion, M. T., Touijer, K. A., and Russo, P.. BJU Int 2009 :1650-4

Angiomyolipomata: challenges, solutions, and future prospects based on over 100 cases treated. Sooriakumaran, P., Gibbs, P., Coughlin, G., Attard, V., Elmslie, F., Kingswood, C., Taylor, J., Corbishley, C., Patel, U., and Anderson, C.. BJU Int 2010 :101-6

Hybrid renal cell carcinomas containing histopathologic features of chromophobe renal cell carcinomas and oncocytomas have excellent oncologic outcomes. Waldert, M., Klatte, T., Haitel, A., Ozsoy, M., Schmidbauer, J., Marberger, M., and Remzi, M.. Eur Urol 2010 :661-5

A novel and ergonomic patient position for laparoscopic kidney surgery. Martin, G. L., Nunez, R. N., Martin, A. D., Andrews, P. E., and Castle, E. P.. Can J Urol 2009 :4580-3

Increasing the number of biopsy cores before renal cryoablation increases the diagnostic yield. Kramer, B. A., Whelan, C. M., Vestal, J. C., and Schwartz, B. F.. J Endourol 2009 :283-6

Organ-confined clear cell renal cell carcinoma: the prognostic impact of microvascular invasion, nuclear grade and tumour size. Zubac, D. P., Bostad, L., Kihl, B., Eide, J., Wentzel-Larsen, T., and Haukaas, S. A.. APMIS 2008 :1027-33

Diagnostic yield of renal biopsy immediately prior to laparoscopic radiofrequency ablation: a multicenter study. Kyle, C. C., Wingo, M. S., Carey, R. I., Leveillee, R. J., and Bird, V. G.. J Endourol 2008 :2291-3

A preoperative prognostic model for patients treated with nephrectomy for renal cell carcinoma. Karakiewicz, P. I., Suardi, N., Capitanio, U., Jeldres, C., Ficarra, V., Cindolo, L., de la Taille, A., Tostain, J., Mulders, P. F., Bensalah, K., Artibani, W., Salomon, L., Zigeuner, R., Valeri, A., Descotes, J. L., Rambeaud, J. J., Mejean, A., Montorsi, F., Bertini, R., and Patard, J. J.. Eur Urol 2009 :287-95

External validation of the Mayo Clinic cancer specific survival score in a Japanese series of clear cell renal cell carcinoma. Fujii, Y., Saito, K., Iimura, Y., Sakai, Y., Koga, F., Kawakami, S., Kumagai, J., and Kihara, K.. J Urol 2008 :1290-5; discussion 1295-6

Renal surgery in the elderly: morbidity in patients aged >75 years in a contemporary series. Staehler, M., Haseke, N., Stadler, T., Bader, M., Karl, A., Becker, A., and Stief, C. G.. BJU Int 2008 :684-7

Renal cell carcinoma radiofrequency ablation: evaluation of efficacy based on histological correlation. Mylona, S., Ntai, S., Stroumpouli, E., Glentzes, V., Martinis, S., and Thanos, L.. Br J Radiol 2008 :479-84

Tumor size does not predict risk of metastatic disease or prognosis of small renal cell carcinomas. Klatte, T., Patard, J. J., de Martino, M., Bensalah, K., Verhoest, G., de la Taille, A., Abbou, C. C., Allhoff, E. P., Carrieri, G., Riggs, S. B., Kabbinavar, F. F., Belldegrun, A. S., and Pantuck, A. J.. J Urol 2008 :1719-26

Analysis of clinicopathologic predictors of oncologic outcome provides insight into the natural history of surgically managed papillary renal cell carcinoma. Margulis, V., Tamboli, P., Matin, S. F., Swanson, D. A., and Wood, C. G.. Cancer 2008 :1480-8

Impact of gender in renal cell carcinoma: an analysis of the SEER database. Aron, M., Nguyen, M. M., Stein, R. J., and Gill, I. S.. Eur Urol 2008 :133-40

Laparoscopic renal oncological surgery in the presence of abdominal aortic and vena caval pathology: 8-year experience. Lin, Y. C., Haber, G. P., Turna, B., Frota, R., Koenig, P., Desai, M., Kaouk, J., and Gill, I. S.. J Urol 2008 :455-60; discussion 460

Disparities in treatment and outcome for renal cell cancer among older black and white patients. Berndt, S. I., Carter, H. B., Schoenberg, M. P., and Newschaffer, C. J.. J Clin Oncol 2007 :3589-95

Nephrectomy: indications, complications and mortality in 154 consecutive patients. Rafique, M.. J Pak Med Assoc 2007 :308-11

Renal cell carcinoma: a clinicopathological follow-up study after radical nephrectomy. Zubac, D. P., Bostad, L., Gestblom, C., Kihl, B., Seidal, T., Wentzel-Larsen, T., and Bakke, A. M.. Scand J Urol Nephrol 2007 :191-7

Does tumor size or microvascular invasion affect prognosis in patients with renal cell carcinoma?. Miyagawa, T., Shimazui, T., Hinotsu, S., Oikawa, T., Sekido, N., Miyanaga, N., Kawai, K., and Akaza, H.. Jpn J Clin Oncol 2007 :197-200

Survival analysis of 130 patients with papillary renal cell carcinoma: prognostic utility of type 1 and type 2 subclassification. Pignot, G., Elie, C., Conquy, S., Vieillefond, A., Flam, T., Zerbib, M., Debre, B., and Amsellem-Ouazana, D.. Urology 2007 :230-5

Prognostic relevance of capsular involvement and collecting system invasion in stage I and II renal cell carcinoma. Klatte, T., Chung, J., Leppert, J. T., Lam, J. S., Pantuck, A. J., Figlin, R. A., and Belldegrun, A. S.. BJU Int 2007 :821-4

Dynamic outcome prediction in patients with clear cell renal cell carcinoma treated with radical nephrectomy: the D-SSIGN score. Thompson, R. H., Leibovich, B. C., Lohse, C. M., Cheville, J. C., Zincke, H., Blute, M. L., and Frank, I.. J Urol 2007 :477-80

[Opened vs. laparoscopic radical nephrectomy in renal adenocarcinoma cost comparison]. Herranz Amo, F., Subira Rios, D., Hernandez Fernandez, C., Martinez Salamanca, J. I., Monzo, J. I., and Cabello Benavente, R.. Actas Urol Esp 2006 :921-5

Results of computerized tomography guided percutaneous ablation of renal masses with nondiagnostic pre-ablation pathological findings. Permpongkosol, S., Link, R. E., Solomon, S. B., and Kavoussi, L. R.. J Urol 2006 :463-7; discussion 467

Mini-flank supra-11th rib incision for open partial or radical nephrectomy. Diblasio, C. J., Snyder, M. E., and Russo, P.. BJU Int 2006 :149-56

Laparoscopic nephrectomy: new standard of care?. Sim, H. G., Yip, S. K., Ng, C. Y., Teo, Y. S., Tan, Y. H., Siow, W. Y., and Cheng, W. S.. Asian J Surg 2005 :277-81

Comparison of predictive accuracy of four prognostic models for nonmetastatic renal cell carcinoma after nephrectomy: a multicenter European study. Cindolo, L., Patard, J. J., Chiodini, P., Schips, L., Ficarra, V., Tostain, J., de La Taille, A., Altieri, V., Lobel, B., Zigeuner, R. E., Artibani, W., Guille, F., Abbou, C. C., Salzano, L., and Gallo, C.. Cancer 2005 :1362-71

Prior abdominal surgery and radiation do not complicate the retroperitoneoscopic approach to the kidney or adrenal gland. Viterbo, R., Greenberg, R. E., Al-Saleem, T., and Uzzo, R. G.. J Urol 2005 :446-50

Urological retroperitoneoscopic surgery for patients with prior intra-abdominal surgery. Mita, K., Shigeta, M., Mutaguchi, K., Matsubara, A., Yoshino, T., Seki, M., Mochizuki, H., Kato, M., Teishima, J., Kadonishi, Y., Yasumoto, H., and Usui, T.. Eur Urol 2005 :97-101

The accuracy of 250 fine needle biopsies of renal tumors. Wunderlich, H., Hindermann, W., Al Mustafa, A. M., Reichelt, O., Junker, K., and Schubert, J.. J Urol 2005 :44-6

Comparison of presentation and outcome for patients 18 to 40 and 60 to 70 years old with solid renal masses. Gillett, M. D., Cheville, J. C., Karnes, R. J., Lohse, C. M., Kwon, E. D., Leibovich, B. C., Zincke, H., and Blute, M. L.. J Urol 2005 :1893-6

Laparoscopic heminephrectomy for tumor. Finelli, A., Gill, I. S., Desai, M. M., Tan, Y. H., Moinzadeh, A., Singh, D., and Kaouk, J. H.. Urology 2005 :473-8

Laparoscopic specimen extraction: morcellation. Varkarakis, I., Rha, K., Hernandez, F., Kavoussi, L. R., and Jarrett, T. W.. BJU Int 2005 :27-31

Hand-assisted retroperitoneoscopic radical nephrectomy and nephroureterectomy. Kawauchi, A., Fujito, A., Soh, J., Ukimura, O., Mizutani, Y., and Miki, T.. J Endourol 2004 :365-9

Effect of papillary and chromophobe cell type on disease-free survival after nephrectomy for renal cell carcinoma. Beck, S. D., Patel, M. I., Snyder, M. E., Kattan, M. W., Motzer, R. J., Reuter, V. E., and Russo, P.. Ann Surg Oncol 2004 :71-7

Closed suction or penrose drainage after partial nephrectomy: does it matter?. Sanchez-Ortiz, R., Madsen, L. T., Swanson, D. A., Canfield, S. E., and Wood, C. G.. J Urol 2004 :244-6

Racial disparity in incidence patterns and outcome of kidney cancer. Vaishampayan, U. N., Do, H., Hussain, M., and Schwartz, K.. Urology 2003 :1012-7

Renal cell carcinoma as a cause of end-stage renal disease in the United States: patient characteristics and survival. Stiles, K. P., Moffatt, M. J., Agodoa, L. Y., Swanson, S. J., and Abbott, K. C.. Kidney Int 2003 :247-53

Loss of expression of transforming growth factor-beta receptor as a prognostic factor in patients with renal cell carcinoma. Miyajima, A., Asano, T., Seta, K., Asano, T., Kakoi, N., and Hayakawa, M.. Urology 2003 :1072-7

Comparisons of outcome and prognostic features among histologic subtypes of renal cell carcinoma. Cheville, J. C., Lohse, C. M., Zincke, H., Weaver, A. L., and Blute, M. L.. Am J Surg Pathol 2003 :612-24

Influence of age on the prognosis of patients with renal cell carcinoma (RCC). Yusim, I., Mermershtain, W., Neulander, E., Eidelberg, I., Gusakova, I., and Kaneti, J.. Onkologie 2002 :548-50

Prospective analysis of computerized tomography and needle biopsy with permanent sectioning to determine the nature of solid renal masses in adults. Dechet, C. B., Zincke, H., Sebo, T. J., King, B. F., LeRoy, A. J., Farrow, G. M., and Blute, M. L.. J Urol 2003 :71-4

[Transcatheter renal arterial embolization in malignant renal neoplasms: clinical results and indications for use of the method in multi-profile hospitals]. Vaicekavicius, E. and Pranculis, A.. Medicina (Kaunas) 2002 :888-91

Prediction of post-operative glomerular filtration rate after nephrectomy for renal malignancy. Johansson, M. and Moonen, M.. Clin Physiol 2001 :688-92

Renal cell carcinoma: evaluation of the 1997 TNM system and recommendations for follow-up after surgery. Gofrit, O. N., Shapiro, A., Kovalski, N., Landau, E. H., Shenfeld, O. Z., and Pode, D.. Eur Urol 2001 :669-74; discussion 675

Carcinological risks and retroperitoneal laparoscopy. Cicco, A., Salomon, L., Hoznek, H., Alame, W., Saint, F., Bralet, M. P., Antiphon, P., Chopin, D. K., and Abbou, C. C.. Eur Urol 2000 :606-12

Stage specific guidelines for surveillance after radical nephrectomy for local renal cell carcinoma. Levy, D. A., Slaton, J. W., Swanson, D. A., and Dinney, C. P.. J Urol 98 :1163-7

RENAL nephrometry score is a predictive factor for the annual growth rate of renal mass. Matsumoto R., Abe T., Shinohara N., Murai S., Maruyama S., Tsuchiya K., and Nonomura K.. Int. J. Urol. 2014 :549-552

Clinical outcome of small renal cell carcinoma after delayed surgery versus immediate surgery. Sugimoto K., Shimizu N., Nose K., Tahara H., Imanishi M., Nishioka T., Esa A., Kajikawa H., and Uemura H.. J. Cancer 2013 :514-518

Laparoendoscopic single-site surgery in urology: Worldwide multi-institutional analysis of 1076 cases. Kaouk J.H., Autorino R., Kim F.J., Han D.H., Lee S.W., Yinghao S., Cadeddu J.A., Derweesh I.H., Richstone L., Cindolo L., Branco A., Greco F., Allaf M., Sotelo R., Liatsikos E., Stolzenburg J.-U., Rane A., White W.M., Han W.K., Haber G.-P., White M.A., Molina W.R., Jeong B.C., Lee J.Y., Linhui W., Best S., Stroup S.P., Rais-Bahrami S., Schips L., Fornara P., Pierorazio P., Giedelman C., Lee J.W., Stein R.J., and Rha K.H.. Eur. Urol. 2011 :998-1005

Role of Intraarterial Embolization before Cryoablation of Large Renal Tumors: A Pilot Study. Woodrum D.A., Atwell T.D., Farrell M.A., Andrews J.C., Charboneau J.W., and Callstrom M.R.. J. Vasc. Intervent. Radiol. 2010 :930-936

A Comparative Study of Quality of Life Issues Relating to Open Versus Laparoscopic Nephrectomy: A Prospective Pragmatic Study. Harryman O.A., Davenport K., Keoghane S., Keeley F.X., and Timoney A.G.. J. Urol. 2009 :998-1003

Extensively cystic renal neoplasms in adults (Bosniak Classification II or III) - Possible "common" histological diagnoses: Multilocular cystic renal cell carcinoma, cystic nephroma, and mixed epithelial and stromal tumor of the kidney. Hora M., Hes O., Michal M., Boudova L., Chudacek Z., Kreuzberg B., and Klecka J.. Int. Urol. Nephrol. 2005 :743-750

Complications of transperitoneal laparoscopic surgery in urology: Review of 1,311 procedures at a single center.

Vallancien G., Cathelineau X., Baumert H., Doublet J.D., and Guillonneau B.. J. Urol. 2002 :23-26

Renal cell carcinoma: Clinical and therapeutic considerations about 301 cases. Destito A., Servello C., Pisanti F., Lacquaniti S., Candidi M.O., Racioppi M., and Alcini E.. Acta Med. Rom. 99 :498-503

Original report. Three-dimensional CT stereoscopic visualization of renal masses: Impact on diagnosis and patient treatment. Smith P.A., Marshall F.F., Urban B.A., Heath D.G., and Fishman E.K.. AM. J. ROENTGENOL. 97 :1331-1334

Diagnosis of renal angiomyolipoma with hounsfield unit thresholds: effect of size of region of interest and nephrographic phase imaging. Davenport, M. S., Neville, A. M., Ellis, J. H., Cohan, R. H., Chaudhry, H. S., and Leder, R. A.. Radiology 2011 :158-65

Differentiation of clear from non-clear cell renal cell carcinoma using CT washout formula. Kopp, R. P., Aganovic, L., Palazzi, K. L., Cassidy, F. H., Sakamoto, K., and Derweesh, I. H.. Can J Urol 2013 :6790-7

3D cone-beam CT guidance, a novel technique in renal biopsy--results in 41 patients with suspected renal masses. Braak, S. J., van Melick, H. H., Onaca, M. G., van Heesewijk, J. P., and van Strijen, M. J.. Eur Radiol 2012 :2547-52

Diagnostic accuracy of segmental enhancement inversion for the diagnosis of renal oncocytoma using biphasic computed tomography (CT) and multiphase contrast-enhanced magnetic resonance imaging (MRI). Schieda, N., Al-Subhi, M., Flood, T. A., El-Khodary, M., and McInnes, M. D.. Eur Radiol 2014 :2787-94

Unenhanced CT for the Diagnosis of Minimal-Fat Renal Angiomyolipoma. Schieda, N., Hodgdon, T., El-Khodary, M., Flood, T. A., and McInnes, M. D.. AJR Am J Roentgenol 2014 :1236-41

Use of electron microscopy in core biopsy diagnosis of oncocytic renal tumors. Johnson, N. B., Johnson, M. M., Selig, M. K., and Nielsen, G. P.. Ultrastruct Pathol 2010 :189-94

Unenhanced CT for the detection of renal cell carcinoma: effect of tumor size and contour type. Jung, S. I., Park, H. S., Kim, Y. J., and Jeon, H. J.. Abdom Imaging 2014 :348-57

Computed tomography-guided renal tumor biopsies: tumor imaging features affecting sample adequacy. Davis, I. C., Heilbrun, M. E., Tangtiang, K., Childs, D. D., and Zagoria, R. J.. J Comput Assist Tomogr 2013 :171-5

Histogram analysis of small solid renal masses: differentiating minimal fat angiomyolipoma from renal cell carcinoma. Chaudhry, H. S., Davenport, M. S., Nieman, C. M., Ho, L. M., and Neville, A. M.. AJR Am J Roentgenol 2012 :377-83

Predicting the histology of small renal masses using preoperative dynamic contrast-enhanced magnetic resonance imaging. Kim, J. H., Bae, J. H., Lee, K. W., Kim, M. E., Park, S. J., and Park, J. Y.. Urology 2012 :872-6

Analysis of surgical complications of renal tumor enucleation with standardized instruments and external validation of PADUA classification. Minervini, A., Vittori, G., Salvi, M., Sebastianelli, A., Tuccio, A., Siena, G., Masieri, L., Gacci, M., Lapini, A., Serni, S., and Carini, M.. Ann Surg Oncol 2013 :1729-36

Indications for renal fine needle aspiration biopsy in the era of modern imaging modalities. Dragoescu, E. A. and Liu, L.. Cytojournal 2013 :15

Comparison of Cox regression with other methods for determining prediction models and nomograms. Kattan, M. W.. J Urol 2003 :S6-9; discussion S10

Role of ultrasonography in screening for urological malignancies in patients presenting with painless haematuria. Yip, S. K., Peh, W. C., Tam, P. C., Li, J. H., and Lam, C. H.. Ann Acad Med Singapore 99 :174-7

FDG PET characterization of renal masses: preliminary experience. Goldberg, M. A., Mayo-Smith, W. W., Papanicolaou, N., Fischman, A. J., and Lee, M. J.. Clin Radiol 97 :510-5

Screening for renal cell carcinoma using ultrasonography: a feasibility study. Filipas, D., Spix, C., Schulz-Lampel, D., Michaelis, J., Hohenfellner, R., Roth, S., and Thuroff, J. W.. BJU Int 2003 :595-9

Comparison of 16-MDCT and MRI for characterization of kidney lesions. Beer, A. J., Dobritz, M., Zantl, N., Weirich, G., Stollfuss, J., and Rummeny, E. J.. AJR Am J Roentgenol 2006 :1639-50

Computer-aided detection of kidney tumor on abdominal computed tomography scans. Kim, D. Y. and Park, J. W.. Acta Radiol 2004 :791-5

Multiphasic helical CT of the kidney: increased conspicuity for detection and characterization of small (< 3-cm) renal masses. Szolar, D. H., Kammerhuber, F., Altziebler, S., Tillich, M., Breinl, E., Fotter, R., and Schreyer, H. H.. Radiology 97 :211-7

Effectiveness of contrast enhanced ultrasonography in the assesment of renal masses. Alvarez Rodriguez S., Sanz Mayayo E., Lopez- Fando Lavalle L., Rodriguez-Patron Rodriguez R., Arias Funez F., Hevia Palacios V., and Burgos Revilla F.J.. Eur. Urol. Suppl. 2014 :e393-e393a

Growth kinetics of small renal masses: A prospective analysis from the renal cell carcinoma consortium of Canada. Organ M., Jewett M., Abdolell M., Basiuka J., Fleshner N., Finelli A., Morash C., Pautler S., Chin J., Siemens R., Tanguay S., Gleave M., Drachenberg D., Chow R., Evans A., Gallie B., Haider M., Kachura J., and Rendon R.. J. Urol. 2013 :e482

Can we predict malignancy in bosniak III renal lesions identified on multiphasic CT?. Goenka A., Remer E., Smith A., Obuchowski N., Klink J., and Campbell S.. Am. J. Roentgenol. 2012 :

Evaluation of renal tumors by Image Guided biopsies with an empahasis on oncocytic neoplasms: A retrospective four year study from a large academic institution. Bhalla R., Wu A., and Kunju L.. J. Urol. 2011 :e282

Evaluation of renal tumors by image guided biopsies with an emphasis on oncocytic neoplasms: A retrospective four year study from a large academic institution. Bhalla R., Wu A., and Kunju L.P.. Lab. Invest. 2011 :180A

Incidental detection of preclinical renal tumors with electron beam computed tomography: Report of 26 consecutive operated patients. Mitchell T.L., Pippin J.J., Devers S.M., Kimball T.E., Gibbons L.W., Cooper L.L., Gonzalez-Dunn V., and Cooper K.H.. J. Comput. Assisted Tomogr. 2000 :843-845

Identification of the MN/CA9 protein as a reliable diagnostic biomarker of clear cell carcinoma of the kidney. Liao S.-Y., Aurelio O.N., Jan K., Zavada J., and Stanbridge E.J.. CANCER RES. 97 :2827-2831

Race and sex disparities in the treatment of older patients with T1a renal cell carcinoma: a comorbidity-controlled competing-risks model. Patel, H. D., Kates, M., Pierorazio, P. M., and Allaf, M. E.. Urol Oncol 2014 :576-83

Cystic renal cell carcinomas: do they grow, metastasize, or recur?. Jhaveri, K., Gupta, P., Elmi, A., Flor, L., Moshonov, H., Evans, A., and Jewett, M.. AJR Am J Roentgenol 2013 :W292-6

Safety of en bloc ligation of the renal hilum during laparoscopic radical nephrectomy for renal cell carcinoma: a randomized controlled trial. Chung, J. H., Lee, S. W., Lee, K. S., Cho, W. Y., and Kim, T. H.. J Laparoendosc Adv Surg Tech A 2013 :489-94

Evaluation of perirenal fat as a predictor of cT1a renal cortical neoplasm histopathology and surgical outcomes. Okhunov Z., Mues A.C., Kline M., Haramis G., Xu B., Mirabile G., Vira M., and Landman J.. J. Endourol. 2012 :911-916

Bilateral renal cell carcinoma. Therapy management and histopathological results in long-term follow-up of 66 patients: Der bilaterale nierentumor. Therapiemanagement und histopathologische ergebnisse mit langzeitverlauf bei 66 patienten. Siemer S., Uder M., Zell A., Ponicke C., Humke U., Ziegler M., and Stockle M.. Urologe Ausg. A 2001 :114-120

Laparoscopic procedures in urology: Laparoskopische operationen in der urologie. Turk I., Deger S., Schonberger B., and Loening S.A.. J. Urol. Urogynakol. 99 :69-72

Characterization of small solid renal lesions: can benign and malignant tumors be differentiated with CT?. Millet, I., Doyon, F. C., Hoa, D., Thuret, R., Merigeaud, S., Serre, I., and Taourel, P.. AJR Am J Roentgenol 2011 :887-96

Does not provide any OUTCOME of interest

Clinicopathologic Outcomes of Cystic Renal Cell Carcinoma. Donin, N. M., Mohan, S., Pham, H., Chandarana, H., Doshi, A., Deng, F. M., Stifelman, M. D., Taneja, S. S., and Huang, W. C.. Clin Genitourin Cancer 2014 :

Surgeon-specific factors affecting treatment decisions among Canadian urologists in the management of pT1a renal tumours. Millman, A. L., Pace, K. T., Ordon, M., and Lee, J. Y.. Can Urol Assoc J 2014 :183-9

Patients with anatomically "simple" renal masses are more likely to be placed on active surveillance than those with anatomically "complex" lesions. Tomaszewski, J. J., Uzzo, R. G., Kocher, N., Li, T., Manley, B., Mehrazin, R., Ito, T., Abbosh, P., Viterbo, R., Chen, D. Y., Greenberg, R. E., Canter, D., Smaldone, M. C., and Kutikov, A.. Urol Oncol 2014 :

Flank muscle volume changes after open and laparoscopic partial nephrectomy. Crouzet, S., Chopra, S., Tsai, S., Kamoi, K., Haber, G. P., Remer, E. M., Berger, A. K., Gill, I. S., and Aron, M.. J Endourol 2014 :1202-7

R.E.N.A.L. Nephrometry scoring: how well correlated are urologist, radiologist, and collaborator scores?. Monn, M. F., Gellhaus, P. T., Masterson, T. A., Patel, A. A., Tann, M., Cregar, D. M., and Boris, R. S.. J Endourol 2014 :1006-10

Practice patterns for the surgical treatment of T1 renal cell carcinoma: A nationwide population-based register study. Ljungberg, B., Gudmundsson, E., Christensen, S., and Lundstam, S.. Scand J Urol 2014 :445-52

Incidence of hypercoagulable events after image-guided percutaneous cryoablation of renal tumors: a single-center experience. Hartman, J. B., Bhojwani, N., Corn, D. J., Cooney, M. M., Haaga, J., Ponsky, L., Abouassaly, R., Paspulati, A., and Prologo, J. D.. J Vasc Interv Radiol 2014 :776-9

Practical and intuitive surgical approach renal ranking to predict outcomes in the management of renal tumors: a novel score tool. Tannus, M., Goldman, S. M., and Andreoni, C.. J Endourol 2014 :487-92

Histopathologic findings of small renal tumor biopsies performed immediately after cryoablation therapy: a retrospective study of 50 cases. Tayal, S., Kim, F. J., Sehrt, D., Miano, R., Pompeo, A., and Molina, W.. Am J Clin Pathol 2014 :35-42

Pathological characteristics and prognostic effect of peritumoral capsule penetration in renal cell carcinoma after tumor enucleation. Minervini, A., Rosaria Raspollini, M., Tuccio, A., Di Cristofano, C., Siena, G., Salvi, M., Vittori, G., Sebastianelli, A., Lapini, A., Serni, S., and Carini, M.. Urol Oncol 2014 :50.e15-22

Adverse health outcomes associated with surgical management of the small renal mass. Shuch, B., Hanley, J. M., Lai, J. C., Vourganti, S., Setodji, C. M., Dick, A. W., Chow, W. H., and Saigal, C. S.. J Urol 2014 :301-8

Overall survival advantage with partial nephrectomy: a bias of observational data?. Shuch, B., Hanley, J., Lai, J.,

Vourganti, S., Kim, S. P., Setodji, C. M., Dick, A. W., Chow, W. H., and Saigal, C.. Cancer 2013 :2981-9

Is diameter-axial-polar scoring predictive of renal functional damage in patients undergoing partial nephrectomy? An evaluation using technetium Tc 99m ((9)(9)Tcm) diethylene-triamine-penta-acetic acid (DTPA) glomerular filtration rate. Wang, L., Li, M., Chen, W., Wu, Z., Cai, C., Xiang, C., Sheng, J., Liu, B., Yang, Q., and Sun, Y.. BJU Int 2013 :1191-8

Renal lymph nodes for tumor staging: appraisal of 871 nephrectomies with examination of hilar fat. Mehta, V., Mudaliar, K., Ghai, R., Quek, M. L., Milner, J., Flanigan, R. C., and Picken, M. M.. Arch Pathol Lab Med 2013 :1584-90

Evaluation of anatomic and morphologic nomogram to predict malignant and high-grade disease in a cohort of patients with small renal masses. Bagrodia, A., Harrow, B., Liu, Z. W., Olweny, E. O., Faddegon, S., Yin, G., Tan, Y. K., Han, W. K., Lotan, Y., Margulis, V., and Cadeddu, J. A.. Urol Oncol 2014 :37.e17-23

Trends in partial and radical nephrectomy: an analysis of case logs from certifying urologists. Poon, S. A., Silberstein, J. L., Chen, L. Y., Ehdaie, B., Kim, P. H., and Russo, P.. J Urol 2013 :464-9

Use of nephron-sparing surgery among renal cell carcinoma patients with diabetes and hypertension. Filson, C. P., Schwartz, K., Colt, J. S., Ruterbusch, J., Linehan, W. M., Chow, W. H., and Miller, D. C.. Urol Oncol 2014 :27.e15-21

A comparison of pathologic outcomes of matched robotic and open partial nephrectomies. Mellon, M. J., Lucas, S. M., Kum, J. B., Cheng, L., and Sundaram, C.. Int Urol Nephrol 2013 :381-5

Clinical characteristics associated with treatment type for localized renal tumors: implications for practice pattern assessment. Smaldone, M. C., Churukanti, G., Simhan, J., Kim, S. P., Reyes, J., Zhu, F., Kutikov, A., Viterbo, R., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Urology 2013 :269-75

Long-term outcome of small, organ-confined renal cell carcinoma (RCC) is not always favourable. Shindo, T., Masumori, N., Kobayashi, K., Fukuta, F., Hirobe, M., Tonooka, A., Hasegawa, T., Kitamura, H., and Tsukamoto, T.. BJU Int 2013 :941-5

Value of metastin receptor immunohistochemistry in predicting metastasis after radical nephrectomy for pT1 clear cell renal cell carcinoma. Shoji, S., Nakano, M., Tomonaga, T., Kim, H., Hanai, K., Usui, Y., Nagata, Y., Miyazawa, M., Sato, H., Tang, X. Y., Osamura, Y. R., Uchida, T., Terachi, T., and Takeya, K.. Clin Exp Metastasis 2013 :607-14

Patient safety and the diffusion of surgical innovations: a national analysis of laparoscopic partial nephrectomy. Parsons, J. K., Palazzi, K., Chang, D., and Stroup, S. P.. Surg Endosc 2013 :1674-80

Comparison of the 2002 and 2010 TNM classification systems regarding outcome prediction in clear cell and papillary renal cell carcinoma. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Groselj-Strele, A., Hoefler, G., Pummer, K., and Zigeuner, R.. Histopathology 2013 :237-46

Renal volumetric analysis: a new paradigm in renal mass treatment assessment. Gorbatiy, V., Iremashvili, V., Castro, A., Mure, A., Ortiz, N., Castle, S. M., and Leveillee, R. J.. J Endourol 2013 :361-5

Association of clinical and radiographic features with perinephric "sticky" fat. Bylund, J. R., Qiong, H., Crispen, P. L., Venkatesh, R., and Strup, S. E.. J Endourol 2013 :370-3

Tumour-related imaging parameters predicting the percentage of preserved normal renal parenchyma following nephron sparing surgery: a retrospective study. Aertsen, M., De Keyzer, F., Van Poppel, H., Joniau, S., De Wever, L., Lerut, E., Oyen, R., and Claus, F.. Eur Radiol 2013 :280-6

Overexpression of IL-32 is a novel prognostic factor in patients with localized clear cell renal cell carcinoma. Lee, H. J., Liang, Z. L., Huang, S. M., Lim, J. S., Yoon, D. Y., Lee, H. J., and Kim, J. M.. Oncol Lett 2012 :490-496

[Analysis of the evolution of surgery for the treatment of primary renal tumors during the period 2006-2010: report of 458 consecutive surgeries]. Bellec, L., Thoulouzan, M., Soler, P., Khedis, M., Walschaerts, M., Delaunay, B., Crenn, G., Salloum, A., Rouvellat, P., Malavaud, B., Rischmann, P., Plante, P., Soulie, M., and Huyghe, E.. Prog Urol 2012 :520-8

Assessing performance trends in laparoscopic nephrectomy and nephron-sparing surgery for localized renal tumors. Smaldone, M. C., Kutikov, A., Egleston, B., Simhan, J., Canter, D. J., Teper, E., Viterbo, R., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Urology 2012 :286-91

Staging lymphadenectomy in renal cell carcinoma must be extended: a sensitivity curve analysis. Capitanio, U., Suardi, N., Matloob, R., Abdollah, F., Castiglione, F., Briganti, A., Carenzi, C., Roscigno, M., Montorsi, F., and Bertini, R.. BJU Int 2013 :412-8

Assessment of cancer control outcomes in patients with high-risk renal cell carcinoma treated with partial nephrectomy. Hansen, J., Sun, M., Bianchi, M., Rink, M., Tian, Z., Hanna, N., Meskawi, M., Schmitges, J., Shariat, S. F., Chun, F. K., Perrotte, P., Graefen, M., and Karakiewicz, P. I.. Urology 2012 :347-53

The effect of race and gender on the surgical management of the small renal mass. Kates, M., Whalen, M. J., Badalato, G. M., and McKiernan, J. M.. Urol Oncol 2013 :1794-9

Pathological implications of areas of lower enhancement on contrast-enhanced computed tomography in renal-cell carcinoma: additional information for selecting candidates for surveillance protocols. Villalobos-Gollas, M., Aguilar-Davidov, B., Culebro-Garcia, C., Gomez-Alvarado, M. O.,

Rojas-Garcia, P., Ibarra-Fombona, R., Uribe-Uribe, N., Feria-Bernal, G., Castillejos-Molina, R., Sotomayor, M., Gabilondo, F., and Rodriguez-Covarrubias, F.. Int Urol Nephrol 2012 :1369-74

Comparison of two core biopsy techniques before and after laparoscopic cryoablation of small renal cortical neoplasms. Truesdale, M. D., Mues, A. C., Sartori, S., Casazza, C. N., Hruby, G. W., Harik, L. R., O'Toole, K. M., Badani, K. K., Perez-Lanzac, A., and Landman, J.. JSLS 2011 :509-16

RENAL nephrometry score predicts surgery type independent of individual surgeon's use of nephron-sparing surgery. Tobert, C. M., Kahnoski, R. J., Thompson, D. E., Anema, J. G., Kuntzman, R. S., and Lane, B. R.. Urology 2012 :157-61

Characteristics and outcomes of tumors arising from the distal nephron. Abern, M. R., Tsivian, M., Polascik, T. J., and Coogan, C. L.. Urology 2012 :140-6

[Nephron-sparing surgery: our experience]. Crestani, A., Guttilla, A., Dal Moro, F., Valotto, C., and Zattoni, F.. Urologia 2012 :97-101

Understanding criteria for surveillance of patients with a small renal mass. Jacobs, B. L., Tan, H. J., Montgomery, J. S., Weizer, A. Z., Wood, D. P., Miller, D. C., Wolf, J. S. Jr, and Hafez, K. S.. Urology 2012 :1027-32

The role of pathology in small renal mass laparoscopic cryoablation. Lagerveld, B. W., van Dekken, H., van Leenders, G. J., and van der Zee, J. A.. Adv Urol 2012 :539648

Volume-outcome relationships in the treatment of renal tumors. Abouassaly, R., Finelli, A., Tomlinson, G. A., Urbach, D. R., and Alibhai, S. M.. J Urol 2012 :1984-8

Perioperative outcomes of robotic and open partial nephrectomy for moderately and highly complex renal lesions. Simhan, J., Smaldone, M. C., Tsai, K. J., Li, T., Reyes, J. M., Canter, D., Kutikov, A., Chen, D. Y., Greenberg, R. E., Uzzo, R. G., and Viterbo, R.. J Urol 2012 :2000-4

Inpatient safety trends in laparoscopic and open nephrectomy for renal tumours. Stroup, S. P., Palazzi, K. L., Chang, D. C., Ward, N. T., and Parsons, J. K.. BJU Int 2012 :1808-13

Intraoperative ultrasonography: a useful tool in retrolaparoscopic nephron-sparing surgery. Kang, N., Niu, Y., Zhang, J., Wang, J., Tian, X., Yan, Y., Yu, Z., and Xing, N.. Urol Int 2012 :338-42

Impact of comorbidity on complications after nephrectomy: use of the Clavien Classification of Surgical Complications. Hennus, P. M., Kroeze, S. G., Bosch, J. L., and Jans, J. J.. BJU Int 2012 :682-7

Functional recovery after partial nephrectomy: effects of volume loss and ischemic injury. Simmons, M. N., Hillyer, S. P., Lee, B. H., Fergany, A. F., Kaouk, J., and Campbell, S. C.. J Urol 2012 :1667-73

Under-grading of <4 cm renal masses on renal biopsy. Harris, C. R., Whitson, J. M., and Meng, M. V.. BJU Int 2012 :794-7

Simplified hemostatic technique during laparoscopic partial nephrectomy. Tsivian, A., Tsivian, M., Benjamin, S., and Sidi, A. A.. Int Braz J Urol 2012 :84-8

Prognostic nomogram for disease-free survival in patients with renal adenocarcinoma. Di Capua Sacoto, C., Budia, A., Garcia-Fadrique, G., Lujan, S., Ruiz-Cerda, J. L., and Jimenez-Cruz, J. F.. Urol Int 2012 :271-6

Evolving practice patterns for the management of small renal masses in the USA. Yang, G., Villalta, J. D., Meng, M. V., and Whitson, J. M.. BJU Int 2012 :1156-61

[Relevance of the clinical-pathological predictive factors in force in chromophobe renal cell cancer]. Pardo, P., Rodriguez-Faba, O., Palou, J., Algaba, F., Breda, A., Esquena, S., and Villavicencio, H.. Actas Urol Esp 2012 :527-31

Laparoscopic cryotherapy for renal tumours. Grange, P., Rouse, P., Kouriefs, C., Rao, A., Karamanolakis, D., Roy, A., and Arya, M.. BJU Int 2012 :808-17

Treatment management of small renal masses in the 21st century: a paradigm shift. Sun, M., Abdollah, F., Bianchi, M., Trinh, Q. D., Jeldres, C., Thuret, R., Tian, Z., Shariat, S. F., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. Ann Surg Oncol 2012 :2380-7

Higher perioperative morbidity and in-hospital mortality in patients with end-stage renal disease undergoing nephrectomy for non-metastatic kidney cancer: a population-based analysis. Schmitges, J., Trinh, Q. D., Sun, M., Hansen, J., Bianchi, M., Jeldres, C., Perrotte, P., Dahlem, R., Shariat, S. F., Chun, F. K., Montorsi, F., Menon, M., Fisch, M., Graefen, M., and Karakiewicz, P. I.. BJU Int 2012 :E183-90

Optimal surgical margin in nephron-sparing surgery for T1b renal cell carcinoma. Chen, X. S., Zhang, Z. T., Du, J., Bi, X. C., Sun, G., and Yao, X.. Urology 2012 :836-9

NDRG2 is involved in the oncogenic properties of renal cell carcinoma and its loss is a novel independent poor prognostic factor after nephrectomy. Liang, Z. L., Kang, K., Yoon, S., Huang, S. M., Lim, J. S., Kim, J. M., Lim, J. S., and Lee, H. J.. Ann Surg Oncol 2012 :2763-72

Low local metastatic rate may widen indication of nephron-sparing surgery for renal cell carcinoma. Xiong, Z. Q., Zheng, J., Feng, C. C., Bao, Y., Ding, Q., and Fang, Z. J.. Ann Diagn Pathol 2012 :190-5

A non-cancer-related survival benefit is associated with partial nephrectomy. Sun, M., Trinh, Q. D., Bianchi, M., Hansen, J., Hanna, N., Abdollah, F., Shariat, S. F., Briganti, A., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. Eur Urol 2012 :725-31

Growth pattern of renal cell carcinoma (RCC) in patients with delayed surgical intervention. Li, X. S., Yao, L., Gong, K., Yu, W., He, Q., Zhou, L. Q., and He, Z. S.. J Cancer Res Clin Oncol 2012 :269-74

[Partial elective nephrectomy]. Zungri, E., Martinez, L., Leal, D., and Lorenzo, L.. Actas Urol Esp 2012 :160-4

Trends in the use of of nephron-sparing surgery (NSS) at an Australian tertiary referral centre: an analysis of surgical decision-making using the R.E.N.A.L. nephrometry scoring system. Satasivam, P., Rajarubendra, N., Chia, P. H., Munshey, A., Sengupta, S., and Bolton, D.. BJU Int 2012 :1341-4

Contemporary trends in nephrectomy for renal cell carcinoma in the United States: results from a population based cohort. Kim, S. P., Shah, N. D., Weight, C. J., Thompson, R. H., Moriarty, J. P., Shippee, N. D., Costello, B. A., Boorjian, S. A., and Leibovich, B. C.. J Urol 2011 :1779-85

Validation of the 2009 TNM Classification for Renal Cell Carcinoma: Comparison with the 2002 TNM Classification by Concordance Index. Lee, C., You, D., Park, J., Jeong, I. G., Song, C., Hong, J. H., Ahn, H., and Kim, C. S.. Korean J Urol 2011 :524-30

Incidence of multiple sporadic renal cell carcinomas in patients referred for renal radiofrequency ablation: implications for imaging follow-up. Beland, M. D., Wolf, F. J., Grand, D. J., Dupuy, D. E., and Mayo-Smith, W. W.. AJR Am J Roentgenol 2011 :671-5

Tumour diameter and decreased preoperative estimated glomerular filtration rate are independently correlated in patients with renal cell carcinoma. Donin, N. M., Suh, L. K., Barlow, L., Hruby, G. W., Newhouse, J., and McKiernan, J.. BJU Int 2012 :379-83

Increasing use of kidney sparing approaches for localized renal tumors in a community based health system: impact on renal functional outcomes. Lane, B. R., Chen, H., Morrow, M., Anema, J. G., and Kahnoski, R. J.. J Urol 2011 :1229-35

Degree and Predictors of Functional Loss of the Operated Kidney following Nephron-Sparing Surgery: Assessment by Quantitative SPECT of 99m Tc-Dimercaptosuccinic Acid Scintigraphy. Nativ, O., Levi, A., Farfara, R., Halachmi, S., and Moskovitz, B.. Adv Urol 2011 :961525

The Karakiewicz nomogram is the most useful clinical predictor for survival outcomes in patients with localized renal cell carcinoma. Tan, M. H., Li, H., Choong, C. V., Chia, K. S., Toh, C. K., Tang, T., Tan, P. H., Wong, C. F., Lau, W., and Cheng, C.. Cancer 2011 :5314-24

Benefits of a combined approach to sampling of renal neoplasms as demonstrated in a series of 351 cases. Parks, G. E., Perkins, L. A., Zagoria, R. J., Garvin, A. J., Sirintrapun, S. J., and Geisinger, K. R.. Am J Surg Pathol 2011 :827-35

Chyluria after radiofrequency ablation of renal tumors. Kaur, H., Matin, S. F., Javadi, S., Johnson, V. E., Choi, H., Sandler, C., and Ahrar, K.. J Vasc Interv Radiol 2011 :924-7

Independent validation of the 2010 American Joint Committee on Cancer TNM classification for renal cell carcinoma: results from a large, single institution cohort. Kim, S. P., Alt, A. L., Weight, C. J., Costello, B. A., Cheville, J. C., Lohse, C., Allmer, C., and Leibovich, B. C.. J Urol 2011 :2035-9

Post-operative acute kidney injury in patients with renal cell carcinoma is a potent risk factor for new-onset chronic kidney disease after radical nephrectomy. Cho, A., Lee, J. E., Kwon, G. Y., Huh, W., Lee, H. M., Kim, Y. G., Kim, D. J., Oh, H. Y., and Choi, H. Y.. Nephrol Dial Transplant 2011 :3496-501

Risk factors for conversion to hand assisted laparoscopy or open surgery during laparoscopic renal surgery. Rowley, M. W. and Wolf, J. S. Jr. J Urol 2011 :940-4

Clinical characteristics and outcomes of patients with recurrence 5 years after nephrectomy for localized renal cell carcinoma. Adamy, A., Chong, K. T., Chade, D., Costaras, J., Russo, G., Kaag, M. G., Bernstein, M., Motzer, R. J., and Russo, P.. J Urol 2011 :433-8

Clinical predictors of renal mass pathological features. Tsivian, M., Mouraviev, V., Albala, D. M., Caso, J. R., Robertson, C. N., Madden, J. F., and Polascik, T. J.. BJU Int 2011 :735-40

Age-adjusted incidence, mortality, and survival rates of stage-specific renal cell carcinoma in North America: a trend analysis. Sun, M., Thuret, R., Abdollah, F., Lughezzani, G., Schmitges, J., Tian, Z., Shariat, S. F., Montorsi, F., Patard, J. J., Perrotte, P., and Karakiewicz, P. I.. Eur Urol 2011 :135-41

Diagnostic value of processing cytologic aspirates of renal tumors in agar cell (tissue) blocks. Smedts, F., Schrik, M., Horn, T., and Hopman, A. H.. Acta Cytol 2010 :587-94

The Prognostic Factors for Patients with pT1a Renal Cell Carcinoma. Kim, J. M., Song, P. H., Kim, H. T., and Park, T. C.. Korean J Urol 2010 :233-8

Predicting occult multifocality of renal cell carcinoma. Tsivian, M., Moreira, D. M., Caso, J. R., Mouraviev, V., Madden, J. F., Bratslavsky, G., Robertson, C. N., Albala, D. M., and Polascik, T. J.. Eur Urol 2010 :118-26

The prognostic value of erythrocyte polyamines in the preoperative evaluation of patients with renal cell carcinoma. Lughezzani, G., Karakiewicz, P. I., Bigot, P., Perrotte, P., Crepel, M., Rioux-Leclercq, N., Catros-Quemener, V., Moulinoux, J. P., Bouet, F., Cipolla, B., and Patard, J. J.. Eur J Cancer 2010 :1927-35

Characterization of contrast enhancement in the ablation zone immediately after radiofrequency ablation of renal tumors. Javadi, S., Ahrar, J. U., Ninan, E., Gupta, S., Matin, S. F., and Ahrar, K.. J Vasc Interv Radiol 2010 :690-5

Radiofrequency ablation of renal tumours: diagnostic accuracy of contrast-enhanced ultrasound for early detection of residual tumour. Hoeffel, C., Pousset, M., Timsit, M. O., Elie, C., Mejean, A., Merran, S., Tranquart, F., Khairoune, A., Joly, D., Richard, S., Helenon, O., and Correas, J. M.. Eur Radiol 2010 :1812-21

Variation in the incidence of and risk factors for the development of nephrolithiasis after radical or partial nephrectomy. Bagrodia, A., Malcolm, J. B., Diblasio, C. J., Mehrazin, R., Patterson, A. L., Wake, R. W., Wan, J. Y., and Derweesh, I. H.. BJU Int 2010 :1200-4

Predicting collecting system transection at laparoscopic partial nephrectomy: analysis of tumor parameters. Shikanov, S., Lifshitz, D. A., Deklaj, T., Katz, M. H., and Shalhav, A. L.. J Endourol 2009 :1863-6

Laparoscopic partial nephrectomy: predictors of prolonged warm ischemia. Lifshitz, D. A., Shikanov, S., Jeldres, C., Deklaj, T., Karakiewicz, P. I., Zorn, K. C., Eggener, S. E., and Shalhav, A. L.. J Urol 2009 :860-5

Bowel displacement for CT-guided tumor radiofrequency ablation: techniques and anatomic considerations. Ginat, D. T., Saad, W., Davies, M., Walman, D., and Erturk, E.. J Endourol 2009 :1259-64

MRI and CT characteristics of successfully ablated renal masses: Imaging surveillance after radiofrequency ablation. Davenport, M. S., Caoili, E. M., Cohan, R. H., Ellis, J. H., Higgins, E. J., Willatt, J., and Fox, G. A.. AJR Am J Roentgenol 2009 :1571-8

Estimation and prediction of renal function in patients with renal tumor. Kim, H. L., Shah, S. K., Tan, W., Shikanov, S. A., Zorn, K. C., Shalhav, A. L., and Wilding, G. E.. J Urol 2009 :2451-60; discussion 2460-1

Nephron-sparing surgery: the effect of surface cooling and temporary renal artery occlusion on renal function. Bakirtas, H., Eroglu, M., Naldoken, S., Akbulut, Z., and Tekdogan, U. Y.. Urol Int 2009 :24-7

Age at diagnosis is a determinant factor of renal cell carcinoma-specific survival in patients treated with nephrectomy. Karakiewicz, P. I., Jeldres, C., Suardi, N., Hutterer, G. C., Perrotte, P., Capitanio, U., Ficarra, V., Cindolo, L., de La Taille, A., Tostain, J., Mulders, P. F., Salomon, L., Zigeuner, R., Schips, L., Chautard, D., Valeri, A., Lechevallier, E., Descots, J. L., Lang, H., Mejean, A., Verhoest, G., and Patard, J. J.. Can Urol Assoc J 2008 :610-7

Diagnostic yield of renal biopsy immediately prior to laparoscopic radiofrequency ablation: a multicenter study. Kyle, C. C., Wingo, M. S., Carey, R. I., Leveillee, R. J., and Bird, V. G.. J Endourol 2008 :2291-3

Obesity and morbid obesity are associated with a greater conversion rate to open surgery for standard but not hand assisted laparoscopic radical nephrectomy. Gabr, A. H., Elsayed, E. R., Gdor, Y., Roberts, W. W., and Wolf, J. S. Jr. J Urol 2008 :2357-62; discussion 2362

Effect of baseline glomerular filtration rate on survival in patients undergoing partial or radical nephrectomy for renal cortical tumors. Pettus, J. A., Jang, T. L., Thompson, R. H., Yossepowitch, O., Kagiwada, M., and Russo, P.. Mayo Clin Proc 2008 :1101-6

[Splenic injury during left nephrectomy for renal cell cancer]. Zielinski, H., Pawlicki, B., Bortnowski, L., Jedynak, R., Piotrowicz, G., and Galka, M.. Pol Merkur Lekarski 2008 :502-5

Incidence of benign pathologic lesions at partial nephrectomy for presumed RCC renal masses: Japanese dual-center experience with 176 consecutive patients. Fujii, Y., Komai, Y., Saito, K., Iimura, Y., Yonese, J., Kawakami, S., Ishikawa, Y., Kumagai, J., Kihara, K., and Fukui, I.. Urology 2008 :598-602

Elective laparoscopic partial nephrectomy in patients with tumors >4 cm. Rais-Bahrami, S., Romero, F. R., Lima, G. C., Kohanim, S., Permpongkosol, S., Trock, B. J., Jarrett, T. W., and Kavoussi, L. R.. Urology 2008 :580-3

Renal cell carcinoma radiofrequency ablation: evaluation of efficacy based on histological correlation. Mylona, S., Ntai, S., Stroumpouli, E., Glentzes, V., Martinis, S., and Thanos, L.. Br J Radiol 2008 :479-84

Elevated serum-circulating RNA in patients with conventional renal cell cancer. Feng, G., Li, G., Gentil-Perret, A., Tostain, J., and Genin, C.. Anticancer Res 2008 :321-6

Transperitoneal laparoscopic radical nephrectomy for large (more than 7 cm) renal masses. Berger, A. D., Kanofsky, J. A., O'Malley, R. L., Hyams, E. S., Chang, C., Taneja, S. S., and Stifelman, M. D.. Urology 2008 :421-4

Immediate renal tumor involution after radiofrequency thermal ablation. Ganguli, S., Brennan, D. D., Faintuch, S., Rayan, M. E., and Goldberg, S. N.. J Vasc Interv Radiol 2008 :412-8

Comparison of standard and hand-assisted laparoscopic radical nephrectomy for renal cell carcinoma. Harano, M., Eto, M., Yokomizo, A., Tatsugami, K., Hamaguchi, M., and Naito, S.. Fukuoka Igaku Zasshi 2007 :389-96

Impact of gender in renal cell carcinoma: an analysis of the SEER database. Aron, M., Nguyen, M. M., Stein, R. J., and Gill, I. S.. Eur Urol 2008 :133-40

CT-guided biopsy for the diagnosis of renal tumors before treatment with percutaneous ablation. Heilbrun, M. E., Zagoria, R. J., Garvin, A. J., Hall, M. C., Krehbiel, K., Southwick, A., and Clark, P. E.. AJR Am J Roentgenol 2007 :1500-5

[Opened vs. laparoscopic radical nephrectomy in renal adenocarcinoma cost comparison]. Herranz Amo, F., Subira Rios, D., Hernandez Fernandez, C., Martinez Salamanca, J. I., Monzo, J. I., and Cabello Benavente, R.. Actas Urol Esp 2006 :921-5

Positive surgical parenchymal margin after laparoscopic partial nephrectomy for renal cell carcinoma: oncological outcomes. Permpongkosol, S., Colombo, J. R. Jr, Gill, I. S., and Kavoussi, L. R.. J Urol 2006 :2401-4

Incidence of benign lesions for clinically localized renal masses smaller than 7 cm in radiological diameter: influence of sex. Snyder, M. E., Bach, A., Kattan, M. W., Raj, G. V., Reuter, V. E., and Russo, P.. J Urol 2006 :2391-5; discussion 2395-6

The influence of clinical and pathological stage discrepancy on cancer specific survival in patients treated for renal cell carcinoma. Svatek, R. S., Lotan, Y., Herman, M. P., Duchene, D. A., Sagalowsky, A. I., and Cadeddu, J. A.. J Urol 2006 :1321-5; discussion 125

Are small renal tumors harmless? Analysis of histopathological features according to tumors 4 cm or less in diameter. Remzi, M., Ozsoy, M., Klingler, H. C., Susani, M., Waldert, M., Seitz, C., Schmidbauer, J., and Marberger, M.. J Urol 2006 :896-9

Efficacy and safety of fast-track recovery strategy for patients undergoing laparoscopic nephrectomy. Recart, A., Duchene, D., White, P. F., Thomas, T., Johnson, D. B., and Cadeddu, J. A.. J Endourol 2005 :1165-9

Hand-assisted laparoscopic radical nephrectomy: comparison of the transperitoneal and retroperitoneal approaches. Shiraishi, K., Eguchi, S., Mohri, J., and Kamiryo, Y.. Surg Laparosc Endosc Percutan Tech 2005 :216-9

Independent validation of the 2002 American Joint Committee on cancer primary tumor classification for renal cell carcinoma using a large, single institution cohort. Frank, I., Blute, M. L., Leibovich, B. C., Cheville, J. C., Lohse, C. M., and Zincke, H.. J Urol 2005 :1889-92

Ureteropelvic junction obstruction after partial nephrectomy. Singh, D., Desai, M., Novick, A. C., and Streem, S. B.. J Endourol 2005 :416-8

Hemorrhagic complications after nephron-sparing surgery: angiographic diagnosis and management by transcatheter embolization. Heye, S., Maleux, G., Van Poppel, H., Oyen, R., and Wilms, G.. AJR Am J Roentgenol 2005 :1661-4

Renal neoplasms in younger adults: analysis of 112 tumors from a single institution according to the new 2004 World Health Organization classification and 2002 American Joint Committee on Cancer Staging System. Cao, Y., Paner, G. P., Perry, K. T., Flanigan, R. C., Campbell, S. C., and Picken, M. M.. Arch Pathol Lab Med 2005 :487-91

Laparoscopic specimen extraction: morcellation. Varkarakis, I., Rha, K., Hernandez, F., Kavoussi, L. R., and Jarrett, T. W.. BJU Int 2005 :27-31

Pathological stage does not alter the prognosis for renal lesions determined to be stage T1 by computerized tomography. Roberts, W. W., Bhayani, S. B., Allaf, M. E., Chan, T. Y., Kavoussi, L. R., and Jarrett, T. W.. J Urol 2005 :713-5

Associations with contralateral recurrence following nephrectomy for renal cell carcinoma using a cohort of 2,352 patients. Bani-Hani, A. H., Leibovich, B. C., Lohse, C. M., Cheville, J. C., Zincke, H., and Blute, M. L.. J Urol 2005 :391-4

Prediction of postoperative renal function by preoperative serum creatinine level and three-dimensional diagnostic image reconstruction in patients with renal cell carcinoma. Tanaka, N., Fujimoto, K., Tani, M., Yoshii, M., Yoshida, K., Hirao, Y., and Ozono, S.. Urology 2004 :904-8

A renal mass in the setting of a nonrenal malignancy: When is a renal tumor biopsy appropriate?. Sanchez-Ortiz, R. F., Madsen, L. T., Bermejo, C. E., Wen, S., Shen, Y., Swanson, D. A., and Wood, C. G.. Cancer 2004 :2195-201

Evaluation of patients referred for percutaneous ablation of renal tumors: importance of a preprocedural diagnosis. Tuncali, K., vanSonnenberg, E., Shankar, S., Mortele, K. J., Cibas, E. S., and Silverman, S. G.. AJR Am J Roentgenol 2004 :575-82

Guidelines for the surveillance of localized renal cell carcinoma based on the patterns of relapse after nephrectomy. Stephenson, A. J., Chetner, M. P., Rourke, K., Gleave, M. E., Signaevsky, M., Palmer, B., Kuan, J., Brock, G. B., and Tanguay, S.. J Urol 2004 :58-62

[Radical retroperitoneal nephrectomy]. Heidenreich, A.. Aktuelle Urol 2004 :65-76

Impact of arterial occlusion during partial nephrectomy on residual renal function: an evaluation with (99m)technetium-dimercaptosuccinic acid scintigraphy. Kondo, T., Nakazawa, H., Ito, F., Onitsuka, S., Ryoji, O., Yago, R., Hashimoto, Y., and Toma, H.. Int J Urol 2002 :435-40

Prognostic importance of tumor size for localized conventional (clear cell) renal cell carcinoma: assessment of TNM T1 and T2 tumor categories and comparison with other prognostic parameters. Delahunt, B., Kittelson, J. M., McCredie, M. R., Reeve, A. E., Stewart, J. H., and Bilous, A. M.. Cancer 2002 :658-64

Can renal oncocytomas be distinguished from renal cell carcinoma on fine-needle aspiration specimens? A study of conventional smears in conjunction with ancillary studies. Liu, J. and Fanning, C. V.. Cancer 2001 :390-7

Prediction of post-operative glomerular filtration rate after nephrectomy for renal malignancy. Johansson, M. and Moonen, M.. Clin Physiol 2001 :688-92

Cystic renal cell carcinoma: pathological features, survival and implications for treatment. Bielsa, O., Lloreta, J., and Gelabert-Mas, A.. Br J Urol 98 :16-20

Renal function after radical nephrectomy: Development and validation of predictive models in Japanese patients. Yokoyama M., Fujii Y., Takeshita H., Kawamura N., Nakayama T., Iimura Y., Sakura M., Ishioka J., Saito K., Koga F., Masuda H., Noro A., Arisawa C., Kitahara S., and Kihara K.. Int. J. Urol. 2014 :238-242

RENAL nephrometry score is a predictive factor for the annual growth rate of renal mass. Matsumoto R., Abe T., Shinohara N., Murai S., Maruyama S., Tsuchiya K., and Nonomura K.. Int. J. Urol. 2014 :549-552

Clinico-pathological prognostic factors of renal cell carcinoma: A 15-year review from a single center in Greece. Grivas N., Kafarakis V., Tsimaris I., Raptis P., Hastazeris K., and Stavropoulos N.E.. Urol. Ann. 2014 :116-121

Stage T1NOMO renal cell carcinoma: The prognosid in Asian patients. Zhang Z.-L., Chen W., Li Y.-H., Liu Z.-W., Luo J.-H., Lau W., Tan M.-H., and Zhou F.-J.. Chin. J. Cancer 2011 :772-778

Robotics applied in laparoscopic kidney surgery: The Yonsei University experience of 127 cases. Lorenzo E.I.S., Jeong W., Oh C.K., Chung B.H., Choi Y.D., and Rha K.H.. Urology 2011 :114-118

Thermal protection during percutaneous thermal ablation procedures: Interest of carbon dioxide dissection and temperature monitoring. Buy X., Tok C.-H., Szwarc D., Bierry G., and Gangi A.. Cardiovasc. Intervent. Radiol. 2009 :529-534

A Comparative Study of Quality of Life Issues Relating to Open Versus Laparoscopic Nephrectomy: A Prospective Pragmatic Study. Harryman O.A., Davenport K., Keoghane S., Keeley F.X., and Timoney A.G.. J. Urol. 2009 :998-1003

Clinicopathological features and survival rates of patients with renal cell carcinoma under 50 years of age. Atmaca A.F., Bayrak O., Kandemir O., Serefoglu E.C., Culha I.E., Canda A.E., and Balbay M.D.. Cent. Eur. J. Med. 2008 :453-458

Robotic assisted Laparoscopic partial Nephrectomy for suspected Renal Cell Carcinoma: Retrospective review of surgical outcomes of 35 Cases. Bhayani S.B. and Das N.. BMC Surg. 2008 :

Use of Haemostatic Agents and Glues during Laparoscopic Partial Nephrectomy: A Multi-Institutional Survey from the United States and Europe of 1347 Cases{A figure is presented}. Breda A., Stepanian S.V., Lam J.S., Liao J.C., Gill I.S., Colombo J.R., Guazzoni G., Stifelman M.D., Perry K.T., Celia A., Breda G., Fornara P., Jackman S.V., Rosales A., Palou J., Grasso M., Pansadoro V., Disanto V., Porpiglia F., Milani C., Abbou C.C., Gaston R., Janetschek G., Soomro N.A., De la Rosette J.J., Laguna P.M., and Schulam P.G.. Eur. Urol. 2007 :798-803

Pathological Features of Renal Neoplasms Classified by Size and Symptomatology. Schlomer B., Figenshau R.S., Yan Y., Venkatesh R., and Bhayani S.B.. J. Urol. 2006 :1317-1320

Extensively cystic renal neoplasms in adults (Bosniak Classification II or III) - Possible "common" histological diagnoses: Multilocular cystic renal cell carcinoma, cystic nephroma, and mixed epithelial and stromal tumor of the kidney. Hora M., Hes O., Michal M., Boudova L., Chudacek Z., Kreuzberg B., and Klecka J.. Int. Urol. Nephrol. 2005 :743-750

Neuromuscular complications after percutaneous radiofrequency ablation of renal tumors. Bhayani S.B., Allaf M.E., Su L.-M., and Solomon S.B.. Urology 2005 :592.e24-592.e25

Clinicopathological Features of Incidentally Detected Renal Cell Carcinoma in Japan. Miyake H., Ishimura T., Sakai I., Hara I., and Eto H.. UroOncology 2003 :95-98

The symptoms of renal cell carcinoma related to patients' survival. Ou Y.-C., Yang C.-R., Ho H.-C., Cheng C.-L., Kao Y.-L., Su C.-K., Chiu K.-Y., and Chen W.-M.. J. Chin. Med. Assoc. 2003 :537-543

Complications of transperitoneal laparoscopic surgery in urology: Review of 1,311 procedures at a single center. Vallancien G., Cathelineau X., Baumert H., Doublet J.D., and Guillonneau B.. J. Urol. 2002 :23-26

Significance of intratumoral microscopic vascular invasion in patients with renal cell carcinoma. Dall'Oglio M.F., Srougi M., Goncalves P.D., Leitte K., Scortegagna Jr. E., and Hering F.. Braz. J. Urol. 2002 :20-24

Radiologic, pathologic and molecular attributes of two types of papillary renal adenocarcinomas. Mydlo J.H., Weinstein R., Misseri R., Axiotis C., and Thelmo W.. Scand. J. Urol. Nephrol. 2001 :262-269

Original report. Three-dimensional CT stereoscopic visualization of renal masses: Impact on diagnosis and patient treatment. Smith P.A., Marshall F.F., Urban B.A., Heath D.G., and Fishman E.K.. AM. J. ROENTGENOL. 97 :1331-1334

Assessing the anatomical characteristics of renal masses has a limited effect on the prediction of pathological outcomes in solid, enhancing, small renal masses: results using the PADUA classification system. Shin, T. Y., Kim, J., Koo, K. C., Lim, S. K., Kim, D. W., Kang, M. W., Rha, K. H., Choi, Y. D., and Ham, W. S.. BJU Int 2014 :754-61

Differentiation of clear from non-clear cell renal cell carcinoma using CT washout formula. Kopp, R. P., Aganovic, L., Palazzi, K. L., Cassidy, F. H., Sakamoto, K., and Derweesh, I. H.. Can J Urol 2013 :6790-7

[Results of fine-needle aspiration cytology (FNAC) in the diagnosis of indeterminate solid renal tumours]. Li, G., Cuilleron, M., Cottier, M., Rambaud, B., Tostain, J., and Gigante, M.. Prog Urol 2010 :30-4

Histogram analysis of small solid renal masses: differentiating minimal fat angiomyolipoma from renal cell carcinoma. Chaudhry, H. S., Davenport, M. S., Nieman, C. M., Ho, L. M., and Neville, A. M.. AJR Am J Roentgenol 2012 :377-83

Combination of core biopsy and fine-needle aspiration increases diagnostic rate for small solid renal tumors. Li, G., Cuilleron, M., Zhao, A., Obadia, F., Mouracade, P., Tostain, J., Cottier, M., Peoc'h, M., and Gigante, M.. Anticancer Res 2012 :3463-6

EUS-guided FNA aspiration of kidney masses: a multicenter U.S. experience. DeWitt, J., Gress, F. G., Levy, M. J., Hernandez, L. V., Eloubeidi, M. A., Mishra, G., Sherman, S., Al-Haddad, M. A., and LeBlanc, J. K.. Gastrointest Endosc 2009 :573-8

Contrast-enhanced ultrasound using a time-intensity curve for the diagnosis of renal cell carcinoma. Aoki, S., Hattori, R., Yamamoto, T., Funahashi, Y., Matsukawa, Y., Gotoh, M., Yamada, Y., and Honda, N.. BJU Int 2011 :349-54

Real-time 3D fluoroscopy-guided large core needle biopsy of renal masses: a critical early evaluation according to the IDEAL recommendations. Kroeze, S. G., Huisman, M., Verkooijen, H. M., van Diest, P. J., Ruud Bosch, J. L., and van den Bosch, M. A.. Cardiovasc Intervent Radiol 2012 :680-5

Diagnostic efficacy of contrast-enhanced ultrasound for small renal masses. Oh, T. H., Lee, Y. H., and Seo, I. Y.. Korean J Urol 2014 :587-92

Characterization of solid renal masses using 64-slice multidetector CT scanner. El-Esawy, S. S., Abou El-Ghar, M. E., Gaballa, G. M., and Zahra, S. A.. ScientificWorldJournal 2009 :441-8

Detection of renal lesion enhancement with dual-energy multidetector CT. Neville, A. M., Gupta, R. T., Miller, C. M., Merkle, E. M., Paulson, E. K., and Boll, D. T.. Radiology 2011 :173-83

MR imaging in the characterization of small renal masses. Willatt, J. M., Hussain, H. K., Chong, S., Kappil, M., Azar, S. F., Liu, P. S., Ruma, J. A., and Elsayes, K. M.. Abdom Imaging 2014 :761-9

MR imaging of renal masses interpreted on CT to be suspicious. Tello, R., Davison, B. D., O'Malley, M., Fenlon, H., Thomson, K. R., Witte, D. J., and Harewood, L.. AJR Am J Roentgenol 2000 :1017-22

[Characterization and outcome of renal cancers </= 4cm treated by surgery]. Gigante, M., Li, G., Gentil-Perret, A., Chamba, C., and Tostain, J.. Prog Urol 2010 :572-7

Management of small indeterminate renal tumours: is there a case for needle biopsy?. Khan, A. A., Shergill, I. S., Gujral, S. S., and Timoney, A. G.. BJU Int 2007 :1-3

Multislice computed tomography versus contrast-enhanced ultrasound in evaluation of complex cystic renal masses using the Bosniak classification system. Clevert, D. A., Minaifar, N., Weckbach, S., Jung, E. M., Stock, K., Reiser, M., and Staehler, M.. Clin Hemorheol Microcirc 2008 :171-8

Cystic renal masses: accurate Bosniak classification requires adequate renal CT. Curry, N. S., Cochran, S. T., and Bissada, N. K.. AJR Am J Roentgenol 2000 :339-42

Multiphasic enhancement patterns of small renal masses ((less-than or equal to)4 cm) on preoperative computed tomography: Utility for distinguishing subtypes of renal cell carcinoma, angiomyolipoma, and oncocytoma. Pierorazio P.M., Hyams E.S., Tsai S., Feng Z., Trock B.J., Mullins J.K., Johnson P.T., Fishman E.K., and Allaf M.E.. Urology 2013 :1265-1271

Growth kinetics of small renal masses: A prospective analysis from the renal cell carcinoma consortium of Canada. Organ M., Jewett M., Abdolell M., Basiuka J., Fleshner N., Finelli A., Morash C., Pautler S., Chin J., Siemens R., Tanguay S., Gleave M., Drachenberg D., Chow R., Evans A., Gallie B., Haider M., Kachura J., and Rendon R.. J. Urol. 2013 :e482

Differential diagnosis of renal oncocytoma and carcinoma by spiral CT. Zhang J., Ma D.-Q., He W., Zhang Z.-J., Hu Y.-M., and Xu Y.. Chin. J. Med. Imaging Technol. 2007 :718-720

Small renal masses: Assessment of lesion characterization and vascularity on dynamic contrast-enhanced MR imaging with fat suppression. Scialpi M., Di Maggio A., Midiri M., Loperfido A., Angelelli G., and Rotondo A.. Am. J. Roentgenol. 2000 :751-757

Factors Associated with Diagnostic Accuracy When Performing a Preablation Renal Biopsy. Lorber, G., Jorda, M., and Leveillee, R.. J Endourol 2014 :

Nephron-sparing Techniques Independently Decrease the Risk of Cardiovascular Events Relative to Radical Nephrectomy in Patients with a T1a-T1b Renal Mass and Normal Preoperative Renal Function. Capitanio, U., Terrone, C., Antonelli, A., Minervini, A., Volpe, A., Furlan, M., Matloob, R., Regis, F., Fiori, C., Porpiglia, F., Di Trapani, E., Zacchero, M., Serni, S., Salonia, A., Carini, M., Simeone, C., Montorsi, F., and Bertini, R.. Eur Urol 2014 :

Renal surgery for kidney cancer in Germany 2005-2006: length of stay, risk of postoperative complications and in-hospital death. Stang, A. and Buchel, C.. BMC Urol 2014 :74

Evaluation of Renal Mass Biopsy Risk Stratification Algorithm for Robotic Partial Nephrectomy-Could a Biopsy Have Guided Management?. Rahbar, H., Bhayani, S., Stifelman, M., Kaouk, J., Allaf, M., Marshall, S., Zargar, H., Ball, M., Larson, J., and Rogers, C.. J Urol 2014 :

Survival advantage of partial over radical nephrectomy in patients presenting with localized renal cell carcinoma. Roos, F. C., Steffens, S., Junker, K., Janssen, M., Becker, F., Wegener, G., Brenner, W., Steinestel, J., Schnoeller, T. J., Schrader, M., Hofmann, R., Thuroff, J. W., Kuczyk, M. A., Wunderlich, H., Siemer, S., Hartmann, A., Stockle, M., and Schrader, A. J.. BMC Cancer 2014 :372

Outcomes in patients undergoing nephrectomy for renal cancer on chronic anticoagulation therapy. Sfakianos, J. P., Hakimi, A. A., Kim, P. H., Zabor, E. C., Mano, R., Bernstein, M., Karellas, M., and Russo, P.. Eur J Surg Oncol 2014 :

An obese body habitus does not preclude a minimally invasive partial nephrectomy. Reynolds, C., Hannon, M., Lehman, K., Harpster, L. E., and Raman, J. D.. Can J Urol 2014 :7145-9

The impact of type 2 diabetes on the outcome of localized renal cell carcinoma. Hofner, T., Zeier, M., Hatiboglu, G., Eisen, C., Schonberg, G., Hadaschik, B., Teber, D., Duensing, S., Trumpp, A., Hohenfellner, M., and Pahernik, S.. World J Urol 2013 :

Renal function following curative surgery for renal cell carcinoma: who is at risk for renal insufficiency?. Kong, H. J., Park, J. S., Kim, D. Y., Shin, H. S., and Jung, H. J.. Korean J Urol 2013 :830-3

Estimating the risk of chronic kidney disease after nephrectomy. Ngo, T. C., Hurley, M. P., Thong, A. E., Jeon, S. H., Leppert, J. T., and Chung, B. I.. Can J Urol 2013 :7035-41

Is there a volume-outcome relationship for partial nephrectomy?. Couapel, J. P., Bensalah, K., Bernhard, J. C., Pignot, G., Zini, L., Lang, H., Rigaud, J., Salomon, L., Bellec, L., Soulie, M., Vaessen, C., Roupret, M., Jung, J. L., Mourey, E., Bigot, P., Bruyere, F., Berger, J., Ansieau, J. P., Gimel, P., Salome, F., Hubert, J., Pfister, C., Baumert, H., Timsit, M. O., Mejean, A., and Patard, J. J.. World J Urol 2014 :1323-9

Population level assessment of hospital based outcomes following laparoscopic versus open partial nephrectomy during the adoption of minimally invasive surgery. Tan, H. J., Wolf, J. S. Jr, Ye, Z., Hafez, K. S., and Miller, D. C.. J Urol 2014 :1231-7

Factors that affect proportional glomerular filtration rate after minimally invasive partial nephrectomy. Hakimi, A. A., Ghavamian, R., Williams, S. K., Kim, P. H., Chen, L., Sfakianos, J. P., Keren-Paz, G. E., Sankin, A., Ginzburg, N., and Coleman, J. A.. J Endourol 2013 :1371-5

Renal function outcomes for multifocal renal neoplasms managed by radiofrequency ablation. Gupta, P., Allen, B. C., Chen, M. Y., Childs, D. D., Kota, G., and Zagoria, R. J.. Cardiovasc Intervent Radiol 2013 :1329-35

Angiomyolipoma with minimal fat: differentiation from papillary renal cell carcinoma by helical CT. Zhang, Y. Y., Luo, S., Liu, Y., and Xu, R. T.. Clin Radiol 2013 :365-70

Urinary NGAL and KIM-1: biomarkers for assessment of acute ischemic kidney injury following nephron sparing surgery. Abassi, Z., Shalabi, A., Sohotnik, R., Nativ, O., Awad, H., Bishara, B., Frajewicki, V., Sukhotnik, I., Abbasi, A., and Nativ, O.. J Urol 2013 :1559-66

Single-center comparative oncologic outcomes of surgical and percutaneous cryoablation for treatment of renal tumors. Goyal, J., Verma, P., Sidana, A., Georgiades, C. S., and Rodriguez, R.. J Endourol 2012 :1413-9

Is near infrared fluorescence imaging using indocyanine green dye useful in robotic partial nephrectomy: a prospective comparative study of 94 patients. Krane, L. S., Manny, T. B., and Hemal, A. K.. Urology 2012 :110-6

Nephrometry score is associated with volume loss and functional recovery after partial nephrectomy. Simmons, M. N., Hillyer, S. P., Lee, B. H., Fergany, A. F., Kaouk, J., and Campbell, S. C.. J Urol 2012 :39-44

Renal cell carcinoma stage migration in a single European centre over 25 years: effects on 5- and 10-year metastasis-free survival. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Pummer, K., and Zigeuner, R.. Int Urol Nephrol 2012 :997-1004

Understanding the role of percutaneous biopsy in the management of patients with a small renal mass. Tan, H. J., Jacobs, B. L., Hafez, K. S., Montgomery, J. S., Weizer, A. Z., Wood, D. P. Jr, Miller, D. C., and Wolf, J. S. Jr. Urology 2012 :372-7

Significant impact of age at diagnosis on the prognosis of Japanese patients with pT1 renal cell carcinoma following surgical resection. Sakai, I., Miyake, H., Muramaki, M., Kondo, Y., Kusuda, Y., Yamada, Y., and Fujisawa, M.. BJU Int 2012 :695-9

Laparoscopic and open partial nephrectomy: frequency and long-term follow-up of postoperative collections. Hecht, E. M., Bennett, G. L., Brown, K. W., Robbins, D., Hyams, E. S., Taneja, S. S., and Stifelman, M. A.. Radiology 2010 :476-84

Identifying the risk of disease progression after surgery for localized renal cell carcinoma. Abel, E. J., Culp, S. H., Meissner, M., Matin, S. F., Tamboli, P., and Wood, C. G.. BJU Int 2010 :1277-83

Hydrodisplacement in the percutaneous cryoablation of 50 renal tumors. Bodily, K. D., Atwell, T. D., Mandrekar, J. N., Farrell, M. A., Callstrom, M. R., Schmit, G. D., and Charboneau, J. W.. AJR Am J Roentgenol 2010 :779-83

Central and deep renal tumors can be effectively ablated: radiofrequency ablation outcomes with fiberoptic peripheral temperature monitoring. Wingo, M. S. and Leveillee, R. J.. J Endourol 2008 :1261-7

Preservation of renal function following partial or radical nephrectomy using 24-hour creatinine clearance. Clark, A. T., Breau, R. H., Morash, C., Fergusson, D., Doucette, S., and Cagiannos, I.. Eur Urol 2008 :143-49

Enucleation of renal cell carcinoma with ablation of the tumour base. Kutikov, A., Vanarsdalen, K. N., Gershman, B., Fossett, L. K., Guzzo, T. J., Wein, A. J., and Malkowicz, S. B.. BJU Int 2008 :688-91

Follow-up of renal masses after cryosurgery using computed tomography; enhancement patterns and cryolesion size. Beemster, P., Phoa, S., Wijkstra, H., de la Rosette, J., and Laguna, P.. BJU Int 2008 :1237-42

Intermediate-term prospective results of radiofrequency-assisted laparoscopic partial nephrectomy: a non-ischaemic coagulative technique. Zeltser, I. S., Moonat, S., Park, S., Anderson, J. K., and Cadeddu, J. A.. BJU Int 2008 :36-8

Image-guided biopsy in the evaluation of renal mass lesions in contemporary urological practice: indications, adequacy, clinical impact, and limitations of the pathological diagnosis. Shah, R. B., Bakshi, N., Hafez, K. S., Wood, D. P. Jr, and Kunju, L. P.. Hum Pathol 2005 :1309-15

Prognostic role of Fuhrman grade and vascular endothelial growth factor in pT1a clear cell carcinoma in partial nephrectomy specimens. Minardi, D., Lucarini, G., Mazzucchelli, R., Milanese, G., Natali, D., Galosi, A. B., Montironi, R., Biagini, G., and Muzzonigro, G.. J Urol 2005 :1208-12

Does the distance to normal renal parenchyma (DTNRP) in nephron-sparing surgery for renal cell carcinoma have an effect on survival?. Akcetin, Z., Zugor, V., Elsasser, D., Krause, F. S., Lausen, B., Schrott, K. M., and Engehausen, D. G.. Anticancer Res 2005 :1629-32

Application of TNM, 2002 version, in localized renal cell carcinoma: is it able to predict different cancer-specific survival probability?. Ficarra, V., Novara, G., Galfano, A., Novella, G., Schiavone, D., and Artibani, W.. Urology 2004 :1050-4

Prognostic significance of morphologic parameters in renal cell carcinoma. Erdogan, F., Demirel, A., and Polat, O.. Int J Clin Pract 2004 :333-6

The impact of tumor size on clinical outcome in patients with localized renal cell carcinoma treated by radical nephrectomy. Nativ, O., Sabo, E., Raviv, G., Madjar, S., Halachmi, S., and Moskovitz, B.. J Urol 97 :729-32

Evaluation of perirenal fat as a predictor of cT1a renal cortical neoplasm histopathology and surgical outcomes. Okhunov Z., Mues A.C., Kline M., Haramis G., Xu B., Mirabile G., Vira M., and Landman J.. J. Endourol. 2012 :911-916

The significance of serum ferritin level in renal cell carcinoma: Bobrek Hucrelikanserde serum ferritin duzeyinin onemi. Erdemir F., Parlaktas B.S., Uluocak N., Ozcan F., Celik M., and Gokce O.. Turk Urol. Derg. 2005 :479-484

Benign lesions underwent radical nephrectomy for renal cancer: Bobrek tumoru on tanisi ile radikal nefrektomi yapilan benin lezyonlar. Sahin M.O., Canda A.E., Mungan M.U., Kirkali Z., and Sade M.. Turk Urol. Derg. 2004 :405-409

RENAL nephrometry score is a predictive factor for the annual growth rate of renal mass. Matsumoto, R., Abe, T., Shinohara, N., Murai, S., Maruyama, S., Tsuchiya, K., and Nonomura, K.. Int J Urol 2014 :549-52

Other

Intraoperative sonography during open partial nephrectomy for renal cell cancer: does it alter surgical management?. Bhosale, P. R., Wei, W., Ernst, R. D., Bathala, T. K., Reading, R. M., Wood, C. G., and Bedi, D. G.. AJR Am J Roentgenol 2014 :822-7

Validation of mammalian target of rapamycin biomarker panel in patients with clear cell renal cell carcinoma. Haddad, A. Q., Kapur, P., Singla, N., Raman, J. D., Then, M. T., Nuhn, P., Buchner, A., Bastian, P., Seitz, C., Shariat, S. F., Bensalah, K., Rioux-Leclercq, N., Sagalowsky, A., Lotan, Y., and Margulis, V.. Cancer 2014 :

The impact of tumour size on the probability of synchronous metastasis and survival in renal cell carcinoma patients: a population-based study. Ingimarsson, J. P., Sigurdsson, M. I., Hardarson, S., Petursdottir, V., Jonsson, E., Einarsson, G. V., and Gudbjartsson, T.. BMC Urol 2014 :72

Tumor miR-125b predicts recurrence and survival of patients with clear-cell renal cell carcinoma after surgical resection. Fu, Q., Liu, Z., Pan, D., Zhang, W., Xu, L., Zhu, Y., Liu, H., and Xu, J.. Cancer Sci 2014 :

Low enhancement on multiphase contrast-enhanced CT images: an independent predictor of the presence of high tumor grade of clear cell renal cell carcinoma. Zhu, Y. H., Wang, X., Zhang, J., Chen, Y. H., Kong, W., and Huang, Y. R.. AJR Am J Roentgenol 2014 :W295-300

Results of a comparative study analyzing octogenarians with renal cell carcinoma in a competing risk analysis with patients in the seventh decade of life. May, M., Cindolo, L., Zigeuner, R., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Wolff, I., Feciche, B., Fenske, F., Pichler, M., Schips, L., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Santiago Martin, M. D., Salzano, L., Lotrecchiano, G., Waidelich, R., Stief, C., Sountoulides, P., and Brookman-May, S.. Urol Oncol 2014 :

Factors Associated With Diagnostic Accuracy When Performing a Pre-Ablation Renal Biopsy. Lorber, G., Jorda, M., and Leveillee, R. J.. J Endourol 2014 :

Low preoperative lymphocyte-monocyte ratio (LMR) represents a potentially poor prognostic factor in nonmetastatic clear cell renal cell carcinoma. Hutterer, G. C., Stoeckigt, C., Stojakovic, T., Jesche, J., Eberhard, K., Pummer, K., Zigeuner, R., and Pichler, M.. Urol Oncol 2014 :

Pathological characteristics and radiographic correlates of complex renal cysts. Reese, A. C., Johnson, P. T., Gorin, M. A., Pierorazio, P. M., Allaf, M. E., Fishman, E. K., Netto, G. J., and Pavlovich, C. P.. Urol Oncol 2014 :

[Controversies of partial nephrectomy for renal cell carcinoma : survey in the German-speaking countries]. Tietze, S., Herms, M., Behrendt, W., Krause, J., and Hamza, A.. Urologe A 2014 :1181-5

Analysis and validation of tissue biomarkers for renal cell carcinoma using automated high-throughput evaluation of protein expression. Abel, E. J., Bauman, T. M., Weiker, M., Shi, F., Downs, T. M., Jarrard, D. F., and Huang, W.. Hum Pathol 2014 :1092-9

Clinical consequences of nephrectomy performed on medical grounds. Glazar, W., Dobrowolska-Glazar, B., Urbanowicz, W., and Sulowicz, W.. Przegl Lek 2014 :1-4

Tumour characteristics and surgical treatment of renal cell carcinoma in Sweden 2005-2010: a population-based study from the National Swedish Kidney Cancer Register. Thorstenson, A., Bergman, M., Scherman-Plogell, A. H., Hosseinnia, S., Ljungberg, B., Adolfsson, J., and Lundstam, S.. Scand J Urol 2014 :231-8

Hydro-Jet-assisted laparoscopic partial nephrectomy with no renal arterial clamping: a preliminary study in a single center. Gao, Y., Chen, L., Ning, Y., Cui, X., Yin, L., Chen, J., Wang, J., Shao, B., and Xu, D.. Int Urol Nephrol 2014 :1289-93

Chromosome 9p deletions are an independent predictor of tumor progression following nephrectomy in patients with localized clear cell renal cell carcinoma. de Oliveira, D., Dall'Oglio, M. F., Reis, S. T., Zerati, M., Souza, I. C., Leite, K. R., and Srougi, M.. Urol Oncol 2014 :601-6

The initial experience with RENAL Nephrometry in children, adolescents, and young adults with renal tumors. Cost, N. G., DeFoor, W. R. Jr, Crotty, E. J., and Geller, J. I.. Pediatr Blood Cancer 2014 :1434-9

Use and outcomes of extended antibiotic prophylaxis in urological cancer surgery. Calvert, J. K., Holt, S. K., Mossanen, M., James, A. C., Wright, J. L., Porter, M. P., and Gore, J. L.. J Urol 2014 :425-9

Delay in nephrectomy and cancer control outcomes in elderly patients with small renal masses. Becker, A., Roghmann, F., Ravi, P., Tian, Z., Kluth, L. A., Gandaglia, G., Noldus, J., Dahlem, R., Schlomm, T., Graefen, M., Karakiewicz, P. I., Trinh, Q. D., and Sun, M.. Urol Int 2014 :455-61

Comparison of the Complications and the Cost of Open and Laparoscopic Radical Nephrectomy in Renal Tumors Larger than 7 centimeters. Bayrak, O., Seckiner, I., Erturhan, S., Cil, G., Erbagci, A., and Yagci, F.. Urol J 2014 :1222-7

Trends of adult primary malignant renal tumors over 6 years. Khalil Ibrahim, A.. Pak J Med Sci 2013 :1385-8

Simple enucleation versus standard partial nephrectomy for clinical T1 renal masses: perioperative outcomes based on a matched-pair comparison of 396 patients (RECORd project). Longo, N., Minervini, A., Antonelli, A., Bianchi, G., Bocciardi, A. M., Cunico, S. C., Fiori, C., Fusco, F., Giancane, S., Mari, A., Martorana, G., Mirone, V., Morgia, G., Novara, G., Porpiglia, F., Raspollini, M. R., Rocco, F., Rovereto, B., Schiavina, R., Serni, S., Simeone, C., Verze, P., Volpe, A., Ficarra, V., and Carini, M.. Eur J Surg Oncol 2014 :762-8

Impact of Recurrent Copy Number Alterations and Cancer Gene Mutations on the Predictive Accuracy of Prognostic Models in Clear Cell Renal Cell Carcinoma. Hakimi, A. A., Mano, R., Ciriello, G., Gonen, M., Mikkilineni, N., Sfakianos, J. P., Kim, P. H., Motzer, R. J., Russo, P., Reuter, V. E., Hsieh, J. J., and Ostrovnaya, I.. J Urol 2014 :

Benefit in regionalization of care for patients treated with nephrectomy: a Nationwide Inpatient Sample. Becker, A., Bianchi, M., Hansen, J., Tian, Z., Shariat, S. F., Popa, I., Perrotte, P., Trinh, Q. D., Karakiewicz, P. I., and Sun, M.. World J Urol 2014 :

External validation of TNM-C score in three community hospital cohorts for clear cell renal cell carcinoma. Nakayama, T., Saito, K., Ishioka, J., Kawano, K., Morimoto, S., Matsuoka, Y., Okuno, T., Moriyama, S., Takeshita, H., Noro, A., Fujii, Y., and Kihara, K.. Anticancer Res 2014 :921-6

Quantitative proteomic analysis reveals potential diagnostic markers and pathways involved in pathogenesis of renal cell carcinoma. White, N. M., Masui, O., Desouza, L. V., Krakovska, O., Metias, S., Romaschin, A. D., Honey, R. J., Stewart, R., Pace, K., Lee, J., Jewett, M. A., Bjarnason, G. A., Siu, K. W., and Yousef, G. M.. Oncotarget 2014 :506-18

External validation of the modified Glasgow prognostic score for renal cancer. Tai, C. G., Johnson, T. V., Abbasi, A., Herrell, L., Harris, W. B., Kucuk, O., Canter, D. J., Ogan, K., Pattaras, J. G., Nieh, P. T., and Master, V. A.. Indian J Urol 2014 :33-7

Clinicopathological characteristics and outcomes of surgically excised renal masses in African Americans. Qi, P., Tsivian, M., Abern, M. R., Passoni, N. M., McGinley, K. F., and Polascik, T. J.. Urol Oncol 2014 :555-60

The impact of perioperative blood transfusion on survival after nephrectomy for non-metastatic renal cell carcinoma (RCC). Linder, B. J., Thompson, R. H., Leibovich, B. C., Cheville, J. C., Lohse, C. M., Gastineau, D. A., and Boorjian, S. A.. BJU Int 2014 :368-74

Practical and intuitive surgical approach renal ranking to predict outcomes in the management of renal tumors: a novel score tool. Tannus, M., Goldman, S. M., and Andreoni, C.. J Endourol 2014 :487-92

Loss of BAP1 protein expression is an independent marker of poor prognosis in patients with low-risk clear cell renal cell carcinoma. Joseph, R. W., Kapur, P., Serie, D. J., Eckel-Passow, J. E., Parasramka, M., Ho, T., Cheville, J. C., Frenkel, E., Rakheja, D., Brugarolas, J., and Parker, A.. Cancer 2014 :1059-67

Histopathologic findings of small renal tumor biopsies performed immediately after cryoablation therapy: a retrospective study of 50 cases. Tayal, S., Kim, F. J., Sehrt, D., Miano, R., Pompeo, A., and Molina, W.. Am J Clin Pathol 2014 :35-42

Trends and perioperative outcomes for laparoscopic and robotic nephrectomy using the National Surgical Quality Improvement Program (NSQIP) database. Liu, J. J., Leppert, J. T., Maxwell, B. G., Panousis, P., and Chung, B. I.. Urol Oncol 2014 :473-9

Small renal cell carcinomas--how dangerous are they really? Results of a large multicenter study. Steffens, S., Junker, K., Roos, F. C., Janssen, M., Becker, F., Henn, D., Wegener, G., Siemer, S., Hofmann, R., Schrader, M., Stockle, M., Thuroff, J. W., Hartmann, A., Kuczyk, M. A., and Schrader, A. J.. Eur J Cancer 2014 :739-45

The impact of metformin use on recurrence and cancer-specific survival in clinically localized high-risk renal cell carcinoma. Hakimi, A. A., Chen, L., Kim, P. H., Sjoberg, D., Glickman, L., Walker, M. R., and Russo, P.. Can Urol Assoc J 2013 :E687-91

Pathological characteristics and prognostic effect of peritumoral capsule penetration in renal cell carcinoma after tumor enucleation. Minervini, A., Rosaria Raspollini, M., Tuccio, A., Di Cristofano, C., Siena, G., Salvi, M., Vittori, G., Sebastianelli, A., Lapini, A., Serni, S., and Carini, M.. Urol Oncol 2014 :50.e15-22

Renal Pelvic Anatomy Is Associated with Incidence, Grade, and Need for Intervention for Urine Leak Following Partial Nephrectomy. Tomaszewski, J. J., Cung, B., Smaldone, M. C., Mehrazin, R., Kutikov, A., Viterbo, R.,

Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Eur Urol 2013 :

Comparison of baseline quality of life measures between renal cell carcinoma patients undergoing partial versus radical nephrectomy. Arnold, M. L., Thiel, D. D., Diehl, N., Wu, K. J., Ames, S., and Parker, A. S.. BMC Urol 2013 :52

Soft coagulation in partial nephrectomy without renorrhaphy: feasibility of a new technique and early outcomes. Ota, T., Komori, H., Rii, J., Ochi, A., Suzuki, K., Shiga, N., and Nishiyama, H.. Int J Urol 2014 :244-7

Multi-institutional analysis of localized renal cell carcinoma that demonstrates the impact of diabetic status on prognosis after nephrectomy. Ha, Y. S., Kim, W. T., Yun, S. J., Lee, S. C., Kim, W. J., Park, Y. H., Kang, S. H., Hong, S. H., Byun, S. S., and Kim, Y. J.. Ann Surg Oncol 2013 :3662-8

Time to recurrence is a significant predictor of cancer-specific survival after recurrence in patients with recurrent renal cell carcinoma--results from a comprehensive multi-centre database (CORONA/SATURN-Project). Brookman-May, S. D., May, M., Shariat, S. F., Novara, G., Zigeuner, R., Cindolo, L., De Cobelli, O., De Nunzio, C., Pahernik, S., Wirth, M. P., Longo, N., Simonato, A., Serni, S., Siracusano, S., Volpe, A., Morgia, G., Bertini, R., Dalpiaz, O., Stief, C., and Ficarra, V.. BJU Int 2013 :909-16

Active surveillance, radiofrequency ablation, or cryoablation for the nonsurgical management of a small renal mass: a cost-utility analysis. Bhan, S. N., Pautler, S. E., Shayegan, B., Voss, M. D., Goeree, R. A., and You, J. J.. Ann Surg Oncol 2013 :3675-84

Conditional survival after nephrectomy for renal cell carcinoma (RCC): changes in future survival probability over time. Bianchi, M., Becker, A., Hansen, J., Trinh, Q. D., Tian, Z., Abdollah, F., Briganti, A., Shariat, S. F., Perrotte, P., Montorsi, F., Karakiewicz, P. I., and Sun, M.. BJU Int 2013 :E283-9

Sutureless hemostatic control during laparoscopic NSS for the treatment of small renal masses. Minervini, A., Siena, G., Tuccio, A., Lapini, A., Serni, S., and Carini, M.. Surg Innov 2014 :32-8

Gender differences in clinicopathological features and survival in surgically treated patients with renal cell carcinoma: an analysis of the multicenter CORONA database. May, M., Aziz, A., Zigeuner, R., Chromecki, T., Cindolo, L., Schips, L., De Cobelli, O., Rocco, B., De Nunzio, C., Tubaro, A., Coman, I., Truss, M., Dalpiaz, O., Hoschke, B., Gilfrich, C., Feciche, B., Stoltze, A., Fenske, F., Fritsche, H. M., Figenshau, R. S., Madison, K., Sanchez-Chapado, M., Martin Mdel, C., Salzano, L., Lotrecchiano, G., Joniau, S., Waidelich, R., Stief, C., and Brookman-May, S.. World J Urol 2013 :1073-80

Carbonic anhydrase IX (CAIX) is not an independent predictor of outcome in patients with clear cell renal cell carcinoma (ccRCC) after long-term follow-up. Zhang, B. Y., Thompson, R. H., Lohse, C. M., Dronca, R. S., Cheville, J. C., Kwon, E. D., and Leibovich, B. C.. BJU Int 2013 :1046-53

Treatment and overall survival in renal cell carcinoma: a Swedish population-based study (2000-2008). Wahlgren, T., Harmenberg, U., Sandstrom, P., Lundstam, S., Kowalski, J., Jakobsson, M., Sandin, R., and Ljungberg, B.. Br J Cancer 2013 :1541-9

Bilateral synchronous sporadic renal masses: intermediate functional and oncological outcomes at a single institution. Woodson, B., Fernandez, R., Stewart, C., Mandava, S., Wang, L., and Lee, B. R.. Int Urol Nephrol 2013 :619-25

Assessing the accuracy and generalizability of the preoperative and postoperative Karakiewicz nomograms for renal cell carcinoma: results from a multicentre European and US study. Cindolo, L., Chiodini, P., Brookman-May, S., De Cobelli, O., May, M., Squillacciotti, S., De Nunzio, C., Tubaro, A., Coman, I., Feciche, B., Truss, M., Wirth, M. P., Dalpiaz, O., Chromecki, T. F., Shariat, S. F., Sanchez-Chapado, M., Santiago Martin Mdel, C., Rocco, B., Salzano, L., Lotrecchiano, G., Berardinelli, F., and Schips, L.. BJU Int 2013 :578-84

Trends in the surgical management of localized renal masses: thermal ablation, partial and radical nephrectomy in the USA, 1998-2008. Woldrich, J. M., Palazzi, K., Stroup, S. P., Sur, R. L., Parsons, J. K., Chang, D., and Derweesh, I. H.. BJU Int 2013 :1261-8

Impact of clinical and histopathological parameters on disease specific survival in patients with collecting duct renal cell carcinoma: development of a disease specific risk model. May, M., Ficarra, V., Shariat, S. F., Zigeuner, R., Chromecki, T., Cindolo, L., Burger, M., Gunia, S., Feciche, B., Wenzl, V., Aziz, A., Chun, F., Becker, A., Pahernik, S., Simeone, C., Longo, N., Zucchi, A., Antonelli, A., Mirone, V., Stief, C., Novara, G., and Brookman-May, S.. J Urol 2013 :458-63

Predictive factors of chronic kidney disease stage V after partial nephrectomy in a solitary kidney: a multi-institutional study. Verhoest, G., Patard, J. J., Oger, E., Rioux-Leclercq, N., Peyronnet, B., Bessede, T., Laguna, P., Barwari, K., Rigaud, J., Roupret, M., Coffin, G., Bernhard, J. C., Long, J. A., Zisman, A., Berger, J., Paparel, P., Maurin, C., Lechevallier, E., Bertini, R., Ouzaid, I., Salomon, L., Bex, A., Farfara, R., Ljungberg, B., Rodriguez, A. R., and Bensalah, K.. Urol Oncol 2014 :28.e21-6

The effect of gender and age on kidney cancer survival: younger age is an independent prognostic factor in women with renal cell carcinoma. Rampersaud, E. N., Klatte, T., Bass, G., Patard, J. J., Bensaleh, K., Bohm, M., Allhoff, E. P., Cindolo, L., De La Taille, A., Mejean, A., Soulie, M., Bellec, L., Christophe Bernhard, J., Pfister, C., Colombel, M., Belldegrun, A. S., Pantuck, A. J., and George, D.. Urol Oncol 2014 :30.e9-13

Influence of body mass index, smoking, and blood pressure on survival of patients with surgically-treated, low stage renal cell carcinoma: a 14-year retrospective cohort study.

Park, B., Jeong, B. C., Seo, S. I., Jeon, S. S., Choi, H. Y., and Lee, H. M.. J Korean Med Sci 2013 :227-36

The true risk of blood transfusion after nephrectomy for renal masses: a population-based study. Vricella, G. J., Finelli, A., Alibhai, S. M., Ponsky, L. E., and Abouassaly, R.. BJU Int 2013 :1294-300

Association of microvascular and capillary-lymphatic invasion with outcome in patients with renal cell carcinoma. Eisenberg, M. S., Cheville, J. C., Thompson, R. H., Kaushik, D., Lohse, C. M., Boorjian, S. A., Costello, B. A., and Leibovich, B. C.. J Urol 2013 :37-43

Long-term outcome of small, organ-confined renal cell carcinoma (RCC) is not always favourable. Shindo, T., Masumori, N., Kobayashi, K., Fukuta, F., Hirobe, M., Tonooka, A., Hasegawa, T., Kitamura, H., and Tsukamoto, T.. BJU Int 2013 :941-5

Differential use of partial nephrectomy for intermediate and high complexity tumors may explain variability in reported utilization rates. Lane, B. R., Golan, S., Eggener, S., Tobert, C. M., Kahnoski, R. J., Kutikov, A., Smaldone, M., Whelan, C. M., Shalhav, A., and Uzzo, R. G.. J Urol 2013 :2047-53

[Renal cell carcinoma: A 12-year retrospective study of epidemiologic, therapeutic and follow-up data]. Arnoux, V., Long, J. A., Jund, J., Fiard, G., Terrier, N., Thuillier, C., Boillot, B., Rambeaud, J. J., and Descotes, J. L.. Prog Urol 2013 :15-21

Overall survival and development of stage IV chronic kidney disease in patients undergoing partial and radical nephrectomy for benign renal tumors. Kaushik, D., Kim, S. P., Childs, M. A., Lohse, C. M., Costello, B. A., Cheville, J. C., Boorjian, S. A., Leibovich, B. C., and Thompson, R. H.. Eur Urol 2013 :600-6

Comparison of the loss of renal function after cold ischemia open partial nephrectomy, warm ischemia laparoscopic partial nephrectomy and laparoscopic partial nephrectomy using microwave coagulation. Kawahara, T., Sakata, R., Kawahara, K., Ito, H., Miyoshi, Y., Sano, F., Nakaigawa, N., Uemura, H., Yao, M., Kubota, Y., and Makiyama, K.. Curr Urol 2013 :118-23

Patient safety and the diffusion of surgical innovations: a national analysis of laparoscopic partial nephrectomy. Parsons, J. K., Palazzi, K., Chang, D., and Stroup, S. P.. Surg Endosc 2013 :1674-80

Surgically induced chronic kidney disease may be associated with a lower risk of progression and mortality than medical chronic kidney disease. Lane, B. R., Campbell, S. C., Demirjian, S., and Fergany, A. F.. J Urol 2013 :1649-55

Racial disparity in renal cell carcinoma patient survival according to demographic and clinical characteristics. Chow, W. H., Shuch, B., Linehan, W. M., and Devesa, S. S.. Cancer 2013 :388-94

Can we predict which patients will evolve to chronic kidney disease after nephrectomy for cortical renal tumors?. Torricelli, F. C., Danilovic, A., Marchini, G. S., Sant'Anna, A. C., Dall'Oglio, M. F., and Srougi, M.. Int Braz J Urol 2012 :637-43; discussion 644

Competing risks of death in patients with localized renal cell carcinoma: a comorbidity based model. Kutikov, A., Egleston, B. L., Canter, D., Smaldone, M. C., Wong, Y. N., and Uzzo, R. G.. J Urol 2012 :2077-83

Predictive factors for late recurrence in patients with stage T1 clear cell renal cell carcinoma: a multiinstitutional study. Ha, Y. S., Park, Y. H., Kang, S. H., Hong, S. H., Hwang, T. K., Byun, S. S., and Kim, Y. J.. Clin Genitourin Cancer 2013 :51-5

Feasibility and outcomes of laparoscopic renal intervention after prior open ipsilateral retroperitoneal surgery. Boris, R. S., Gupta, G. N., Benson, J. S., Linehan, W. M., Pinto, P. A., and Bratslavsky, G.. J Endourol 2013 :196-201

The effect of gender on nephrectomy perioperative outcomes: a national survey. Sammon, J., Trinh, Q. D., Sun, M., Bianchi, M., Schmitges, J., Shariat, S. F., Ghani, K. R., Sukumar, S., Jeldres, C., Briganti, A., Perrotte, P., Rogers, C. G., Peabody, J. O., Montorsi, F., Menon, M., and Karakiewicz, P. I.. Can J Urol 2012 :6337-44

External validation of the preoperative Karakiewicz nomogram in a large multicentre series of patients with renal cell carcinoma. Gontero, P., Sun, M., Antonelli, A., Bertini, R., Carini, M., Carmignani, G., Longo, N., Martorana, G., Minervini, A., Mirone, V., Morgia, G., Novara, G., Oderda, M., Simeone, C., Simonato, A., Siracusano, S., Tizzani, A., Volpe, A., Karakiewicz, P., and Ficarra, V.. World J Urol 2013 :1285-90

Histopathology of surgically treated renal cell carcinoma: survival differences by subtype and stage. Keegan, K. A., Schupp, C. W., Chamie, K., Hellenthal, N. J., Evans, C. P., and Koppie, T. M.. J Urol 2012 :391-7

Assessment of cancer control outcomes in patients with high-risk renal cell carcinoma treated with partial nephrectomy. Hansen, J., Sun, M., Bianchi, M., Rink, M., Tian, Z., Hanna, N., Meskawi, M., Schmitges, J., Shariat, S. F., Chun, F. K., Perrotte, P., Graefen, M., and Karakiewicz, P. I.. Urology 2012 :347-53

Incidence and long-term prognosis of papillary compared to clear cell renal cell carcinoma--a multicentre study. Steffens, S., Janssen, M., Roos, F. C., Becker, F., Schumacher, S., Seidel, C., Wegener, G., Thuroff, J. W., Hofmann, R., Stockle, M., Siemer, S., Schrader, M., Hartmann, A., Kuczyk, M. A., Junker, K., and Schrader, A. J.. Eur J Cancer 2012 :2347-52

Pathological implications of areas of lower enhancement on contrast-enhanced computed tomography in renal-cell carcinoma: additional information for selecting candidates for surveillance protocols. Villalobos-Gollas, M., Aguilar-Davidov, B., Culebro-Garcia, C., Gomez-Alvarado, M. O., Rojas-Garcia, P., Ibarra-Fombona, R., Uribe-Uribe, N., Feria-Bernal, G., Castillejos-Molina, R., Sotomayor, M., Gabilondo, F., and Rodriguez-Covarrubias, F.. Int Urol Nephrol 2012 :1369-74

Perioperative outcomes of laparoscopic radical nephrectomy for renal cell carcinoma in patients with dialysis-dependent end-stage renal disease. Yamashita, K., Ito, F., and Nakazawa, H.. Ther Apher Dial 2012 :254-9

Prognostic factors in renal cell carcinoma: analysis of 227 patients treated at the Brazilian National Cancer Institute. Ornellas, A. A., Andrade, D. M., Ornellas, P., Wisnescky, A., and Schwindt, A. B.. Int Braz J Urol 2012 :185-94

The impact of delaying radical nephrectomy for stage II or higher renal cell carcinoma. Kim, K. H., You, D., Jeong, I. G., Song, C., Hong, J. H., Ahn, H., and Kim, C. S.. J Cancer Res Clin Oncol 2012 :1561-7

Perioperative outcomes of robotic and open partial nephrectomy for moderately and highly complex renal lesions. Simhan, J., Smaldone, M. C., Tsai, K. J., Li, T., Reyes, J. M., Canter, D., Kutikov, A., Chen, D. Y., Greenberg, R. E., Uzzo, R. G., and Viterbo, R.. J Urol 2012 :2000-4

Impact of renal function on cardiovascular events in patients undergoing radical nephrectomy for renal cancer. Takeshita, H., Yokoyama, M., Fujii, Y., Chiba, K., Ishioka, J., Noro, A., and Kihara, K.. Int J Urol 2012 :722-8

Inpatient safety trends in laparoscopic and open nephrectomy for renal tumours. Stroup, S. P., Palazzi, K. L., Chang, D. C., Ward, N. T., and Parsons, J. K.. BJU Int 2012 :1808-13

Intraoperative ultrasonography: a useful tool in retrolaparoscopic nephron-sparing surgery. Kang, N., Niu, Y., Zhang, J., Wang, J., Tian, X., Yan, Y., Yu, Z., and Xing, N.. Urol Int 2012 :338-42

Impact of comorbidity on complications after nephrectomy: use of the Clavien Classification of Surgical Complications. Hennus, P. M., Kroeze, S. G., Bosch, J. L., and Jans, J. J.. BJU Int 2012 :682-7

Functional recovery after partial nephrectomy: effects of volume loss and ischemic injury. Simmons, M. N., Hillyer, S. P., Lee, B. H., Fergany, A. F., Kaouk, J., and Campbell, S. C.. J Urol 2012 :1667-73

Under-grading of <4 cm renal masses on renal biopsy. Harris, C. R., Whitson, J. M., and Meng, M. V.. BJU Int 2012 :794-7

Laparoscopic and robotic partial nephrectomy with controlled hypotensive anesthesia to avoid hilar clamping: feasibility, safety and perioperative functional outcomes. Papalia, R., Simone, G., Ferriero, M., Costantini, M., Guaglianone, S., Forastiere, E., and Gallucci, M.. J Urol 2012 :1190-4

Higher perioperative morbidity and in-hospital mortality in patients with end-stage renal disease undergoing nephrectomy for non-metastatic kidney cancer: a population-based analysis. Schmitges, J., Trinh, Q. D., Sun, M., Hansen, J., Bianchi, M., Jeldres, C., Perrotte, P., Dahlem, R., Shariat, S. F., Chun, F. K., Montorsi, F., Menon, M., Fisch, M., Graefen, M., and Karakiewicz, P. I.. BJU Int 2012 :E183-90

Three-dimensional tumour volume and cancer-specific survival for patients undergoing nephrectomy to treat pT1 clear-cell renal cell carcinoma. Jorns, J., Thiel, D. D., Lohse, C. M., Williams, A., Arnold, M. L., Cheville, J. C., Leibovich, B. C., and Parker, A. S.. BJU Int 2012 :956-60

Pre-existing type-2 diabetes is not an adverse prognostic factor in patients with renal cell carcinoma: a single-center retrospective study. Antonelli, A., Arrighi, N., Corti, S., Zanotelli, T., Cozzoli, A., Cosciani Cunico, S., and Simeone, C.. Urol Oncol 2013 :1310-5

Histologic tumor necrosis is an independent prognostic indicator for clear cell and papillary renal cell carcinoma. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Rehak, P., Pummer, K., and Zigeuner, R.. Am J Clin Pathol 2012 :283-9

Does prolonged warm ischemia after partial nephrectomy under pneumoperitoneum cause irreversible damage to the affected kidney?. Choi, J. D., Park, J. W., Lee, S. Y., Jeong, B. C., Jeon, S. S., Lee, H. M., Choi, H. Y., and Seo, S. I.. J Urol 2012 :802-6

Renal function outcomes after nephrectomy for kidney cancer in elderly patients. Markic, D., Valencic, M., Spanjol, J., Materljan, M., and Fuckar, D.. Coll Antropol 2011 :121-4

Hospital volume is a determinant of postoperative complications, blood transfusion and length of stay after radical or partial nephrectomy. Sun, M., Bianchi, M., Trinh, Q. D., Abdollah, F., Schmitges, J., Jeldres, C., Shariat, S. F., Graefen, M., Montorsi, F., Perrotte, P., and Karakiewicz, P. I.. J Urol 2012 :405-10

Clinical utility of the Glasgow Prognostic Score in patients undergoing curative nephrectomy for renal clear cell cancer: basis of new prognostic scoring systems. Lamb, G. W., Aitchison, M., Ramsey, S., Housley, S. L., and McMillan, D. C.. Br J Cancer 2012 :279-83

Direct upper kidney pole access and early ligation of renal pedicle significantly facilitates transperitoneal laparoscopic nephrectomy procedures: Tunc technique. Tunc, L., Canda, A. E., Polat, F., Onaran, M., Atkin, S., Biri, H., and Bozkirli, I.. Surg Laparosc Endosc Percutan Tech 2011 :453-7

Postoperative complications and long-term survival among patients treated surgically for renal cell carcinoma. Tan, H. J., Hafez, K. S., Ye, Z., Wei, J. T., and Miller, D. C.. J Urol 2012 :60-6

Randomized controlled study of natural interferon alpha as adjuvant treatment for stage II or III renal cell carcinoma. Hinotsu, S., Kawai, K., Ozono, S., Tsushima, T., Tokuda, N., Nomata, K., Naito, S., and Akaza, H.. Int J Clin Oncol 2013 :68-74

Renal cell carcinoma in young patients is associated with poorer prognosis. Lee, L. S., Yuen, J. S., and Sim, H. G.. Ann Acad Med Singapore 2011 :401-6

Quality of life of patients undergoing surgical treatment for newly-diagnosed, clinically localized renal cell carcinoma. Ames, S. C., Parker, A. S., Crook, J. E., Diehl, N. N., Tan,

W. W., Williams, C. R., and Ames, G. E.. J Psychosoc Oncol 2011 :593-605

[Partial elective nephrectomy]. Zungri, E., Martinez, L., Leal, D., and Lorenzo, L.. Actas Urol Esp 2012 :160-4

External validation of the Leibovich prognosis score for nonmetastatic clear cell renal cell carcinoma at a single European center applying routine pathology. Pichler, M., Hutterer, G. C., Chromecki, T. F., Jesche, J., Kampel-Kettner, K., Rehak, P., Pummer, K., and Zigeuner, R.. J Urol 2011 :1773-7

Comparison of rates and risk factors for development of anaemia and erythropoiesis-stimulating agent utilization after radical or partial nephrectomy. Woldrich, J., Mehrazin, R., Bazzi, W. M., Bagrodia, A., Kopp, R. P., Malcolm, J. B., Kane, C. J., Patterson, A. L., Wan, J. Y., and Derweesh, I. H.. BJU Int 2012 :1019-25

Prognosis and characteristics of renal cell carcinoma in hemodialysis patients: bilateral occurrence does not influence cancer-specific survival. Takagi, T., Kondo, T., Izuka, J., Kobayashi, H., Tomita, E., Hashimoto, Y., and Tanabe, K.. Int J Urol 2011 :806-12

Outcomes and clinicopathologic variables associated with late recurrence after nephrectomy for localized renal cell carcinoma. Kim, S. P., Weight, C. J., Leibovich, B. C., Thompson, R. H., Costello, B. A., Cheville, J. C., Lohse, C. M., and Boorjian, S. A.. Urology 2011 :1101-6

Prognostic factors in a large multi-institutional series of papillary renal cell carcinoma. Zucchi, A., Novara, G., Costantini, E., Antonelli, A., Carini, M., Carmignani, G., Cosciani Cunico, S., Fontana, D., Longo, N., Martignoni, G., Minervini, A., Mirone, V., Porena, M., Roscigno, M., Schiavina, R., Simeone, C., Simonato, A., Siracusano, S., Terrone, C., and Ficarra, V.. BJU Int 2012 :1140-6

Tumour diameter and decreased preoperative estimated glomerular filtration rate are independently correlated in patients with renal cell carcinoma. Donin, N. M., Suh, L. K., Barlow, L., Hruby, G. W., Newhouse, J., and McKiernan, J.. BJU Int 2012 :379-83

A multidisciplinary evaluation of inter-reviewer agreement of the nephrometry score and the prediction of long-term outcomes. Weight, C. J., Atwell, T. D., Fazzio, R. T., Kim, S. P., Kenny, M., Lohse, C. M., Boorjian, S. A., Leibovich, B. C., and Thompson, R. H.. J Urol 2011 :1223-8

Increasing use of kidney sparing approaches for localized renal tumors in a community based health system: impact on renal functional outcomes. Lane, B. R., Chen, H., Morrow, M., Anema, J. G., and Kahnoski, R. J.. J Urol 2011 :1229-35

Impact of tumor size on renal function and prediction of renal insufficiency after radical nephrectomy in patients with renal cell carcinoma. Ohno, Y., Nakashima, J., Ohori, M., Hashimoto, T., Iseki, R., Hatano, T., and Tachibana, M.. J Urol 2011 :1242-6

The effect of hypertension and diabetes on the degree of renal function deterioration after unilateral nephrectomy. Satasivam, P., Rao, K., Guggenheimer, K., Stanton, R., Sowter, S., Sengupta, S., and Bolton, D.. BJU Int 2011 :1508-12

Critical appraisal of the PADUA classification and assessment of the R.E.N.A.L. nephrometry score in patients undergoing partial nephrectomy. Hew, M. N., Baseskioglu, B., Barwari, K., Axwijk, P. H., Can, C., Horenblas, S., Bex, A., Rosette, J. J., and Pes, M. P.. J Urol 2011 :42-6

Image guided percutaneous probe ablation for renal tumors in 65 solitary kidneys: functional and oncological outcomes. Altunrende, F., Autorino, R., Hillyer, S., Yang, B., Laydner, H., White, M. A., Khanna, R., Isac, W., Spana, G., Stein, R. J., Haber, G. P., O'Malley, C. M., Remer, E. M., and Kaouk, J. H.. J Urol 2011 :35-41

Benefits of a combined approach to sampling of renal neoplasms as demonstrated in a series of 351 cases. Parks, G. E., Perkins, L. A., Zagoria, R. J., Garvin, A. J., Sirintrapun, S. J., and Geisinger, K. R.. Am J Surg Pathol 2011 :827-35

Chronic pulmonary diseases are independent risk factors for complications after radical nephrectomy. Tokgoz, H., Akduman, B., Unal, I., Erol, B., Akyurek, E., and Mungan, N. A.. Int Urol Nephrol 2011 :1025-31

Post-operative acute kidney injury in patients with renal cell carcinoma is a potent risk factor for new-onset chronic kidney disease after radical nephrectomy. Cho, A., Lee, J. E., Kwon, G. Y., Huh, W., Lee, H. M., Kim, Y. G., Kim, D. J., Oh, H. Y., and Choi, H. Y.. Nephrol Dial Transplant 2011 :3496-501

Is it safe and effective to treat complex renal cysts by the laparoscopic approach?. Pinheiro, T., Sepulveda, F., Natalin, R. H., Metrebian, E., Medina, R., Goldman, S. M., Ortiz, V., and Andreoni, C.. J Endourol 2011 :471-6

Percutaneous cryoablation of renal masses: impact of patient selection and treatment parameters on outcomes. Vricella, G. J., Haaga, J. R., Adler, B. L., Dean Nakamoto, Cherullo, E. E., Flick, S., and Ponsky, L. E.. Urology 2011 :649-54

Prognostic factors for renal dysfunction after nephrectomy in renal cell carcinomas. Xu, Y. and Wu, B.. J Surg Res 2011 :e53-7

Adverse renal outcomes in subjects undergoing nephrectomy for renal tumors: a population-based analysis. Klarenbach, S., Moore, R. B., Chapman, D. W., Dong, J., and Braam, B.. Eur Urol 2011 :333-9

Contemporary experience with laparoscopic radical nephrectomy. Mues, A. C., Haramis, G., Rothberg, M. B., Okhunov, Z., Casazza, C., and Landman, J.. J Laparoendosc Adv Surg Tech A 2011 :15-8

Clinical predictors of renal mass pathological features. Tsivian, M., Mouraviev, V., Albala, D. M., Caso, J. R., Robertson, C. N., Madden, J. F., and Polascik, T. J.. BJU Int 2011 :735-40

Comparison of laparoscopic versus open radical nephrectomy for large renal tumors: a retrospective analysis of multi-center results. Jeon, S. H., Kwon, T. G.,

Rha, K. H., Sung, G. T., Lee, W., Lim, J. S., Jeong, Y. B., Hong, S. H., Kim, H. H., and Byun, S. S.. BJU Int 2011 :817-21

Benefit of laparoscopic radical nephrectomy in patients with a high BMI. Hagiwara, M., Miyajima, A., Matsumoto, K., Kikuchi, E., Nakagawa, K., and Oya, M.. Jpn J Clin Oncol 2011 :400-4

Comparison of radical and partial nephrectomy in terms of renal function: a retrospective cohort study. Suer, E., Burgu, B., Gokce, M. I., Turkolmez, K., Beduk, Y., and Baltaci, S.. Scand J Urol Nephrol 2011 :24-9

Kidney function following nephrectomy: similitude and discrepancies between kidney cancer and living donation. Timsit, M. O., Nguyen, K. N., Rouach, Y., Elie, C., Loupy, A., Fournier, C., Legendre, C., and Mejean, A.. Urol Oncol 2012 :482-6

Histopathological predictors of renal function decrease after laparoscopic radical nephrectomy. Gautam, G., Lifshitz, D., Shikanov, S., Moore, J. M., Eggener, S. E., Shalhav, A. L., and Chang, A.. J Urol 2010 :1872-6

Clinico-radio-pathologic features of a solitary solid renal mass at MDCT examination. Kim, E. Y., Park, B. K., Kim, C. K., and Lee, H. M.. Acta Radiol 2010 :1143-8

Impact of body mass index and weight loss on cancer-specific and overall survival in patients with surgically resected renal cell carcinoma. Brookman-May, S., Kendel, F., Hoschke, B., Wieland, W. F., Burger, M., Rossler, W., and May, M.. Scand J Urol Nephrol 2011 :5-14

Retroperitoneoscopic nephrectomy with a modified hand-assisted approach. Capolicchio, J. P., Saemi, A., Trotter, S., and Plante, M. K.. Urology 2011 :607-11

Laparoscopic nephrectomy: initial experience with 120 cases. Cheema, I. A., Manecksha, R. P., Murphy, M., and Flynn, R.. Ir Med J 2010 :49-51

[Experiences of open transperitoneal radical nephrectomy for large renal masses]. Yao, X. D., Ye, D. W., Zhang, S. L., Dai, B., Zhang, H. L., Shen, Y. J., Zhu, Y., Zhu, Y. P., Shi, G. H., Ma, C. G., Xiao, W. J., Qin, X. J., and Lin, G. W.. Zhonghua Yi Xue Za Zhi 2010 :1117-9

The Prognostic Factors for Patients with pT1a Renal Cell Carcinoma. Kim, J. M., Song, P. H., Kim, H. T., and Park, T. C.. Korean J Urol 2010 :233-8

Single minimum incision endoscopic radical nephrectomy for renal tumors with preoperative virtual navigation using 3D-CT volume-rendering. Kamai, T., Furuya, N., Kambara, T., Abe, H., Honda, M., Shioyama, Y., Kaji, Y., and Yoshida, K.. BMC Urol 2010 :7

The prognostic value of the width of the surgical margin in the enucleoresection of small renal cell carcinoma: an intermediate-term follow-up. Jeong, S. J., Kim, K. T., Chung, M. S., Hong, S. K., Byun, S. S., and Lee, S. E.. Urology 2010 :587-92

Impact of body mass index on perioperative outcomes of laparoscopic radical nephrectomy in Japanese patients with clinically localized renal cell carcinoma. Miyake, H., Muramaki, M., Tanaka, K., Takenaka, A., and Fujisawa, M.. Int J Urol 2010 :522-6

Radiofrequency ablation of renal tumours: diagnostic accuracy of contrast-enhanced ultrasound for early detection of residual tumour. Hoeffel, C., Pousset, M., Timsit, M. O., Elie, C., Mejean, A., Merran, S., Tranquart, F., Khairoune, A., Joly, D., Richard, S., Helenon, O., and Correas, J. M.. Eur Radiol 2010 :1812-21

The use of the American Society of Anesthesiology Classification as a prognostic factor in patients with renal cell carcinoma. de Cassio Zequi, S., de Campos, E. C., Guimaraes, G. C., Bachega, W. Jr, da Fonseca, F. P., and Lopes, A.. Urol Int 2010 :67-72

Histological subtype is an independent predictor of outcome for patients with renal cell carcinoma. Leibovich, B. C., Lohse, C. M., Crispen, P. L., Boorjian, S. A., Thompson, R. H., Blute, M. L., and Cheville, J. C.. J Urol 2010 :1309-15

Minimum incision endoscopic surgery (MIES) in Japanese urology: results of adrenalectomy, radical nephrectomy and radical prostatectomy. Kihara, K., Kobayashi, T., Kawakami, S., Fujii, Y., Kageyama, Y., and Masuda, H.. Aktuelle Urol 2010 :S15-9

Transperitoneal laparoscopic radical nephrectomy for patients with dialysis-dependent end-stage renal disease: an analysis and comparison of perioperative outcome. Bird, V. G., Shields, J. M., Aziz, M., De Los Santos, R., Ayyathurai, R., and Ciancio, G.. Urology 2010 :1335-42

Prognostic factors influencing long-term survival of patients undergoing nephron-sparing surgery for nonmetastatic renal-cell carcinoma (RCC) with imperative indications. Haferkamp, A., Kurosch, M., Pritsch, M., Hatiboglu, G., Macher-Goeppinger, S., Pfitzenmaier, J., Pahernik, S., Wagener, N., and Hohenfellner, M.. Ann Surg Oncol 2010 :544-51

[Functional results of partial nephrectomy for kidney tumors]. Petrov, S. B., Shpilenia, E. S., and Shkarupa, D. D.. Vestn Khir Im I I Grek 2009 :85-7

Evaluating overall survival and competing risks of death in patients with localized renal cell carcinoma using a comprehensive nomogram. Kutikov, A., Egleston, B. L., Wong, Y. N., and Uzzo, R. G.. J Clin Oncol 2010 :311-7

[Primary treatment of renal cell carcinoma. Yesterday, today, tomorrow]. Dufour, B.. Bull Acad Natl Med 2009 :691-707; discussion 707-8

De novo renal carcinoma in renal transplant recipients: effect of early treatment. Tillou, X., Demailly, M., Hakami, F., Westeel, P. F., Saint, F., and Petit, J.. Transplant Proc 2009 :3314-6

[Laparoscopic radical nephrectomy in big surgical specimens]. Alonso, y. Gregorio S, Sanchez, S., Soler, C., Rando, A., Giron, M., Tabernero Gomez, A. J., Aguilera, A., Cisneros Ledo, J., and de la Pena Barthel, J.. Actas Urol Esp 2009 :755-8

Renal cell carcinoma in patients with end-stage renal disease: relationship between histological type and duration of dialysis. Nouh, M. A., Kuroda, N., Yamashita, M., Hayashida, Y., Yano, T., Minakuchi, J., Taniguchi, S., Nomura, I., Inui, M., Sugimoto, M., and Kakehi, Y.. BJU Int 2010 :620-7

Impact of Charlson's comorbidity index on overall survival following tumor nephrectomy for renal cell carcinoma. Ather, M. H. and Nazim, S. M.. Int Urol Nephrol 2010 :299-303

Laparoscopic radical nephrectomy for patients with T2 and T3 renal-cell carcinoma: evaluation of perioperative outcomes. Bird, V. G., Shields, J. M., Aziz, M., Ayyathurai, R., De Los Santos, R., and Roeter, D. H.. J Endourol 2009 :1527-33

Laparoscopic radical nephrectomy for large renal-cell carcinomas. Hattori, R., Osamu, K., Yoshino, Y., Tsuchiya, F., Fujita, T., Yamada, S., Funahashi, Y., Ono, Y., and Gotoh, M.. J Endourol 2009 :1523-6

A multi-institutional study on the safety and efficacy of specimen morcellation after laparoscopic radical nephrectomy for clinical stage T1 or T2 renal cell carcinoma. Wu, S. D., Lesani, O. A., Zhao, L. C., Johnston, W. K., Wolf, J. S. Jr, Clayman, R. V., and Nadler, R. B.. J Endourol 2009 :1513-8

Laparoscopic radical nephrectomy for renal masses 7 centimeters or larger. Rosoff, J. S., Raman, J. D., Sosa, R. E., and Del Pizzo, J. J.. JSLS 2009 :148-53

Does histologic subtype affect oncologic outcomes after nephron-sparing surgery?. Crepel, M., Isbarn, H., Capitanio, U., Liberman, D., Jeldres, C., Sun, M., Shariat, S. F., Widmer, H., Arjane, P., Graefen, M., Montorsi, F., Patard, J. J., Perrotte, P., and Karakiewicz, P. I.. Urology 2009 :842-5

Prevalence of renal cell carcinoma in patients with autosomal dominant polycystic kidney disease and chronic renal failure. Hajj, P., Ferlicot, S., Massoud, W., Awad, A., Hammoudi, Y., Charpentier, B., Durrbach, A., Droupy, S., and Benoit, G.. Urology 2009 :631-4

Patient and pathologic correlates with perioperative and long-term outcomes of laparoscopic radical nephrectomy. Gabr, A. H., Gdor, Y., Strope, S. A., Roberts, W. W., and Wolf, J. S. Jr. Urology 2009 :635-40

Urinary collecting system invasion is an independent prognostic factor of organ confined renal cell carcinoma. Verhoest, G., Avakian, R., Bensalah, K., Thuret, R., Ficarra, V., Artibani, W., Tostain, J., Guille, F., Cindolo, L., De La Taille, A., Abbou, C. C., Salomon, L., Rioux-Leclercq, N., and Patard, J. J.. J Urol 2009 :854-9

Approach and specimen handling do not influence oncological perioperative and long-term outcomes after laparoscopic radical nephrectomy. Gabr, A. H., Gdor, Y., Strope, S. A., Roberts, W. W., and Wolf, J. S. Jr. J Urol 2009 :874-80

Baseline renal function, ischaemia time and blood loss predict the rate of renal failure after partial nephrectomy. Jeldres, C., Bensalah, K., Capitanio, U., Zini, L., Perrotte, P., Suardi, N., Tostain, J., Valeri, A., Descotes, J. L., Rambeaud, J. J., de La Taille, A., Salomon, L., Abbou, C., Patard, J. J., and Karakiewicz, P. I.. BJU Int 2009 :1632-5

Overweight is associated with improved cancer-specific survival in patients with organ-confined renal cell carcinoma. Schrader, A. J., Rustemeier, J., Rustemeier, J. C., Timmesfeld, N., Varga, Z., Hegele, A., Olbert, P. J., and Hofmann, R.. J Cancer Res Clin Oncol 2009 :1693-9

Four-arm robotic partial nephrectomy for complex renal cell carcinoma. Gong, Y., Du, C., Josephson, D. Y., Wilson, T. G., and Nelson, R.. World J Urol 2010 :111-5

Renal Tumor Quantification and Classification in Contrast-Enhanced Abdominal CT. Linguraru, M. G., Yao, J., Gautam, R., Peterson, J., Li, Z., Linehan, W. M., and Summers, R. M.. Pattern Recognit 2009 :1149-1161

Hybrid renal cell carcinomas containing histopathologic features of chromophobe renal cell carcinomas and oncocytomas have excellent oncologic outcomes. Waldert, M., Klatte, T., Haitel, A., Ozsoy, M., Schmidbauer, J., Marberger, M., and Remzi, M.. Eur Urol 2010 :661-5

MRI and CT characteristics of successfully ablated renal masses: Imaging surveillance after radiofrequency ablation. Davenport, M. S., Caoili, E. M., Cohan, R. H., Ellis, J. H., Higgins, E. J., Willatt, J., and Fox, G. A.. AJR Am J Roentgenol 2009 :1571-8

Validation of a postoperative prognostic model consisting of tumor microvascular invasion, size, and grade to predict disease-free and cancer-specific survival of patients with surgically resected renal cell carcinoma. May, M., Brookman-Amissah, S., Kendel, F., Knoll, N., Roigas, J., Hoschke, B., Miller, K., Gilfrich, C., Pflanz, S., and Gralla, O.. Int J Urol 2009 :616-21

Single center experience with percutaneous and laparoscopic cryoablation of small renal masses. Malcolm, J. B., Berry, T. T., Williams, M. B., Logan, J. E., Given, R. W., Lance, R. S., Barone, B., Shaves, S., Vingan, H., and Fabrizio, M. D.. J Endourol 2009 :907-11

Metastatic renal cell carcinoma risk according to tumor size. Thompson, R. H., Hill, J. R., Babayev, Y., Cronin, A., Kaag, M., Kundu, S., Bernstein, M., Coleman, J., Dalbagni, G., Touijer, K., and Russo, P.. J Urol 2009 :41-5

Factors predicting health-related quality of life recovery in patients undergoing surgical treatment for renal tumors: prospective evaluation using the RAND SF-36 Health Survey. Novara, G., Secco, S., Botteri, M., De Marco, V., Artibani, W., and Ficarra, V.. Eur Urol 2010 :112-20

Laparoscopic radical versus partial nephrectomy for tumors >4 cm: intermediate-term oncologic and functional outcomes. Simmons, M. N., Weight, C. J., and Gill, I. S.. Urology 2009 :1077-82

Limitation for performing ultrasound-guided radiofrequency ablation of small renal masses. Park, B. K., Kim, C. K., Choi, H. Y., Lee, H. M., Jeon, S. S., Seo, S. I., and Han, D. H.. Eur J Radiol 2010 :248-52

Postoperative surveillance for renal cell carcinoma: a multifactorial histological subtype specific protocol. Siddiqui, S. A., Frank, I., Cheville, J. C., Lohse, C. M., Leibovich, B. C., and Blute, M. L.. BJU Int 2009 :778-85

Radical nephrectomy surgical outcomes in the University HealthSystem Consortium Data Base: Impact of hospital case volume, hospital size, and geographic location on 40,000 patients. Mitchell, R. E., Lee, B. T., Cookson, M. S., Barocas, D. A., Duke Herrell, S., Clark, P. E., Smith, J. A., and Chang, S. S.. Cancer 2009 :2447-52

A single institution experience of 141 cases of laparoscopic radical nephrectomy with cost-reductive measures. Kumar, A., Gupta, N. P., and Hemal, A. K.. J Endourol 2009 :445-9

Decision tree for laparoscopic partial nephrectomy versus laparoscopic renal cryoablation for small renal masses. Nisbet, A. A., Rieder, J. M., Tran, V. Q., Williams, S. G., and Chien, G. W.. J Endourol 2009 :431-7

Pre-operative renal arterial embolisation does not provide survival benefit in patients with radical nephrectomy for renal cell carcinoma. May, M., Brookman-Amissah, S., Pflanz, S., Roigas, J., Hoschke, B., and Kendel, F.. Br J Radiol 2009 :724-31

Comparison of rates and risk factors for developing chronic renal insufficiency, proteinuria and metabolic acidosis after radical or partial nephrectomy. Malcolm, J. B., Bagrodia, A., Derweesh, I. H., Mehrazin, R., Diblasio, C. J., Wake, R. W., Wan, J. Y., and Patterson, A. L.. BJU Int 2009 :476-81

A population-based comparison of survival after nephrectomy vs nonsurgical management for small renal masses. Zini, L., Perrotte, P., Jeldres, C., Capitanio, U., Duclos, A., Jolivet-Tremblay, M., Arjane, P., Peloquin, F., Pharand, D., Villers, A., Montorsi, F., Patard, J. J., and Karakiewicz, P. I.. BJU Int 2009 :899-904; discussion 904

Prognostic value of capsular invasion for localized clear-cell renal cell carcinoma. Cho, H. J., Kim, S. J., Ha, U. S., Hong, S. H., Kim, J. C., Choi, Y. J., and Hwang, T. K.. Eur Urol 2009 :1006-12

Organ-confined clear cell renal cell carcinoma: the prognostic impact of microvascular invasion, nuclear grade and tumour size. Zubac, D. P., Bostad, L., Kihl, B., Eide, J., Wentzel-Larsen, T., and Haukaas, S. A.. APMIS 2008 :1027-33

The prognostic relevance of interactions between venous invasion, lymph node involvement and distant metastases in renal cell carcinoma after radical nephrectomy. Zubac, D. P., Bostad, L., Seidal, T., Wentzel-Larsen, T., and Haukaas, S. A.. BMC Urol 2008 :19

Transperitoneal versus retroperitoneal laparoscopic radical nephrectomy: a comparative study. Taue, R., Izaki, H., Koizumi, T., Kishimoto, T., Oka, N., Fukumori, T., Takahashi, M., and Kanayama, H. O.. Int J Urol 2009 :263-7

Retroperitoneoscopic nephrectomy in overweight and obese Japanese patients: complications and outcomes. Makiyama, K., Nakaigawa, N., Miyoshi, Y., Murakami, T., Yao, M., and Kubota, Y.. Urol Int 2008 :427-30

Cancer-specific and non-cancer-related mortality rates in European patients with T1a and T1b renal cell carcinoma. Zini, L., Patard, J. J., Capitanio, U., Crepel, M., de La Taille, A., Tostain, J., Ficarra, V., Bernhard, J. C., Ferriere, J. M., Pfister, C., Villers, A., Montorsi, F., and Karakiewicz, P. I.. BJU Int 2009 :894-8

Age at diagnosis is a determinant factor of renal cell carcinoma-specific survival in patients treated with nephrectomy. Karakiewicz, P. I., Jeldres, C., Suardi, N., Hutterer, G. C., Perrotte, P., Capitanio, U., Ficarra, V., Cindolo, L., de La Taille, A., Tostain, J., Mulders, P. F., Salomon, L., Zigeuner, R., Schips, L., Chautard, D., Valeri, A., Lechevallier, E., Descots, J. L., Lang, H., Mejean, A., Verhoest, G., and Patard, J. J.. Can Urol Assoc J 2008 :610-7

Stage-specific effect of nodal metastases on survival in patients with non-metastatic renal cell carcinoma. Capitanio, U., Jeldres, C., Patard, J. J., Perrotte, P., Zini, L., de La Taille, A., Ficarra, V., Cindolo, L., Bensalah, K., Artibani, W., Tostain, J., Valeri, A., Zigeuner, R., Mejean, A., Descotes, J. L., Lechevallier, E., Mulders, P. F., Lang, H., Jacqmin, D., and Karakiewicz, P. I.. BJU Int 2009 :33-7

Number of needle passes does not correlate with the diagnostic yield of renal fine needle aspiration cytology. Andonian, S., Okeke, Z., Okeke, D. A., Sugrue, C., Wasserman, P. G., and Lee, B. R.. J Endourol 2008 :2377-80

Obesity and morbid obesity are associated with a greater conversion rate to open surgery for standard but not hand assisted laparoscopic radical nephrectomy. Gabr, A. H., Elsayed, E. R., Gdor, Y., Roberts, W. W., and Wolf, J. S. Jr. J Urol 2008 :2357-62; discussion 2362

Effect of baseline glomerular filtration rate on survival in patients undergoing partial or radical nephrectomy for renal cortical tumors. Pettus, J. A., Jang, T. L., Thompson, R. H., Yossepowitch, O., Kagiwada, M., and Russo, P.. Mayo Clin Proc 2008 :1101-6

Evaluation of renicapsular involvement in Stages I and II renal cell carcinoma from the morphological and prognostic point of view. May, M., Brookman-Amissah, S., Roigas, J., Gilfrich, C. P., Pflanz, S., Hoschke, B., and Gunia, S.. Urol Oncol 2010 :274-9

Radiofrequency ablation of renal tumors in the solitary kidney. Krambeck, A. E., Farrell, M. A., Callstrom, M. R., Atwell, T. D., Charboneau, J. W., Chow, G. K., Dimarco, D. S., and Patterson, D. E.. Can J Urol 2008 :4163-8; discussion 4168

Robotic nephrectomy for the treatment of benign and malignant disease. Rogers, C., Laungani, R., Krane, L. S., Bhandari, A., Bhandari, M., and Menon, M.. BJU Int 2008 :1660-5

Incidence of benign pathologic lesions at partial nephrectomy for presumed RCC renal masses: Japanese

dual-center experience with 176 consecutive patients. Fujii, Y., Komai, Y., Saito, K., Iimura, Y., Yonese, J., Kawakami, S., Ishikawa, Y., Kumagai, J., Kihara, K., and Fukui, I.. Urology 2008 :598-602

Elective laparoscopic partial nephrectomy in patients with tumors >4 cm. Rais-Bahrami, S., Romero, F. R., Lima, G. C., Kohanim, S., Permpongkosol, S., Trock, B. J., Jarrett, T. W., and Kavoussi, L. R.. Urology 2008 :580-3

Retroperitoneal laparoscopic radical nephrectomy: intermediate oncological results. Larre, S., Kanso, C., De La Taille, A., Hoznek, A., Vordos, D., Yiou, R., Abbou, C. C., and Salomon, L.. World J Urol 2008 :611-5

Nephron-sparing surgery: a call for greater application of established techniques. Young, J. G., Luscombe, C. J., Lynch, C., and Wallace, D. M.. BJU Int 2008 :1389-93

Impact of comorbidity on overall survival in patients surgically treated for renal cell carcinoma. Berger, D. A., Megwalu, I. I., Vlahiotis, A., Radwan, M. H., Serrano, M. F., Humphrey, P. A., Piccirillo, J. F., and Kibel, A. S.. Urology 2008 :359-63

The efficacy of laparoscopic radical nephrectomy for renal cell cancer in the elderly: an oncological outcome analysis. Harano, M., Eto, M., Yokomizo, A., Tatsugami, K., Hamaguchi, M., and Naito, S.. Int J Urol 2008 :577-81

Transperitoneal approach for radical nephrectomy: five years experience at Pakistan Institute of Medical Sciences, Islamabad, Pakistan. Ghaffar, F., Sajid, M. A., and Anwar, K.. J Ayub Med Coll Abbottabad 2007 :15-8

Preoperative nomogram predicting 12-year probability of metastatic renal cancer. Raj, G. V., Thompson, R. H., Leibovich, B. C., Blute, M. L., Russo, P., and Kattan, M. W.. J Urol 2008 :2146-51; discussion 2151

Percutaneous renal cryoablation: experience treating 115 tumors. Atwell, T. D., Farrell, M. A., Leibovich, B. C., Callstrom, M. R., Chow, G. K., Blute, M. L., and Charboneau, J. W.. J Urol 2008 :2136-40; discussion 2140-1

How long is too long? The effect of the duration of anaesthesia on the incidence of non-urological complications after surgery. Routh, J. C., Bacon, D. R., Leibovich, B. C., Zincke, H., Blute, M. L., and Frank, I.. BJU Int 2008 :301-4

Evaluation of the association of current cigarette smoking and outcome for patients with clear cell renal cell carcinoma. Parker, A., Lohse, C., Cheville, J., Leibovich, B., Igel, T., and Blute, M.. Int J Urol 2008 :304-8

Tumor size does not predict risk of metastatic disease or prognosis of small renal cell carcinomas. Klatte, T., Patard, J. J., de Martino, M., Bensalah, K., Verhoest, G., de la Taille, A., Abbou, C. C., Allhoff, E. P., Carrieri, G., Riggs, S. B., Kabbinavar, F. F., Belldegrun, A. S., and Pantuck, A. J.. J Urol 2008 :1719-26

Transperitoneal laparoscopic radical nephrectomy for large (more than 7 cm) renal masses. Berger, A. D., Kanofsky, J. A., O'Malley, R. L., Hyams, E. S., Chang, C., Taneja, S. S., and Stifelman, M. D.. Urology 2008 :421-4

Association of abnormal preoperative laboratory values with survival after radical nephrectomy for clinically confined clear cell renal cell carcinoma. Magera, J. S. Jr, Leibovich, B. C., Lohse, C. M., Sengupta, S., Cheville, J. C., Kwon, E. D., and Blute, M. L.. Urology 2008 :278-82

Immediate renal tumor involution after radiofrequency thermal ablation. Ganguli, S., Brennan, D. D., Faintuch, S., Rayan, M. E., and Goldberg, S. N.. J Vasc Interv Radiol 2008 :412-8

Evaluation of the impact of body mass index on outcome among renal mass patients treated with hand-assisted laparoscopic radical nephrectomy. Parker, A. S., Lewis, R., Heckman, M. G., Diehl, N. H., Brisson, T., Pak, R., and Wehle, M. J.. J Endourol 2008 :301-6

Incidence of local and port site recurrence of urologic cancer after laparoscopic surgery. Tanaka, K., Hara, I., Takenaka, A., Kawabata, G., and Fujisawa, M.. Urology 2008 :728-34

The influence of body mass index on the long-term survival of patients with renal cell carcinoma after tumour nephrectomy. Haferkamp, A., Pritsch, M., Bedke, J., Wagener, N., Pfitzenmaier, J., Buse, S., and Hohenfellner, M.. BJU Int 2008 :1243-6

Comparison of standard and hand-assisted laparoscopic radical nephrectomy for renal cell carcinoma. Harano, M., Eto, M., Yokomizo, A., Tatsugami, K., Hamaguchi, M., and Naito, S.. Fukuoka Igaku Zasshi 2007 :389-96

Laparoscopic radical nephrectomy versus open radical nephrectomy in T1-T3 renal tumors: An outcome analysis. Ganpule, A. P., Sharma, R., Thimmegowda, M., Veeramani, M., and Desai, M. R.. Indian J Urol 2008 :39-43

Core biopsies of renal tumors: a study on diagnostic accuracy, interobserver, and intraobserver variability. Kummerlin, I., ten Kate, F., Smedts, F., Horn, T., Algaba, F., Trias, I., de la Rosette, J., and Laguna, M. P.. Eur Urol 2008 :1219-25

En bloc stapler ligation of the renal vascular pedicle during laparoscopic nephrectomy. Buse, S., Gilfrich, C., Pfitzenmaier, J., Bedke, J., Haferkamp, A., and Hohenfellner, M.. BJU Int 2008 :878-82

Surgical resection provides excellent outcomes for patients with cystic clear cell renal cell carcinoma. Webster, W. S., Thompson, R. H., Cheville, J. C., Lohse, C. M., Blute, M. L., and Leibovich, B. C.. Urology 2007 :900-4; discussion 904

Nephron-sparing surgery versus radical nephrectomy in the treatment of intracapsular renal cell carcinoma up to 7cm. Antonelli, A., Cozzoli, A., Nicolai, M., Zani, D., Zanotelli, T., Perucchini, L., Cunico, S. C., and Simeone, C.. Eur Urol 2008 :803-9

[Transabdominal radical nephrectomy for renal cell carcinoma: an experience on 155 patients]. Chen, X. F.,

Zhou, F. J., Han, H., Qin, Z. K., Liu, Z. W., Yu, S. L., Li, Y. H., Wang, H., and Hou, G. L.. Ai Zheng 2007 :528-32

Nephrectomy: indications, complications and mortality in 154 consecutive patients. Rafique, M.. J Pak Med Assoc 2007 :308-11

Microvascular tumor invasion, tumor size and Fuhrman grade: a pathological triad for prognostic evaluation of renal cell carcinoma. Dall'Oglio, M. F., Ribeiro-Filho, L. A., Antunes, A. A., Crippa, A., Nesrallah, L., Goncalves, P. D., Leite, K. R., and Srougi, M.. J Urol 2007 :425-8; discussion 428

Prognostic impact of tumor size on pT2 renal cell carcinoma: an international multicenter experience. Klatte, T., Patard, J. J., Goel, R. H., Kleid, M. D., Guille, F., Lobel, B., Abbou, C. C., De La Taille, A., Tostain, J., Cindolo, L., Altieri, V., Ficarra, V., Artibani, W., Prayer-Galetti, T., Allhoff, E. P., Schips, L., Zigeuner, R., Figlin, R. A., Kabbinavar, F. F., Pantuck, A. J., Belldegrun, A. S., and Lam, J. S.. J Urol 2007 :35-40; discussion 40

CT-guided biopsy for the diagnosis of renal tumors before treatment with percutaneous ablation. Heilbrun, M. E., Zagoria, R. J., Garvin, A. J., Hall, M. C., Krehbiel, K., Southwick, A., and Clark, P. E.. AJR Am J Roentgenol 2007 :1500-5

Renal cell carcinoma: a clinicopathological follow-up study after radical nephrectomy. Zubac, D. P., Bostad, L., Gestblom, C., Kihl, B., Seidal, T., Wentzel-Larsen, T., and Bakke, A. M.. Scand J Urol Nephrol 2007 :191-7

Impact of clinicopathological parameters in patients treated for renal cell carcinoma. Dall'Oglio, M. F., Arap, M. A., Antunes, A. A., Cury, J., Leite, K. R., and Srougi, M.. J Urol 2007 :1687-91

Five-year survival after surgical treatment for kidney cancer: a population-based competing risk analysis. Hollingsworth, J. M., Miller, D. C., Daignault, S., and Hollenbeck, B. K.. Cancer 2007 :1763-8

ECOG performance status 0 or 1 and symptom classification do not improve the ability to predict renal cell carcinoma-specific survival. Karakiewicz, P. I., Trinh, Q. D., de la Taille, A., Abbou, C. C., Salomon, L., Tostain, J., Cindolo, L., Artibani, W., Ficarra, V., and Patard, J. J.. Eur J Cancer 2007 :1023-9

The follow-up management of non-metastatic renal cell carcinoma: definition of a surveillance protocol. Antonelli, A., Cozzoli, A., Zani, D., Zanotelli, T., Nicolai, M., Cunico, S. C., and Simeone, C.. BJU Int 2007 :296-300

Diagnostic yield of 58 consecutive imaging-guided biopsies of solid renal masses: should we biopsy all that are indeterminate?. Beland, M. D., Mayo-Smith, W. W., Dupuy, D. E., Cronan, J. J., and DeLellis, R. A.. AJR Am J Roentgenol 2007 :792-7

[Outcome of open and laparoscopic nephrectomies in a county hospital--centralization]. Lund, L., Jonler, M., and Bisballe, S.. Ugeskr Laeger 2007 :602-4

Sporadic renal cell carcinoma in young and elderly patients: are there different clinicopathological features and disease specific survival rates?. Denzinger, S., Otto, W., Burger, M., Hammerschmied, C., Junker, K., Hartmann, A., Wieland, W. F., and Walter, B.. World J Surg Oncol 2007 :16

Prognostic relevance of capsular involvement and collecting system invasion in stage I and II renal cell carcinoma. Klatte, T., Chung, J., Leppert, J. T., Lam, J. S., Pantuck, A. J., Figlin, R. A., and Belldegrun, A. S.. BJU Int 2007 :821-4

Dynamic outcome prediction in patients with clear cell renal cell carcinoma treated with radical nephrectomy: the D-SSIGN score. Thompson, R. H., Leibovich, B. C., Lohse, C. M., Cheville, J. C., Zincke, H., Blute, M. L., and Frank, I.. J Urol 2007 :477-80

Nephron sparing surgery: A single institution experience. Agrawal, S., Jha, M. S., Khurana, N., Ansari, M. S., Dubey, D., Srivastava, A., Kapoor, R., Kumar, A., Jain, M., and Mandhani, A.. Indian J Urol 2007 :23-7

Laparoscopic radical nephrectomy: comparison of clinical Stage T1 and T2 renal tumors. Gong, E. M., Lyon, M. B., Orvieto, M. A., Lucioni, A., Gerber, G. S., and Shalhav, A. L.. Urology 2006 :1183-7

Conventional and hand-assisted laparoscopic radical nephrectomy: Comparative analysis of 271 cases. Matin, S. F., Dhanani, N., Acosta, M., and Wood, C. G.. J Endourol 2006 :891-4

A prospective randomized EORTC intergroup phase 3 study comparing the complications of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. Van Poppel, H., Da Pozzo, L., Albrecht, W., Matveev, V., Bono, A., Borkowski, A., Marechal, J. M., Klotz, L., Skinner, E., Keane, T., Claessens, I., and Sylvester, R.. Eur Urol 2007 :1606-15

Perioperative clinical thromboembolic events after radical or partial nephrectomy. Pettus, J. A., Eggener, S. E., Shabsigh, A., Yanke, B., Snyder, M. E., Serio, A., Vickers, A., Russo, P., and Donat, S. M.. Urology 2006 :988-92

Incidence of benign lesions for clinically localized renal masses smaller than 7 cm in radiological diameter: influence of sex. Snyder, M. E., Bach, A., Kattan, M. W., Raj, G. V., Reuter, V. E., and Russo, P.. J Urol 2006 :2391-5; discussion 2395-6

Greater body mass index is associated with better pathologic features and improved outcome among patients treated surgically for clear cell renal cell carcinoma. Parker, A. S., Lohse, C. M., Cheville, J. C., Thiel, D. D., Leibovich, B. C., and Blute, M. L.. Urology 2006 :741-6

Gender discrepancies in the diagnosis of renal cortical tumors. Pierorazio, P. M., Murphy, A. M., Benson, M. C., and McKiernan, J. M.. World J Urol 2007 :81-5

Prognostic significance of common preoperative laboratory variables in clear cell renal cell carcinoma. Lee, S. E., Byun, S. S., Han, J. H., Han, B. K., and Hong, S. K.. BJU Int 2006 :1228-32

Risk of renal insufficiency in African-Americans after radical nephrectomy for kidney cancer. Hepps, D. and Chernoff, A.. Urol Oncol 2006 :391-5

Increased preoperative serum C-reactive protein level predicts a poor prognosis in patients with localized renal cell carcinoma. Komai, Y., Saito, K., Sakai, K., and Morimoto, S.. BJU Int 2007 :77-80

Are small renal tumors harmless? Analysis of histopathological features according to tumors 4 cm or less in diameter. Remzi, M., Ozsoy, M., Klingler, H. C., Susani, M., Waldert, M., Seitz, C., Schmidbauer, J., and Marberger, M.. J Urol 2006 :896-9

Experiences in US-guided percutaneous radiofrequency ablation of 44 renal tumors in 31 patients: analysis of predictors for complications and technical success. Veltri, A., Calvo, A., Tosetti, I., Pagano, E., Genovesio, A., Virzi, V., Ferrando, U., Fontana, D., and Gandini, G.. Cardiovasc Intervent Radiol 2006 :811-8

Renal cell carcinoma recurrence after nephrectomy for localized disease: predicting survival from time of recurrence. Eggener, S. E., Yossepowitch, O., Pettus, J. A., Snyder, M. E., Motzer, R. J., and Russo, P.. J Clin Oncol 2006 :3101-6

Open partial nephrectomy: outcomes from two UK centres. Ray, E. R., Turney, B. W., Singh, R., Chandra, A., Cranston, D. W., and O'Brien, T. S.. BJU Int 2006 :1211-5

Open partial nephrectomy for tumor in a solitary kidney: experience with 400 cases. Fergany, A. F., Saad, I. R., Woo, L., and Novick, A. C.. J Urol 2006 :1630-3; discussion 1633

Intraoperative conversion of laparoscopic partial nephrectomy. Rais-Bahrami, S., Lima, G. C., Varkarakis, I. M., Romero, F. R., Trock, B., Jarrett, T. W., and Kavoussi, L. R.. J Endourol 2006 :205-8

Radical nephrectomy performed by open, laparoscopy with or without hand-assistance or robotic methods by the same surgeon produces comparable perioperative results. Nazemi, T., Galich, A., Sterrett, S., Klingler, D., Smith, L., and Balaji, K. C.. Int Braz J Urol 2006 :15-22

Impact of body mass index on survival of patients with surgically treated renal cell carcinoma. Donat, S. M., Salzhauer, E. W., Mitra, N., Yanke, B. V., Snyder, M. E., and Russo, P.. J Urol 2006 :46-52

Retroperitoneoscopic versus open surgical radical nephrectomy for large renal cell carcinoma in clinical stage cT2 or cT3a: quality of life, pain and reconvalescence. Dillenburg, W., Poulakis, V., Skriapas, K., de Vries, R., Ferakis, N., Witzsch, U., Melekos, M., and Becht, E.. Eur Urol 2006 :314-22; discussion 322-3

Follow-up of renal oncocytoma diagnosed by percutaneous tumor biopsy. Neuzillet, Y., Lechevallier, E., Andre, M., Daniel, L., Nahon, O., and Coulange, C.. Urology 2005 :1181-5

Proposal for revision of the TNM classification system for renal cell carcinoma. Ficarra, V., Guille, F., Schips, L., de la Taille, A., Prayer Galetti, T., Tostain, J., Cindolo, L., Novara, G., Zigeuner, R., Bratti, E., Li, G., Altieri, V., Abbou, C. C., Zanolla, L., Artibani, W., and Patard, J. J.. Cancer 2005 :2116-23

The laparoscopic nephrectomy learning curve: a single centre's development of a de novo practice. Phillips, J., Catto, J. W., Lavin, V., Doyle, D., Smith, D. J., Hastie, K. J., and Oakley, N. E.. Postgrad Med J 2005 :599-603

Early ligature of renal artery during radical laparoscopic transperitoneal nephrectomy: description of standard technique and direct access. Porpiglia, F., Terrone, C., Cracco, C., Cossu, M., Grande, S., Musso, F., Renard, J., and Scarpa, R. M.. J Endourol 2005 :623-6; discussion 626-7

[Miniinvasive laparoscopic or retroperitoneoscopic radical nephrectomy for the parenchymal tumor]. Hora, M., Klecka, J. Jr, Hes, O., Ferda, J., and Urge, T.. Rozhl Chir 2005 :246-52

Laparoscopic nephrectomy. Poulsen, E. U., Eddy, B., and Poulsen, J.. Scand J Urol Nephrol 2005 :138-42

Laparoscopic nephrectomy: initial experience in Israel with 110 cases. Nadu, A., Mor, Y., Chen, J., Sofer, M., Golomb, J., and Ramon, J.. Isr Med Assoc J 2005 :431-4

Multiinstitutional European validation of the 2002 TNM staging system in conventional and papillary localized renal cell carcinoma. Ficarra, V., Schips, L., Guille, F., Li, G., De La Taille, A., Prayer Galetti, T., Cindolo, L., Novara, G., Zigeuner, R. E., Bratti, E., Tostain, J., Altieri, V., Abbou, C. C., Artibani, W., and Patard, J. J.. Cancer 2005 :968-74

Incisional hernia following hand-assisted laparoscopic surgery for renal cell cancer. Troxel, S. A. and Das, S.. JSLS 2005 :196-8

A description of radical nephrectomy practice and outcomes in England: 1995-2002. Nuttall, M., Cathcart, P., van der Meulen, J., Gillatt, D., McIntosh, G., and Emberton, M.. BJU Int 2005 :58-61

Direct access to the renal artery at the level of treitz ligament during left radical laparoscopic transperitoneal nephrectomy. Porpiglia, F., Terrone, C., Cracco, C., Renard, J., Musso, F., Grande, S., and Scarpa, R. M.. Eur Urol 2005 :291-5

Laparoscopic partial nephrectomy: hand-assisted technique. Strup, S., Garrett, J., Gomella, L., and Rowland, R.. J Endourol 2005 :456-9; discussion 459-60

Comparison of presentation and outcome for patients 18 to 40 and 60 to 70 years old with solid renal masses. Gillett, M. D., Cheville, J. C., Karnes, R. J., Lohse, C. M., Kwon, E. D., Leibovich, B. C., Zincke, H., and Blute, M. L.. J Urol 2005 :1893-6

Percutaneous radiofrequency ablation of renal tumors: technique, complications, and outcomes. Ahrar, K., Matin, S., Wood, C. G., Wallace, M. J., Gupta, S., Madoff, D. C.,

Rao, S., Tannir, N. M., Jonasch, E., Pisters, L. L., Rozner, M. A., Kennamer, D. L., and Hicks, M. E.. J Vasc Interv Radiol 2005 :679-88

[Results of open radical nephrectomy in a series of 230 patients]. Peyromaure, M., Barry Delongchamps, N., Roffi, F., Debre, B., and Zerbib, M.. Prog Urol 2005 :18-22

Renal neoplasms in younger adults: analysis of 112 tumors from a single institution according to the new 2004 World Health Organization classification and 2002 American Joint Committee on Cancer Staging System. Cao, Y., Paner, G. P., Perry, K. T., Flanigan, R. C., Campbell, S. C., and Picken, M. M.. Arch Pathol Lab Med 2005 :487-91

Laparoscopic heminephrectomy for tumor. Finelli, A., Gill, I. S., Desai, M. M., Tan, Y. H., Moinzadeh, A., Singh, D., and Kaouk, J. H.. Urology 2005 :473-8

Impact of tumor size on the long-term survival of patients with early stage renal cell cancer. Kuczyk, M., Wegener, G., Merseburger, A. S., Anastasiadis, A., Machtens, S., Zumbragel, A., Hartmann, J. T., Bokemeyer, C., Jonas, U., and Stenzl, A.. World J Urol 2005 :50-4

Pathological stage does not alter the prognosis for renal lesions determined to be stage T1 by computerized tomography. Roberts, W. W., Bhayani, S. B., Allaf, M. E., Chan, T. Y., Kavoussi, L. R., and Jarrett, T. W.. J Urol 2005 :713-5

Learning curve of hand-assisted retroperitoneoscopic nephrectomy in less-experienced laparoscopic surgeons. Kawauchi, A., Fujito, A., Soh, J., Yoneda, K., Ukimura, O., Mizutani, Y., and Miki, T.. Int J Urol 2005 :1-6

Predicting postoperative renal insufficiency in patients undergoing nephrectomy for renal malignancy: assessment by renal scintigraphy using 99mtechnetium-mercaptoacetyltriglycine. Shirasaki, Y., Saika, T., Tsushima, T., Nasu, Y., Arata, R., and Kumon, H.. J Urol 2005 :388-90

pT2 classification for renal cell carcinoma. Can its accuracy be improved?. Frank, I., Blute, M. L., Leibovich, B. C., Cheville, J. C., Lohse, C. M., Kwon, E. D., and Zincke, H.. J Urol 2005 :380-4

Re-evaluation of the Tumour-Node-Metastasis staging of locally advanced renal cortical tumours: absolute size (T2) is more significant than renal capsular invasion (T3a). Murphy, A. M., Gilbert, S. M., Katz, A. E., Goluboff, E. T., Sawczuk, I. S., Olsson, C. A., Benson, M. C., and McKiernan, J. M.. BJU Int 2005 :27-30

Prospective randomized comparison of transperitoneal versus retroperitoneal laparoscopic radical nephrectomy. Desai, M. M., Strzempkowski, B., Matin, S. F., Steinberg, A. P., Ng, C., Meraney, A. M., Kaouk, J. H., and Gill, I. S.. J Urol 2005 :38-41

Clinicopathological features of recurrence after radical surgery for nonmetastatic renal cell carcinoma. Ishimura, T., Sakai, I., Harada, K., Hara, I., Eto, H., and Miyake, H.. Int J Clin Oncol 2004 :369-72

Laparoscopic radical nephrectomy for large (greater than 7 cm, T2) renal tumors. Steinberg, A. P., Finelli, A., Desai, M. M., Abreu, S. C., Ramani, A. P., Spaliviero, M., Rybicki, L., Kaouk, J., Novick, A. C., and Gill, I. S.. J Urol 2004 :2172-6

Management of renal masses in patients medically unsuitable for nephrectomy--natural history, complications, and outcome. Lamb, G. W., Bromwich, E. J., Vasey, P., and Aitchison, M.. Urology 2004 :909-13

Prognosticfactors in patients with renal cell carcinoma: is TNM (1997) staging relevant in Indian subpopulation?. Srivastava, A., Mandhani, A., Kapoor, R., Jain, M., Dubey, D., Srivastava, A., Raghavendra, M., and Kumar, A.. Indian J Cancer 2004 :99-103

Portless endoscopic radical nephrectomy via a single minimum incision in 80 patients. Kihara, K., Kageyama, Y., Yano, M., Kobayashi, T., Kawakami, S., Fujii, Y., Masuda, H., and Hyochi, N.. Int J Urol 2004 :714-20

Long-term consequence of renal function following nephrectomy for renal cell cancer. Shirasaki, Y., Tsushima, T., Nasu, Y., and Kumon, H.. Int J Urol 2004 :704-8

The British Association of Urological Surgeons Section of Endourology audit of laparoscopic nephrectomy. Keoghane, S. R., Keeley, F. X., Timoney, A. G., Tolley, D. A., Joyce, A., and Downey, P.. BJU Int 2004 :577-81

Laparoscopic radical nephrectomy in the elderly. Varkarakis, I., Neururer, R., Harabayashi, T., Bartsch, G., and Peschel, R.. BJU Int 2004 :517-20

Kidney function after nephrectomy for renal cell carcinoma. Shirasaki, Y., Tsushima, T., Saika, T., Nasu, Y., and Kumon, H.. Urology 2004 :43-7; discussion 48

Guidelines for the surveillance of localized renal cell carcinoma based on the patterns of relapse after nephrectomy. Stephenson, A. J., Chetner, M. P., Rourke, K., Gleave, M. E., Signaevsky, M., Palmer, B., Kuan, J., Brock, G. B., and Tanguay, S.. J Urol 2004 :58-62

Microscopic venous invasion in renal cell carcinoma as a predictor of recurrence after radical surgery. Ishimura, T., Sakai, I., Hara, I., Eto, H., and Miyake, H.. Int J Urol 2004 :264-8

Impact of surgical volume on mortality and length of stay after nephrectomy. Taub, D. A., Miller, D. C., Cowan, J. A., Dimick, J. B., Montie, J. E., and Wei, J. T.. Urology 2004 :862-7

Use of American Society of Anesthesiologists physical status classification to assess perioperative risk in patients undergoing radical nephrectomy for renal cell carcinoma. Han, K. R., Kim, H. L., Pantuck, A. J., Dorey, F. J., Figlin, R. A., and Belldegrun, A. S.. Urology 2004 :841-6; discussion 846-7

Laparoscopic radical nephrectomy: techniques, results and oncological outcome in 125 consecutive cases. Wille, A. H., Roigas, J., Deger, S., Tullmann, M., Turk, I., and Loening, S. A.. Eur Urol 2004 :483-8; discussion 488-9

Permanent flank bulge is a consequence of flank incision for radical nephrectomy in one half of patients. Chatterjee, S., Nam, R., Fleshner, N., and Klotz, L.. Urol Oncol 2004 :36-9

Hand assisted laparoscopic radical nephrectomy: comparison with open radical nephrectomy. Lee, S. E., Ku, J. H., Kwak, C., Kim, H. H., and Paick, S. H.. J Urol 2003 :756-9

Single-center comparison of purely laparoscopic, hand-assisted laparoscopic, and open radical nephrectomy in patients at high anesthetic risk. Baldwin, D. D., Dunbar, J. A., Parekh, D. J., Wells, N., Shuford, M. D., Cookson, M. S., Smith, J. A. Jr, Herrell, S. D., Chang, S. S., and McDougall, E. M.. J Endourol 2003 :161-7

Outcome and survival with nonsurgical management of renal cell carcinoma. Baird, A. D., Woolfenden, K. A., Desmond, A. D., Fordham, M. V., and Parsons, K. F.. BJU Int 2003 :600-2

Clinicopathological study of renal cell carcinoma. Nakatani, T., Yoshida, N., Iwata, H., Kuratsukuri, K., Uchida, J., Kawashima, H., Ikemoto, S., and Sugimura, K.. Oncol Rep 2003 :679-85

Renal cell carcinoma: gender difference in incidental detection and cancer-specific survival. Beisland, C., Medby, P. C., and Beisland, H. O.. Scand J Urol Nephrol 2002 :414-8

[Laparoscopic radical nephrectomy: indications, techniques, and oncological outcome]. Wille, A. H., Roigas, J., Deger, S., Turk, I., Tullmann, M., Dubbke, A., and Schnorr, D.. Urologe A 2003 :205-10

Incidental and symptomatic renal tumors: impact on patient survival. Dall'Oglio, M. F., Srougi, M., Goncalves, P. D., Leite, K., Nesrallah, L., and Hering, F.. Sao Paulo Med J 2002 :165-9

Hand-assisted laparoscopy for large renal specimens: a multi-institutional study. Stifelman, M. D., Handler, T., Nieder, A. M., Del Pizzo, J., Taneja, S., Sosa, R. E., and Shichman, S. J.. Urology 2003 :78-82

Prospective analysis of computerized tomography and needle biopsy with permanent sectioning to determine the nature of solid renal masses in adults. Dechet, C. B., Zincke, H., Sebo, T. J., King, B. F., LeRoy, A. J., Farrow, G. M., and Blute, M. L.. J Urol 2003 :71-4

Mode of presentation of renal cell carcinoma provides prognostic information. Lee, C. T., Katz, J., Fearn, P. A., and Russo, P.. Urol Oncol 2002 :135-40

An outcome prediction model for patients with clear cell renal cell carcinoma treated with radical nephrectomy based on tumor stage, size, grade and necrosis: the SSIGN score. Frank, I., Blute, M. L., Cheville, J. C., Lohse, C. M., Weaver, A. L., and Zincke, H.. J Urol 2002 :2395-400

Sporadic renal cell carcinoma in young adults: presentation, treatment, and outcome. Abou El Fettouh, H. I., Cherullo, E. E., El-Jack, M., Al Maslamani, Y., and Novick, A. C.. Urology 2002 :806-10

Thrombocytosis is associated with a significant increase in the cancer specific death rate after radical nephrectomy. O'Keefe, S. C., Marshall, F. F., Issa, M. M., Harmon, M. P., and Petros, J. A.. J Urol 2002 :1378-80

Prognostic significance of primary-tumor extension, stage and grade of nuclear differentiation in patients with renal cell carcinoma. Fiori, E., De Cesare, A., Galati, G., Bononi, M., D'Andrea, N., Barbarosos, A., Izzo, L., and Bolognese, A.. J Exp Clin Cancer Res 2002 :229-32

Prognostic factors in patients with renal cell carcinoma: retrospective analysis of 675 cases. Ficarra, V., Righetti, R., Pilloni, S., D'amico, A., Maffei, N., Novella, G., Zanolla, L., Malossini, G., and Mobilio, G.. Eur Urol 2002 :190-8

Recurrence of renal cell carcinoma more than 5 years after nephrectomy. Uchida, K., Miyao, N., Masumori, N., Takahashi, A., Oda, T., Yanase, M., Kitamura, H., Itoh, N., Sato, M., and Tsukamoto, T.. Int J Urol 2002 :19-23

Coloepiploic mobilization during left radical nephrectomy for renal cell carcinoma is indicated to reduce the risk of iatrogenic splenectomy. Mejean, A., Chretien, Y., Vogt, B., Cazin, S., Balian, C., Thiounn, N., and Dufour, B.. Urology 2002 :358-61

Laparoscopic radical nephrectomy in 100 patients: a single center experience from the United States. Gill, I. S., Meraney, A. M., Schweizer, D. K., Savage, S. S., Hobart, M. G., Sung, G. T., Nelson, D., and Novick, A. C.. Cancer 2001 :1843-55

Renal cell carcinoma: evaluation of the 1997 TNM system and recommendations for follow-up after surgery. Gofrit, O. N., Shapiro, A., Kovalski, N., Landau, E. H., Shenfeld, O. Z., and Pode, D.. Eur Urol 2001 :669-74; discussion 675

Matched comparison of radical nephrectomy vs nephron-sparing surgery in patients with unilateral renal cell carcinoma and a normal contralateral kidney. Lau, W. K., Blute, M. L., Weaver, A. L., Torres, V. E., and Zincke, H.. Mayo Clin Proc 2000 :1236-42

Laparoscopic versus open radical nephrectomy: a 9-year experience. Dunn, M. D., Portis, A. J., Shalhav, A. L., Elbahnasy, A. M., Heidorn, C., McDougall, E. M., and Clayman, R. V.. J Urol 2000 :1153-9

Comparison of preoperative embolization followed by radical nephrectomy with radical nephrectomy alone for renal cell carcinoma. Zielinski, H., Szmigielski, S., and Petrovich, Z.. Am J Clin Oncol 2000 :6-12

Renal cell carcinoma: prognostic significance of incidentally detected tumors. Tsui, K. H., Shvarts, O., Smith, R. B., Figlin, R., de Kernion, J. B., and Belldegrun, A.. J Urol 2000 :426-30

Mortality and morbidity after nephrectomy for renal cell carcinoma using a transperitoneal anterior subcostal incision. Mejean, A., Vogt, B., Quazza, J. E., Chretien, Y., and Dufour, B.. Eur Urol 99 :298-302

Fine-needle aspiration of renal masses in adults: analysis of results and diagnostic problems in 108 cases. Truong, L. D., Todd, T. D., Dhurandhar, B., and Ramzy, I.. Diagn Cytopathol 99 :339-49

Significant prognostic factors for 5-year survival after curative resection of renal cell carcinoma. Masuda, H., Kurita, Y., Fukuta, K., Mugiya, S., Suzuki, K., and Fujita, K.. Int J Urol 98 :418-22

Cystic renal cell carcinoma: pathological features, survival and implications for treatment. Bielsa, O., Lloreta, J., and Gelabert-Mas, A.. Br J Urol 98 :16-20

Laparoscopic nephrectomy: the experience of the laparoscopy working group of the German Urologic Association. Rassweiler, J., Fornara, P., Weber, M., Janetschek, G., Fahlenkamp, D., Henkel, T., Beer, M., Stackl, W., Boeckmann, W., Recker, F., Lampel, A., Fischer, C., Humke, U., and Miller, K.. J Urol 98 :18-21

Radical nephrectomy for renal cell carcinoma: long-term results and prognostic factors on a series of 328 cases. Giberti, C., Oneto, F., Martorana, G., Rovida, S., and Carmignani, G.. Eur Urol 97 :40-8

Risk factors for postoperative hemorrhage after partial nephrectomy. Jung S., Min G.E., Chung B.I., and Jeon S.H.. Korean J. Urol. 2014 :17-22

Clinico-pathological prognostic factors of renal cell carcinoma: A 15-year review from a single center in Greece. Grivas N., Kafarakis V., Tsimaris I., Raptis P., Hastazeris K., and Stavropoulos N.E.. Urol. Ann. 2014 :116-121

Clinical outcome of small renal cell carcinoma after delayed surgery versus immediate surgery. Sugimoto K., Shimizu N., Nose K., Tahara H., Imanishi M., Nishioka T., Esa A., Kajikawa H., and Uemura H.. J. Cancer 2013 :514-518

Percutaneous image-guided radiofrequency ablation of renal neoplasms: Seven-year local experience. Tsang K.W.K., Lee S.F., Cheung H.Y., Lui P.Y., and Tam K.Y.. Hong Kong 2013 :17-26

Visceral obesity and risk of high grade disease in clinical T1a renal cell carcinoma. Zhu Y., Wang H.-K., Zhang H.-L., Yao X.-D., Zhang S.-L., Dai B., Shen Y.-J., Liu X.-H., Zhou L.-P., and Ye D.-W.. J. Urol. 2013 :447-453

Body mass index and survival in patients with renal cell carcinoma: A clinical-based cohort and meta-analysis. Choi Y., Park B., Jeong B.C., Seo S.I., Jeon S.S., Choi H.Y., Adami H.-O., Lee J.E., and Lee H.M.. Int. J. Cancer 2013 :625-634

Importance of local data on occurrence and outcomes of renal cell cancer. Veeratterapillay R., Rakhra S., El-Sherif A., Robson C., Johnson M.I., Pickard R.S., Soomro N., and Heer R.. J. Clini. Urol. 2013 :158-163

Robotic laparoendoscopic single site urological surgery: Analysis of 50 consecutive cases. White M.A., Autorino R., Spana G., Hillyer S., Stein R.J., and Kaouk J.H.. J. Urol. 2012 :1696-1701

Stage T1NOMO renal cell carcinoma: The prognosid in Asian patients. Zhang Z.-L., Chen W., Li Y.-H., Liu Z.-W., Luo J.-H., Lau W., Tan M.-H., and Zhou F.-J.. Chin. J. Cancer 2011 :772-778

Robotics applied in laparoscopic kidney surgery: The Yonsei University experience of 127 cases. Lorenzo E.I.S., Jeong W., Oh C.K., Chung B.H., Choi Y.D., and Rha K.H.. Urology 2011 :114-118

Fine needle aspiration of renal cortical lesions in adults. Adeniran A.J., Al-Ahmadie H., Iyengar P., Reuter V.E., and Lin O.. Diagn. Cytopathol. 2010 :710-715

Prognostic Impact of Histological Subtype on Surgically Treated Localized Renal Cell Carcinoma. Teloken P.E., Thompson R.H., Tickoo S.K., Cronin A., Savage C., Reuter V.E., and Russo P.. J. Urol. 2009 :2132-2136

Nephron-sparing surgery for small renal cell carcinoma. Li Y., Zhu S., Cai W., Chen S., and Li Q.. J. Nanjing Med. Univ. 2009 :207-211

Young Age Is Independent Prognostic Factor for Cancer-Specific Survival of Low-Stage Clear Cell Renal Cell Carcinoma. Jung E.-J., Lee H.J., Kwak C., Ku J.H., and Moon K.C.. Urology 2009 :137-141

Clinicopathological features and survival rates of patients with renal cell carcinoma under 50 years of age. Atmaca A.F., Bayrak O., Kandemir O., Serefoglu E.C., Culha I.E., Canda A.E., and Balbay M.D.. Cent. Eur. J. Med. 2008 :453-458

Direct real-time temperature monitoring for laparoscopic and CT-guided radiofrequency ablation of renal tumors between 3 and 5 cm. Carey R.I. and Leveillee R.J.. J. Endourol. 2007 :807-813

Randomized trial of laparoscopic (nu) open nephrectomy. Burgess N.A., Koo B.C., Calvert R.C., Hindmarsh A., Donaldson P.J., and Rhodes M.. J. Endourol. 2007 :610-613

Laparoscopic Cryoablation of Small Renal Masses: Technique and Results after 6-Year Experience. Cestari A., Guazzoni G., Buffi N.M., Riva M., and Rigatti P.. Eur. Urol. Suppl. 2007 :646-652

Pathological Features of Renal Neoplasms Classified by Size and Symptomatology. Schlomer B., Figenshau R.S., Yan Y., Venkatesh R., and Bhayani S.B.. J. Urol. 2006 :1317-1320

Laparoscopic radical nephrectomy for renal cell carcinoma: Oncologically safe?: Laparoscopische behandeling van niercelcarcinoom: Oncologisch verantwoord?. Schatteman P., Tuytten T., Carpentier P., Fonteyne E., and Mottrie A.. Tijdschr. Geneeskd. 2005 :179-184

Renal artery pseudoaneurysm after partial nephrectomy: Three case reports and a literature review. Albani J.M. and Novick A.C.. Urology 2003 :227-231

Incidental detection beyond pathological factors as prognostic predictor of renal cell carcinoma. Ficarra V., Prayer-Galetti T., Novella G., Bratti E., Maffei N., Dal

Bianco M., Artibani W., and Pagano F.. Eur. Urol. 2003 :663-669

Perioperative homologous blood transfusion and survival in patients with surgically treated renal cell carcinoma. Mermershtain W., Eidelberg I., Yusim I., Ariad S., and Kaneti J.. UroOncology 2003 :23-25

Stage pT1 renal cell carcinoma: Review of the prognostic significance of size. Zucchi A., Mearini L., Mearini E., and Costantini E.. Urol. Int. 2003 :47-50

Renal cell carcinoma: Clinical experience and technical success with radio-frequency ablation of 42 tumors. Gervais D.A., McGovern F.J., Arellano R.S., Scott McDougal W., and Mueller P.R.. Radiology 2003 :417-424

A retrospective analysis of serum CA 15-3 concentrations in patients with localised or metastatic renal cancer and its impact on prognosis and follow-up. A single-centre experience. Briasoulis E., Pentheroudakis G., Letsa I., and Pavlidis N.. UroOncology 2002 :179-184

Radiologic, pathologic and molecular attributes of two types of papillary renal adenocarcinomas. Mydlo J.H., Weinstein R., Misseri R., Axiotis C., and Thelmo W.. Scand. J. Urol. Nephrol. 2001 :262-269

Importance of early detection of renal carcinoma with regard to the prognosis: Vyznam vcasneho zachytu karcinomu ledviny - Vzhledem k prognoze. Fiala A. and Urban M.. Prakt. Lek. 2001 :197-199

Renal cell carcinoma: Clinical and therapeutic considerations about 301 cases. Destito A., Servello C., Pisanti F., Lacquaniti S., Candidi M.O., Racioppi M., and Alcini E.. Acta Med. Rom. 99 :498-503

Impact of tumor size on the clinical outcomes of patients with Robson Stage I renal cell carcinoma. Kinouchi T., Saiki S., Meguro N., Maeda O., Kuroda M., Usami M., and Kotake T.. Cancer 99 :689-695

A review of our first 100 cases of laparoscopic nephrectomy: Defining risk factors for complications. Keeley F.X. and Tolley D.A.. Br. J. Urol. 98 :615-618

Partial nephrectomy: Alternative treatment for selected patients with renal cell carcinoma. Duque J.L.F., Loughlin K.R., O'Leary M.P., Kumar S., and Richie J.P.. Urology 98 :584-590

Laparoscopic radical nephrectomy with morcellation for renal cell carcinoma: The Saskatoon experience. Barrett P.H., Fentie D.D., and Taranger L.A.. Urology 98 :23-28

Prognosis in the cases with renal cell carcinoma according to clinical parameters. Fukuda M., Satomi Y., Asakura T., Hosaka M., Noguchi S., Kishida T., Kondou I., Ida T., Hirokawa M., Kumagai H., Shiozaki H., Ishizuka E., Miyai K., Fukuoka H., Sasaki K., Oogo Y., Koudaira T., Ogawa K., Nakahashi M., Matsuura K., Moriyama M., Udagawa K., Senga Y., Ishibashi Y., and Shimura H.. Jpn. J. Urol. 98 :647-656

Assessment of renal lesions with blood oxygenation level-dependent MRI at 3 T: Preliminary experience. Min, J. H., Kim, C. K., Park, B. K., Kim, E., and Kim, B.. American Journal of Roentgenology 2011 :W489-W494

Assessing the anatomical characteristics of renal masses has a limited effect on the prediction of pathological outcomes in solid, enhancing, small renal masses: results using the PADUA classification system. Shin, T. Y., Kim, J., Koo, K. C., Lim, S. K., Kim, D. W., Kang, M. W., Rha, K. H., Choi, Y. D., and Ham, W. S.. BJU Int 2014 :754-61

Individualized renal mass biopsy strategy for Chinese patients with different subtypes and necrosis area. Shi, G. H., Chen, Y., Yao, X. D., Zhang, S. L., Dai, B., Feng, L. Q., Zhang, H. L., Shen, Y. J., Zhu, Y., Zhu, Y. P., Xiao, W. J., Ma, C. G., Wen, L. G., Qin, X. J., Yang, L. F., and Ye, D. W.. Urol Oncol 2013 :920-3

Diagnosis of renal angiomyolipoma with hounsfield unit thresholds: effect of size of region of interest and nephrographic phase imaging. Davenport, M. S., Neville, A. M., Ellis, J. H., Cohan, R. H., Chaudhry, H. S., and Leder, R. A.. Radiology 2011 :158-65

Diagnostic accuracy of segmental enhancement inversion for the diagnosis of renal oncocytoma using biphasic computed tomography (CT) and multiphase contrast-enhanced magnetic resonance imaging (MRI). Schieda, N., Al-Subhi, M., Flood, T. A., El-Khodary, M., and McInnes, M. D.. Eur Radiol 2014 :2787-94

Unenhanced CT for the detection of renal cell carcinoma: effect of tumor size and contour type. Jung, S. I., Park, H. S., Kim, Y. J., and Jeon, H. J.. Abdom Imaging 2014 :348-57

Computed tomography-guided renal tumor biopsies: tumor imaging features affecting sample adequacy. Davis, I. C., Heilbrun, M. E., Tangtiang, K., Childs, D. D., and Zagoria, R. J.. J Comput Assist Tomogr 2013 :171-5

What is the added value of combined core biopsy and fine needle aspiration in the diagnostic process of renal tumours?. Barwari, K., Kummerlin, I. P., ten Kate, F. J., Algaba, F., Trias, I., Wijkstra, H., De la Rosette, J. J., and Laguna, P.. World J Urol 2013 :823-7

Typing of renal tumors by morphological and immunocytochemical evaluation of fine needle aspirates. Strojan Flezar, M., Gutnik, H., Jeruc, J., and Kirbis, I. S.. Virchows Arch 2011 :607-14

Angiomyolipoma with minimal fat: can it be differentiated from clear cell renal cell carcinoma by using standard MR techniques?. Hindman, N., Ngo, L., Genega, E. M., Melamed, J., Wei, J., Braza, J. M., Rofsky, N. M., and Pedrosa, I.. Radiology 2012 :468-77

Role of diffusion-weighted magnetic resonance imaging in characterization of renal tumors. Razek, A. A., Farouk, A., Mousa, A., and Nabil, N.. J Comput Assist Tomogr 2011 :332-6

Combination of core biopsy and fine-needle aspiration increases diagnostic rate for small solid renal tumors. Li, G., Cuilleron, M., Zhao, A., Obadia, F., Mouracade, P., Tostain, J., Cottier, M., Peoc'h, M., and Gigante, M.. Anticancer Res 2012 :3463-6

EUS-guided FNA aspiration of kidney masses: a multicenter U.S. experience. DeWitt, J., Gress, F. G., Levy, M. J., Hernandez, L. V., Eloubeidi, M. A., Mishra, G., Sherman, S., Al-Haddad, M. A., and LeBlanc, J. K.. Gastrointest Endosc 2009 :573-8

Contrast-enhanced ultrasound using a time-intensity curve for the diagnosis of renal cell carcinoma. Aoki, S., Hattori, R., Yamamoto, T., Funahashi, Y., Matsukawa, Y., Gotoh, M., Yamada, Y., and Honda, N.. BJU Int 2011 :349-54

The value of contrast enhanced ultrasound (CEUS) in the characterisation of patients with renal masses. Ignee, A., Straub, B., Brix, D., Schuessler, G., Ott, M., and Dietrich, C. F.. Clin Hemorheol Microcirc 2010 :275-90

Exophytic renal masses: angular interface with renal parenchyma for distinguishing benign from malignant lesions at MR imaging. Verma, S. K., Mitchell, D. G., Yang, R., Roth, C. G., O'Kane, P., Verma, M., and Parker, L.. Radiology 2010 :501-7

Minimal fat renal angiomyolipoma: the initial study with contrast-enhanced ultrasonography. Lu, Q., Wang, W., Huang, B., Li, C., and Li, C.. Ultrasound Med Biol 2012 :1896-901

Cytological punctures in the diagnosis of renal tumours: a study on accuracy and reproducibility. Kummerlin, I. P., Smedts, F., ten Kate, F. J., Horn, T., Algaba, F., Trias, I., Wijkstra, H., de la Rosette, J. J., and Laguna, M. P.. Eur Urol 2009 :187-95

Diffusion-weighted MRI in inflammatory renal lesions: all that glitters is not RCC!. Goyal, A., Sharma, R., Bhalla, A. S., Gamanagatti, S., and Seth, A.. Eur Radiol 2013 :272-9

Clear cell renal cell carcinoma: discrimination from other renal cell carcinoma subtypes and oncocytoma at multiphasic multidetector CT. Young, J. R., Margolis, D., Sauk, S., Pantuck, A. J., Sayre, J., and Raman, S. S.. Radiology 2013 :444-53

Accuracy of multiphase helical tomography in detection and characterisation of suspected renal masses using histopathological findings as gold standard. Siddiqui, T. S., Tariq, A., Rehman, B., Siddiqui, T. S., and Asim, A.. J Ayub Med Coll Abbottabad 2010 :170-3

Single-phase dual-energy CT allows for characterization of renal masses as benign or malignant. Graser, A., Becker, C. R., Staehler, M., Clevert, D. A., Macari, M., Arndt, N., Nikolaou, K., Sommer, W., Stief, C., Reiser, M. F., and Johnson, T. R.. Invest Radiol 2010 :399-405

Value of T2-weighted MR imaging in differentiating low-fat renal angiomyolipomas from other renal tumors. Choi, H. J., Kim, J. K., Ahn, H., Kim, C. S., Kim, M. H., and Cho, K. S.. Acta Radiol 2011 :349-53

Real-time 3D fluoroscopy-guided large core needle biopsy of renal masses: a critical early evaluation according to the IDEAL recommendations. Kroeze, S. G., Huisman, M., Verkooijen, H. M., van Diest, P. J., Ruud Bosch, J. L., and van den Bosch, M. A.. Cardiovasc Intervent Radiol 2012 :680-5

High temporal resolution 3D gadolinium-enhanced dynamic MR imaging of renal tumors with pharmacokinetic modeling: preliminary observations. Chandarana, H., Amarosa, A., Huang, W. C., Kang, S. K., Taneja, S., Melamed, J., and Kim, S.. J Magn Reson Imaging 2013 :802-8

Diagnostic efficacy of contrast-enhanced ultrasound for small renal masses. Oh, T. H., Lee, Y. H., and Seo, I. Y.. Korean J Urol 2014 :587-92

Percutaneous US-guided needle biopsies of solid renal masses. Aribas, B. K., Arda, K., Aktas, E., Ciledag, N., Yakut, F., Sahin, G., Cosar, Y., Dogan, K., and Kaya, G.. Neoplasma 2011 :146-52

Evaluation of percutaneous biopsies of renal masses under MRI-guidance: a retrospective study about 26 cases. Garnon, J., Schlier, A., Buy, X., Tsoumakidou, G., de Mathelin, M., Breton, E., and Gangi, A.. Eur Radiol 2014 :

Is there a role of the enhancement degree of the lesion on computerized tomography for the characterization of renal tumors?. Kutman, K., Suer, E., Beduk, Y., Ozturk, E., Gulpinar, O., Gokce, I., and Baltaci, S.. J Urol 2013 :436-40

Evaluation of malignant and benign renal lesions using diffusion-weighted MRI with multiple b values. Erbay, G., Koc, Z., Karadeli, E., Kuzgunbay, B., Goren, M. R., and Bal, N.. Acta Radiol 2012 :359-65

Contrast-enhanced ultrasonography in the diagnosis of solid renal tumors. Tamai, H., Takiguchi, Y., Oka, M., Shingaki, N., Enomoto, S., Shiraki, T., Furuta, M., Inoue, I., Iguchi, M., Yanaoka, K., Arii, K., Shimizu, Y., Nakata, H., Shinka, T., Sanke, T., and Ichinose, M.. J Ultrasound Med 2005 :1635-40

Indications for renal fine needle aspiration biopsy in the era of modern imaging modalities. Dragoescu, E. A. and Liu, L.. Cytojournal 2013 :15

Detection of renal lesion enhancement with dual-energy multidetector CT. Neville, A. M., Gupta, R. T., Miller, C. M., Merkle, E. M., Paulson, E. K., and Boll, D. T.. Radiology 2011 :173-83

Evaluation of imaging-guided fine-needle percutaneous biopsy of renal masses. Jaff, A., Molinie, V., Mellot, F., Guth, A., Lebret, T., and Scherrer, A.. Eur Radiol 2005 :1721-6

Renal mass core biopsy: accuracy and impact on clinical management. Maturen, K. E., Nghiem, H. V., Caoili, E. M., Higgins, E. G., Wolf, J. S. Jr, and Wood, D. P. Jr. AJR Am J Roentgenol 2007 :563-70

Diagnostic value of CT-guided biopsy of indeterminate renal masses. Eshed, I., Elias, S., and Sidi, A. A.. Clin Radiol 2004 :262-7

Renal lesions: characterization with diffusion-weighted imaging versus contrast-enhanced MR imaging. Taouli, B., Thakur, R. K., Mannelli, L., Babb, J. S., Kim, S., Hecht, E.

M., Lee, V. S., and Israel, G. M.. Radiology 2009 :398-407

Visceral obesity is associated with better recurrence-free survival after curative surgery for Japanese patients with localized clear cell renal cell carcinoma. Kaneko, G., Miyajima, A., Yuge, K., Yazawa, S., Mizuno, R., Kikuchi, E., Jinzaki, M., and Oya, M.. Jpn J Clin Oncol 2014 :

Role of percutaneous image-guided biopsy in the evaluation of renal masses. Hara, I., Miyake, H., Hara, S., Arakawa, S., Hanioka, K., and Kamidono, S.. Urol Int 2001 :199-202

[Characterization and outcome of renal cancers </= 4cm treated by surgery]. Gigante, M., Li, G., Gentil-Perret, A., Chamba, C., and Tostain, J.. Prog Urol 2010 :572-7

Can high-attenuation renal cysts be differentiated from renal cell carcinoma at unenhanced CT?. Jonisch, A. I., Rubinowitz, A. N., Mutalik, P. G., and Israel, G. M.. Radiology 2007 :445-50

Renal masses--evaluation by amplitude coded colour Doppler sonography and multiphasic contrast-enhanced CT. Riccabona, M., Szolar, D., Preidler, K., Uggowitzer, M., Kugler, C., Dorfler, O., and Schreyer, H. H.. Acta Radiol 99 :457-61

Role of ultrasonography in screening for urological malignancies in patients presenting with painless haematuria. Yip, S. K., Peh, W. C., Tam, P. C., Li, J. H., and Lam, C. H.. Ann Acad Med Singapore 99 :174-7

FDG PET characterization of renal masses: preliminary experience. Goldberg, M. A., Mayo-Smith, W. W., Papanicolaou, N., Fischman, A. J., and Lee, M. J.. Clin Radiol 97 :510-5

Dynamic computed tomography and color Doppler ultrasound of renal parenchymal neoplasms: correlations with histopathological findings. Kitamura, H., Fujimoto, H., Tobisu, K., Mizuguchi, Y., Maeda, T., Matsuoka, N., Komiyama, M., Nakagawa, T., and Kakizoe, T.. Jpn J Clin Oncol 2004 :78-81

Comparison of 16-MDCT and MRI for characterization of kidney lesions. Beer, A. J., Dobritz, M., Zantl, N., Weirich, G., Stollfuss, J., and Rummeny, E. J.. AJR Am J Roentgenol 2006 :1639-50

Utility of iodine overlay technique and virtual unenhanced images for the characterization of renal masses by dual-energy CT. Song, K. D., Kim, C. K., Park, B. K., and Kim, B.. AJR Am J Roentgenol 2011 :W1076-82

Computer-aided detection of kidney tumor on abdominal computed tomography scans. Kim, D. Y. and Park, J. W.. Acta Radiol 2004 :791-5

[Small incidental renal tumors. Evaluation and biological parameters]. Remzi, M. and Memarsadeghi, M.. Urologe A 2007 :478, 480-4

Multiphasic helical CT of the kidney: increased conspicuity for detection and characterization of small (< 3-cm) renal masses. Szolar, D. H., Kammerhuber, F., Altziebler, S., Tillich, M., Breinl, E., Fotter, R., and Schreyer, H. H.. Radiology 97 :211-7

Radiologically guided percutaneous fine-needle aspiration biopsy of pelvic and retroperitoneal masses: a retrospective study of 68 cases. Guo, Z., Kurtycz, D. F., De Las Casas, L. E., and Hoerl, H. D.. Diagn Cytopathol 2001 :43-9

Value of the diffusion-weighted MRI in the differential diagnostics of malignant and benign kidney neoplasms - our clinical experience. Mytsyk, Y., Borys, Y., Komnatska, I., Dutka, I., and Shatynska-Mytsyk, I.. Pol J Radiol 2014 :290-5

Fine-needle aspiration of cystic lesions of the kidney. Morphologic spectrum and diagnostic problems in 41 cases. Todd, T. D., Dhurandhar, B., Mody, D., Ramzy, I., and Truong, L. D.. Am J Clin Pathol 99 :317-28

Fast sequences with fat suppression in breath-hold mode: new standard in contrast-enhanced T1-weighted MR imaging of renal tumors?. Walter, C., Heindel, W., Kruessell, M., Kugel, H., Jung, G., and Gindele, A.. Eur Radiol 2001 :2092-8

Role of active surveillance in the management of small renal masses in elderly and co-morbid patients: A retrospective study with long-term follow-up. Brunocilla E., Borghesi M., Schiavina R., Della Mora L., Cevenini M., Pultrone C., Del Prete C., Gentile G., Monti C., and Martorana G.. Eur. Urol. Suppl. 2014 :e89

To biopsy or not to biopsy: Results of 1000 renal mass biopsies at a single institution. Deshmukh S.M., Dhyani M., McGovern F.J., McDougal W.S., Olumi A.F., Dahl D.M., Arellano R., Samir A., Blute M.L., and Feldman A.S.. J. Urol. 2013 :e437

Active surveillance of small renal masses: First Italian prospective study. Volpe A., Munegato S., Zegna L., Di Domenico A., De Angelis P., Mondino P., and Terrone C.. Eur. Urol. Suppl. 2013 :e174

Renal biopsy: Simple, safe and reliable. Fazakas Zs., Nagy V., Fekete Z., and Boszormenyi-Nagy G.. Eur. Urol. Suppl. 2012 :114-115

Role of percutaneous biopsy in the diagnosis of the small renal masses: Our experience. Cova G., Beniamin F., Dugo M., and Maccatrozzo L.. Anticancer Res. 2012 :1868-1869

Minimally invasive open tumor enucleation vs. percutaneous radiofrequency ablation vs. active surveillance of small renal masses <3 cm in elderly patients: Long-term results of a prospective follow-up study. Brausi M., De Luca G., Gavioli M., Verrini G., Peracchia G., Romano A., Viola M., and Giliberto G.L.. Anticancer Res. 2011 :1819

Quantification of competing risks of death in patients with localized renal cell carcinoma (RCC): A comprehensive nomogram incorporating co-morbidities. Kutikov A., Egleston B.L., Smaldone M.C., Canter D., Wong Y.-N., and Uzzo R.G.. J. Urol. 2011 :e666

Evaluation of renal tumors by Image Guided biopsies with an empahasis on oncocytic neoplasms: A retrospective four year study from a large academic institution. Bhalla R., Wu A., and Kunju L.. J. Urol. 2011 :e282

Evaluation of renal tumors by image guided biopsies with an emphasis on oncocytic neoplasms: A retrospective four year study from a large academic institution. Bhalla R., Wu A., and Kunju L.P.. Lab. Invest. 2011 :180A

Mini-invasive open tumour enucleation vs. percutaneous radiofrequency ablation (PRA) of small renal masses <3 cm in elderly patients: Long-term results of a prospective follow-up study. Brausi M., De Luca G., Gavioli M., Verrini G., Simonini G., Romano A., Peracchia G., Viola M., and Giliberto G.L.. Anticancer Res. 2010 :1401

Correlation between Fuhrman grading in percutaneous needle biopsy and surgical resection specimens in clear cell renal carcinoma (less-than or equal to) 4 cm in size. Fahim L., Finelli A., Ryan P., Jewett M., Kachura J., and Evans A.J.. Lab. Invest. 2010 :190A

Radiofrequency ablation of small renal masses: Prognostic implications of a history of RCC and solitary kidney. Tailly T., Oyen R., Van Poppel H., and Joniau S.. J. Endourol. 2009 :A10

Results of RFA in patients with small renal masses, a single-centre experience with median follow-up of 48 months. Joniau S., Tailly T., Goeman L., Oyen R., and Van Poppel H.. J. Endourol. 2009 :A9

Helical CT evaluation of renal mass lesions: A prospective study. Bajwa R.P.S., Sandhu P., Aulakh B.S., Sandhu J.S., Saggar K., and Ahluwalia A.. J. Indian Acad. Clin. Med. 2007 :262-264

Differential diagnosis of renal oncocytoma and carcinoma by spiral CT. Zhang J., Ma D.-Q., He W., Zhang Z.-J., Hu Y.-M., and Xu Y.. Chin. J. Med. Imaging Technol. 2007 :718-720

Characterization and staging of renal tumors: Significance of MRI diagnostics: Charakterisierung und staging von nierentumoren: Bedeutung der MRT-diagnostik. Kalinka A., Gerlach A., Arlart I.P., Gunes N., Hauser T.-K., Wurstlin S., and Bosse A.. RoFo Fortschr. Geb. Rontgenstr. Bildgebenden Verfahren 2006 :298-305

Factors Associated with Diagnostic Accuracy When Performing a Preablation Renal Biopsy. Lorber, G., Jorda, M., and Leveillee, R.. J Endourol 2014 :

CT perfusion in the characterisation of renal lesions: an added value to multiphasic CT. Mazzei, F. G., Mazzei, M. A., Cioffi Squitieri, N., Pozzessere, C., Righi, L., Cirigliano, A., Guerrini, S., D'Elia, D., Ambrosio, M. R., Barone, A., del Vecchio, M. T., and Volterrani, L.. Biomed Res Int 2014 :135013

Predictors of 30-day acute kidney injury following radical and partial nephrectomy for renal cell carcinoma. Schmid, M., Abd-El-Barr, A. E., Gandaglia, G., Sood, A., Olugbade, K. Jr, Ruhotina, N., Sammon, J. D., Varda, B., Chang, S. L., Kibel, A. S., Chun, F. K., Menon, M., Fisch, M., and Trinh, Q. D.. Urol Oncol 2014 :

The impact of hospital volume on postoperative complications following robot-assisted partial nephrectomy. Monn, M. F., Bahler, C. D., Flack, C. K., Dube, H. T., and Sundaram, C. P.. J Endourol 2014 :1231-6

The association of baseline health and gender with small renal mass pathology. Bazzi, W. M., Dejbakhsh, S. Z., Bernstein, M., and Russo, P.. Can J Urol 2014 :7271-6

Cancer-free survival and local tumor control after impendence-based radiofrequency ablation of biopsy-proven renal cell carcinomas with a minimum of 1-year follow-up. Forauer, A. R., Dewey, B. J., and Seigne, J. D.. Urol Oncol 2014 :869-76

Does gender influence morbidity or mortality in the surgical treatment of renal masses?. Minnillo, B. J., Horowitz, A., Finelli, A., Alibhai, S. M., Ponsky, L. E., and Abouassaly, R.. Can Urol Assoc J 2014 :E311-6

Predictive factors for benign lesions in partially or radically resected kidneys in a single independent cancer center. Soga, N., Ogura, Y., and Hayashi, N.. Curr Urol 2013 :70-4

Outcomes in patients undergoing nephrectomy for renal cancer on chronic anticoagulation therapy. Sfakianos, J. P., Hakimi, A. A., Kim, P. H., Zabor, E. C., Mano, R., Bernstein, M., Karellas, M., and Russo, P.. Eur J Surg Oncol 2014 :

Laparoscopic partial nephrectomy for multilocular cystic renal cell carcinoma: a potential gold standard treatment with excellent perioperative outcomes. Xu, B., Mi, Y., Zhou, L. Q., Jin, J., Zhang, Q., and Chen, G. F.. World J Surg Oncol 2014 :111

Race and sex disparities in the treatment of older patients with T1a renal cell carcinoma: a comorbidity-controlled competing-risks model. Patel, H. D., Kates, M., Pierorazio, P. M., and Allaf, M. E.. Urol Oncol 2014 :576-83

The impact of type 2 diabetes on the outcome of localized renal cell carcinoma. Hofner, T., Zeier, M., Hatiboglu, G., Eisen, C., Schonberg, G., Hadaschik, B., Teber, D., Duensing, S., Trumpp, A., Hohenfellner, M., and Pahernik, S.. World J Urol 2013 :

Renal function following curative surgery for renal cell carcinoma: who is at risk for renal insufficiency?. Kong, H. J., Park, J. S., Kim, D. Y., Shin, H. S., and Jung, H. J.. Korean J Urol 2013 :830-3

Estimating the risk of chronic kidney disease after nephrectomy. Ngo, T. C., Hurley, M. P., Thong, A. E., Jeon, S. H., Leppert, J. T., and Chung, B. I.. Can J Urol 2013 :7035-41

Is there a volume-outcome relationship for partial nephrectomy?. Couapel, J. P., Bensalah, K., Bernhard, J. C., Pignot, G., Zini, L., Lang, H., Rigaud, J., Salomon, L., Bellec, L., Soulie, M., Vaessen, C., Roupret, M., Jung, J. L., Mourey, E., Bigot, P., Bruyere, F., Berger, J., Ansieau, J. P., Gimel, P., Salome, F., Hubert, J., Pfister, C., Baumert, H., Timsit, M. O., Mejean, A., and Patard, J. J.. World J Urol 2014 :1323-9

Percutaneous renal cryoablation: prospective experience treating 120 consecutive tumors. Buy, X., Lang, H., Garnon, J., Sauleau, E., Roy, C., and Gangi, A.. AJR Am J Roentgenol 2013 :1353-61

Incidence and risk factors of chronic kidney disease in korean patients with t1a renal cell carcinoma before and after radical or partial nephrectomy. Kim, S. H., Lee, S. E., Hong, S. K., Jeong, C. W., Park, Y. H., Kim, Y. J., Kang, S. H., Hong, S. H., Choi, W. S., and Byun, S. S.. Jpn J Clin Oncol 2013 :1243-8

Small tumour size is associated with new-onset chronic kidney disease after radical nephrectomy in patients with renal cell carcinoma. Jeon, H. G., Choo, S. H., Sung, H. H., Jeong, B. C., Seo, S. I., Jeon, S. S., Choi, H. Y., and Lee, H. M.. Eur J Cancer 2014 :64-9

A population-based competing-risks analysis of survival after nephrectomy for renal cell carcinoma. Bianchi, M., Gandaglia, G., Trinh, Q. D., Hansen, J., Becker, A., Abdollah, F., Tian, Z., Lughezzani, G., Roghmann, F., Briganti, A., Montorsi, F., Karakiewicz, P. I., and Sun, M.. Urol Oncol 2014 :46.e1-7

The 1-year decline in estimated glomerular filtration rate (eGFR) after radical nephrectomy in patients with renal masses and matched living kidney donors is the same. Hew, M. N., Opondo, D., Cordeiro, E. R., van Donselaar-van der Pant, K. A., Bemelman, F. J., Idu, M. M., de la Rosette, J. J., and Laguna, M. P.. BJU Int 2014 :E49-55

Trends in renal function after radical nephrectomy: a multicentre analysis. Chung, J. S., Son, N. H., Byun, S. S., Lee, S. E., Hong, S. K., Jeong, C. W., Lee, S. C., Chae, D. W., Choi, W. S., Park, Y. H., Hong, S. H., Kim, Y. J., and Kang, S. H.. BJU Int 2014 :408-15

Health-related quality of life in long-term survivors after renal cancer treatment. Beisland, C., Beisland, E., Hjelle, K. M., Bostad, L., Hjermstad, M. J., Aarstad, A. K., and Aarstad, H. J.. Scand J Urol 2014 :52-64

Cystic renal cell carcinomas: do they grow, metastasize, or recur?. Jhaveri, K., Gupta, P., Elmi, A., Flor, L., Moshonov, H., Evans, A., and Jewett, M.. AJR Am J Roentgenol 2013 :W292-6

How can the R.E.N.A.L. nephrometry scoring system aid management of a solid renal mass?. Wong, M. H., Cho, K. Y., Ho, K. L., Wong, K. W., Lai, C. T., Man, C. M., and Yiu, M. K.. Hong Kong Med J 2014 :37-44

Charlson score as a single pertinent criterion to select candidates for active surveillance among patients with small renal masses. Audenet, F., Audouin, M., Drouin, S. J., Comperat, E., Mozer, P., Chartier-Kastler, E., Mejean, A., Cussenot, O., Shariat, S. F., and Roupret, M.. World J Urol 2014 :513-8

Predictive preoperative factors for renal insufficiency in patients followed for more than 5 years after radical nephrectomy. Ahn, J. S., Kim, H. J., Jeon, H. G., Jeong, B. C., Seo, S. I., Lee, H. M., Choi, H. Y., and Jeon, S. S.. Korean J Urol 2013 :303-10

Laparoendoscopic single-site nephrectomy compared with conventional laparoscopic nephrectomy: a 5-year, single-surgeon experience. Antonelli, J. A., Bagrodia, A., Odom, C., Olweny, E. O., Faddegon, S., and Cadeddu, J. A.. Eur Urol 2013 :412-8

Robotic-assisted transperitoneal nephron-sparing surgery for small renal masses with associated surgical procedures: surgical technique and preliminary experience. Ceccarelli, G., Codacci-Pisanelli, M., Patriti, A., Ceribelli, C., Biancafarina, A., and Casciola, L.. Updates Surg 2013 :183-90

Perioperative mortality and associated factors in patients undergoing radical nephrectomy. Diaz-Hung, A. M., Garcia-Perdomo, H. A., Carbonell-Gonzalez, J., Castillo-Cobaleda, D. F., and Garcia-Angel, A. F.. Actas Urol Esp 2013 :608-12

Factors that affect proportional glomerular filtration rate after minimally invasive partial nephrectomy. Hakimi, A. A., Ghavamian, R., Williams, S. K., Kim, P. H., Chen, L., Sfakianos, J. P., Keren-Paz, G. E., Sankin, A., Ginzburg, N., and Coleman, J. A.. J Endourol 2013 :1371-5

Diagnostic radiation exposure during surveillance in patients with pT1a renal cell carcinoma. Lipsky, M. J., Shapiro, E. Y., Hruby, G. W., and McKiernan, J. M.. Urology 2013 :1190-5

Laparoendoscopic single-site partial nephrectomy: a multi-institutional outcome analysis. Greco, F., Autorino, R., Rha, K. H., Derweesh, I., Cindolo, L., Richstone, L., Herrmann, T. R., Liatsikos, E., Sun, Y., Fanizza, C., Nagele, U., Stolzenburg, J. U., Rais-Bahrami, S., Liss, M. A., Schips, L., Kassab, A., Wang, L., Kallidonis, P., Wu, Z., Young, S. T., Mohammed, N., Haber, G. P., Springer, C., Fornara, P., and Kaouk, J. H.. Eur Urol 2013 :314-22

Iatrogenic splenectomy during nephrectomy for renal tumors. Wang, J. K., Tollefson, M. K., Kim, S. P., Boorjian, S. A., Leibovich, B. C., Lohse, C. M., Cheville, J. C., and Thompson, R. H.. Int J Urol 2013 :896-902

A single overnight stay is possible for most patients undergoing robotic partial nephrectomy. Abaza, R. and Shah, K.. Urology 2013 :301-6

Renal function outcomes for multifocal renal neoplasms managed by radiofrequency ablation. Gupta, P., Allen, B. C., Chen, M. Y., Childs, D. D., Kota, G., and Zagoria, R. J.. Cardiovasc Intervent Radiol 2013 :1329-35

Renal cell carcinoma: radiofrequency ablation with a multiple-electrode switching system--a phase II clinical study. Takaki, H., Nakatsuka, A., Uraki, J., Yamanaka, T., Fujimori, M., Hasegawa, T., Arima, K., Sugimura, Y., and Yamakado, K.. Radiology 2013 :285-92

Prevalence and impact on survival of positive surgical margins in partial nephrectomy for renal cell carcinoma: a population-based study. Ani, I., Finelli, A., Alibhai, S. M., Timilshina, N., Fleshner, N., and Abouassaly, R.. BJU Int 2013 :E300-5

Comparison of laparoendoscopic single-site and multiport laparoscopic radical and partial nephrectomy: a

prospective, nonrandomized study. Bazzi, W. M., Stroup, S. P., Kopp, R. P., Cohen, S. A., Sakamoto, K., and Derweesh, I. H.. Urology 2012 :1039-45

[Haemostasis control during laparoscopic partial nephrectomy without parenchymal renorrhaphy: the VIVOSTAT((R)) experience]. Hevia, M., Abascal-Junquera, J. M., Sacristan, R., Suarez, J., Lobo, B., Mendez, S., Pellejero, P., and Abascal-Garcia, R.. Actas Urol Esp 2013 :47-53

Evaluation of patient-reported quality-of-life outcomes after renal surgery. Kim, S. B., Williams, S. B., Cheng, S. C., Sanda, M. G., and Wagner, A. A.. Urology 2012 :1268-73

Comparison of total, selective, and nonarterial clamping techniques during laparoscopic and robot-assisted partial nephrectomy. Martin, G. L., Warner, J. N., Nateras, R. N., Andrews, P. E., Humphreys, M. R., and Castle, E. P.. J Endourol 2012 :152-6

Significant impact of age at diagnosis on the prognosis of Japanese patients with pT1 renal cell carcinoma following surgical resection. Sakai, I., Miyake, H., Muramaki, M., Kondo, Y., Kusuda, Y., Yamada, Y., and Fujisawa, M.. BJU Int 2012 :695-9

The effect of age on the morbidity of kidney surgery. Abouassaly, R., Alibhai, S. M., Tomlinson, G. A., Urbach, D. R., and Finelli, A.. J Urol 2011 :811-6

Comparison of rates and risk factors for development of osteoporosis and fractures after radical or partial nephrectomy. Bagrodia, A., Mehrazin, R., Bazzi, W. M., Silberstein, J., Malcolm, J. B., Stroup, S. P., Raheem, O., Wake, R. W., Kane, C. J., Patterson, A. L., Wan, J. Y., and Derweesh, I. H.. Urology 2011 :614-9

Anatomic features of enhancing renal masses predict malignant and high-grade pathology: a preoperative nomogram using the RENAL Nephrometry score. Kutikov, A., Smaldone, M. C., Egleston, B. L., Manley, B. J., Canter, D. J., Simhan, J., Boorjian, S. A., Viterbo, R., Chen, D. Y., Greenberg, R. E., and Uzzo, R. G.. Eur Urol 2011 :241-8

Population-level comparative effectiveness of laparoscopic versus open radical nephrectomy for patients with kidney cancer. Tan, H. J., Wolf, J. S. Jr, Ye, Z., Wei, J. T., and Miller, D. C.. Cancer 2011 :4184-93

Young age as favorable prognostic factor for cancer-specific survival in localized renal cell carcinoma. Komai, Y., Fujii, Y., Iimura, Y., Tatokoro, M., Saito, K., Otsuka, Y., Koga, F., Arisawa, C., Kawakami, S., Okuno, T., Tsujii, T., Kageyama, Y., Morimoto, S., Toma, T., Higashi, Y., Fukui, I., and Kihara, K.. Urology 2011 :842-7

Renal cell carcinoma in octogenarians: nephron sparing surgery should remain the standard of care. Hellenthal, N. J., Mansour, A. M., Hayn, M. H., and Schwaab, T.. J Urol 2011 :415-20

Oncologic long-term outcome of elective nephron-sparing surgery versus radical nephrectomy in patients with renal cell carcinoma stage pT1b or greater in a matched-pair cohort. Roos, F. C., Brenner, W., Muller, M., Schubert, C., Jager, W. J., Thuroff, J. W., and Hampel, C.. Urology 2011 :803-8

The role of percutaneous needle biopsy in differentiation of renal tumors. Izumi, K., Narimoto, K., Sugimoto, K., Kobori, Y., Maeda, Y., Mizokami, A., Koh, E., Yamada, T., Yano, S., and Namiki, M.. Jpn J Clin Oncol 2010 :1081-6

Identifying the risk of disease progression after surgery for localized renal cell carcinoma. Abel, E. J., Culp, S. H., Meissner, M., Matin, S. F., Tamboli, P., and Wood, C. G.. BJU Int 2010 :1277-83

Predictive factors for ipsilateral recurrence after nephron-sparing surgery in renal cell carcinoma. Bernhard, J. C., Pantuck, A. J., Wallerand, H., Crepel, M., Ferriere, J. M., Bellec, L., Maurice-Tison, S., Robert, G., Albouy, B., Pasticier, G., Soulie, M., Lopes, D., Lacroix, B., Bensalah, K., Pfister, C., Thuret, R., Tostain, J., De La Taille, A., Salomon, L., Abbou, C., Colombel, M., Belldegrun, A. S., and Patard, J. J.. Eur Urol 2010 :1080-6

Predicting renal functional outcomes after surgery for renal cortical tumours: a multifactorial analysis. Barlow, L. J., Korets, R., Laudano, M., Benson, M., and McKiernan, J.. BJU Int 2010 :489-92

Renal functional outcomes for tumours in a solitary kidney managed by ablative or extirpative techniques. Raman, J. D., Raj, G. V., Lucas, S. M., Williams, S. K., Lauer, E. M., Ahrar, K., Matin, S. F., Leveillee, R. J., and Cadeddu, J. A.. BJU Int 2010 :496-500

Robotic partial nephrectomy with sliding-clip renorrhaphy: technique and outcomes. Benway, B. M., Wang, A. J., Cabello, J. M., and Bhayani, S. B.. Eur Urol 2009 :592-9

Pathological tumour diameter predicts risk of conventional subtype in small renal cortical tumours. Laudano, M. A., Klafter, F. E., Katz, M., McCann, T. R., Desai, M., Benson, M. C., and McKiernan, J. M.. BJU Int 2008 :1385-8

Survival rates after resection for localized kidney cancer: 1989 to 2004. Russo, P., Jang, T. L., Pettus, J. A., Huang, W. C., Eggener, S. E., O'Brien, M. F., Karellas, M. E., Karanikolas, N. T., and Kagiwada, M. A.. Cancer 2008 :84-96

Management of renal tumors by image-guided radiofrequency ablation: experience in 105 tumors. Breen, D. J., Rutherford, E. E., Stedman, B., Roy-Choudhury, S. H., Cast, J. E., Hayes, M. C., and Smart, C. J.. Cardiovasc Intervent Radiol 2007 :936-42

Retroperitoneoscopic radical nephrectomy in obese patients: outcomes and considerations. Inoue, S., Mita, K., Shigeta, M., Mochizuki, H., Tanabe, T., Moriyama, H., and Usui, T.. Urol Int 2006 :252-5

Image-guided biopsy in the evaluation of renal mass lesions in contemporary urological practice: indications, adequacy, clinical impact, and limitations of the pathological diagnosis. Shah, R. B., Bakshi, N., Hafez, K. S., Wood, D. P. Jr, and Kunju, L. P.. Hum Pathol 2005 :1309-15

Application of TNM, 2002 version, in localized renal cell carcinoma: is it able to predict different cancer-specific survival probability?. Ficarra, V., Novara, G., Galfano, A., Novella, G., Schiavone, D., and Artibani, W.. Urology 2004 :1050-4

Laparoscopic radical nephrectomy in obese patients: outcomes and technical considerations. Fugita, O. E., Chan, D. Y., Roberts, W. W., Kavoussi, L. R., and Jarrett, T. W.. Urology 2004 :247-52; discussion 252

Clinicopathological factors predicting recurrence of N0M0 renal cell carcinoma: a case series analysis of one facility. Masuda, A., Aoki, M., Tokunaga, M., Usui, Y., Abe, T., Miyakita, H., Kinoshita, H., Kawamura, N., and Terachi, T.. Int J Urol 2003 :511-7

Percutaneous computed tomography-guided radiofrequency ablation of renal masses in high surgical risk patients: preliminary results. Su, L. i., Jarrett, T. W., Chan, D. Y., Kavoussi, L. R., and Solomon, S. B.. Urology 2003 :26-33

Renal cell carcinoma in patients with prior spinal cord injury. Brandes, S. B., Smith, J. B., Longo, W. E., Virgo, K. S., and Johnson, F. E.. J Spinal Cord Med 2001 :251-6

Comparison of complications after radical and partial nephrectomy: results from the National Veterans Administration Surgical Quality Improvement Program. Corman, J. M., Penson, D. F., Hur, K., Khuri, S. F., Daley, J., Henderson, W., and Krieger, J. N.. BJU Int 2000 :782-9

Partial nephrectomy for renal tumours: the Singapore General Hospital experience. Yip, S. K., Cheng, W. S., Tan, B. S., Li, M. K., and Foo, K. T.. J R Coll Surg Edinb 99 :156-60

Imaging guided biopsy of renal masses: indications, accuracy and impact on clinical management. Wood, B. J., Khan, M. A., McGovern, F., Harisinghani, M., Hahn, P. F., and Mueller, P. R.. J Urol 99 :1470-4

Partial nephrectomy for selected renal cortical tumours of (greater-than or equal to)7 cm. Karellas M.E., Obrien M.F., Jang T.L., Bernstein M., and Russo P.. BJU Int. 2010 :1484-1487

Bilateral renal cell carcinoma. Therapy management and histopathological results in long-term follow-up of 66 patients: Der bilaterale nierentumor. Therapiemanagement und histopathologische ergebnisse mit langzeitverlauf bei 66 patienten. Siemer S., Uder M., Zell A., Ponicke C., Humke U., Ziegler M., and Stockle M.. Urologe Ausg. A 2001 :114-120

Laparoscopic procedures in urology: Laparoskopische operationen in der urologie. Turk I., Deger S., Schonberger B., and Loening S.A.. J. Urol. Urogynakol. 99 :69-72

Characterization of small solid renal lesions: can benign and malignant tumors be differentiated with CT?. Millet, I., Doyon, F. C., Hoa, D., Thuret, R., Merigeaud, S., Serre, I., and Taourel, P.. AJR Am J Roentgenol 2011 :887-96

RENAL nephrometry score is a predictive factor for the annual growth rate of renal mass. Matsumoto, R., Abe, T., Shinohara, N., Murai, S., Maruyama, S., Tsuchiya, K., and Nonomura, K.. Int J Urol 2014 :549-52

Appendix D: Evidence Table

Evidence Tables for KQs 1 and 2-Diagnostic KQs

Table D1: Study characteristics table

Author, year	Study design	Study site Study location		Start year of recruitment
Akdogan, 2012[1]	Retrospective cohort	Single center	Europe	1990
Antonelli, 2014[2]	Retrospective cohort	Single center	North America	2010
Bazzi, 2014[3]	Retrospective cohort	Single center	North America	1998
Campbell, 1997[4]	Prospective cohort	Single center	North America	1994
Choi, 2012[5]	Retrospective cohort	Single center	Asia	2000
Chung, 2014[6]	Retrospective cohort	Single center	Asia	2008
Chyhrai, 2010[7]	Retrospective cohort	Single center	Europe	2004
Fujita, 2013[8]	Prospective cohort	Single center	Asia	2000
Halverson, 2013[9]	Retrospective cohort	Single center	North America	1999
Harisinghani, 2003[10]	Retrospective cohort	Single center	North America	1991
Jeon, 2010[11]	Retrospective cohort	Single center	Asia	1997
Kava, 2012[12]	Prospective cohort	Single center	North America	1992
Keehn, 2014[13]	Retrospective cohort	Single center	North America	2002
Koo, 2013[14]	Retrospective cohort	Single center	Asia	2005
Lane, 2007[15]	Retrospective cohort	Single center	North America	1999
Leveridge, 2011[16]	Retrospective cohort	Single center	North America	2000
Londono, 2013[17]	Retrospective cohort	Single center	North America	2005
Menogue, 2012[18]	Case series	Single center	Australia	1999
Millet, 2012[19]	Retrospective cohort	Single center	Europe	2006
Mullins, 2012[20]	Retrospective cohort	Multiple center	North America	2007
Murphy, 2009[21]	Retrospective cohort	Single center	North America	1988
Neuzillet, 2003[22]	Retrospective cohort	Single center	Europe	1995
Nishikawa, 2014[23]	Retrospective cohort	Single center	Asia	2002
Park, 2011[24]	Retrospective cohort	Single center	Asia	2000
Park, 2013[25]	Retrospective cohort	Single center	Asia	2004
Rosenkratz, 2014[26]	Retrospective cohort	Single center	North America	NR
Salem, 2012[27]	Retrospective cohort	Single center	Asia	NR
Shannon, 2008[28]	Retrospective cohort	Single center	Australia	2000
Sofikerim, 2009[29]	Prospective cohort	Single center	Asia	2001
Soga, 2012[30]	Retrospective cohort	Single center	Asia	1991
Vasudevan, 2006[31]	Retrospective cohort	Single center	Australia	2000
Volpe, 2008[32]	Retrospective cohort	Single center	North America	2000
Wang, 2009[33]	Retrospective cohort	Single center	North America	1999
Xiong, 2010[34]	Retrospective cohort	Single center	Asia	1999

NR: Not Reported

No Study reported source of funding

Table D2: Participant characteristics

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women:n(%)	Age (years) Mean, Median, Range SD	Race, n(%) White (W), African American (AA), Asian (As), Others,	BMI: Mean (SD)	Current smokers(CS), n(%) Hypertension (H), n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, (SK)n(%)	GFR	Creatinine
Akdogan, 2012[1]	Benign (88)	NR	49(28.2)	Median: 53.1 SD: 11.6	NR	NR	NR	NR	NR
Akdogan, 2012[1]	RCC (362)	NR	125(71.8)	Median: 54.9 SD: 11.6	NR	NR	NR	NR	NR
Akdogan, 2012[1]	Overall (450)	NR	174(38.3)	Median: 54.5 SD: 11.8	NR	NR	NR	NR	NR
Antonelli, 2014[2]	Overall (506)	NR	183(36.2)	Median: 64.8 Range: 14-85	NR	NR	NR	NR	NR
Bazzi, 2014[3]	Overall (1726)	NR	681(39.5)	Median: 60.5 IQR: 51.6-69.1	W: 1553(90) AA: 78(4.5) Others: 95(5.5)	NR	CKD-3: 523(30.3)	Median: 68.5 IQR: 57.7-81.8 Unit: ml/min/1.73m2	Median: 1.1 IQR: 0.9-1.2 Unit: mg/dl
Campbell, 1997[4]	Overall (25)	NR	NR	NR	NR	NR	NR	NR	NR
Choi, 2012[5]	Benign (17)	NR	10(59)	Mean: 61.3 Range: 31-75	NR	NR	NR	NR	NR
Choi, 2012[5]	Malignant (67)	NR	17(25)	Mean: 63.2 Range: 32-83	NR	NR	NR	NR	NR
Chung, 2014[6]	-111	Mean: 16 Unit: months	46(NR)	Mean: men: 55.5, women: 49.5 Range: 17-78	NR	NR	NR	NR	NR
Chyhrai, 2010[7]	Overall (25)	Mean: 24 Unit: months	NR	Mean: 63 SD: 7.7	NR	NR	NR	NR	NR
Fujita, 2013[8]	Benign	NR	8(66.7)	Mean: 53.9	NR	NR	NR	NR	NR

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women:n(%)	Age (years) Mean, Median, Range SD	Race, n(%) White (W), African American (AA), Asian (As), Others,	BMI: Mean (SD)	Current smokers(CS), n(%) Hypertension (H), n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, (SK)n(%)	GFR	Creatinine
	lesions (12)			Median: 52.5 Range: 30-71					
Fujita, 2013[8]	RCC (137)	NR	41(29.9)	Mean: 59.9 Median: 62 Range: 23-81	NR	NR	NR	NR	NR
Halverson, 2013,[9]	-151	NR	NR	Mean: 59 SD: 14	NR	NR	NR	NR	NR
Harisinghani, 2003[10]	Overall (28)	Median: 18 Unit: months	10(NR)	Range: 40-70	NR	NR	NR	NR	NR
Jeon, 2010[11]	Benign (81)	Mean: 12 Unit: months	49(39.8)	Mean: 49.2 SD: 13.3	Asian: 81(100)	Mean: 23.3 SD: 2.7	H: 21(25.9) DM: 6(7.4)	Mean: 81.3 SD: 15.6 Unit: GFR, mL/min/1.73 m2	NR
Jeon, 2010[11]	RCC (295)	Mean: 12 Unit: months	74(60.2)	Mean: 54.7 SD: 12.9	Asian: 295(100)	Mean: 24.2 SD: 2.8	H: 95(32.2) DM: 28(9.5)	Mean: 82.3 SD: 20.6 Unit: GFR, mL/min/1.73 m2	NR
Kava, 2012[12]	Benign (76)	NR	52(38)	Mean: 59.5 SD: 1.25	NR	Mean: 26.5 SD: 4.5	CS: 15(19.7)	NR	NR
Kava, 2012[12]	Malignant (240)	NR	85(62)	Mean: 57 SD: 1.6	NR	Mean: 28.6 SD: 5.6	CS: 51(21)	NR	NR
Keehn, 2014[13*]	Overall (125)	NR	60(48)	Median: 63 IQR: 53.5-70.5	AA: 57(45.6) Others: 68(54.4)	Median: 29.5 IQR: 25.6-33.4	NR	NR	Median: 1 IQR: 0.8-1.2 Unit: mg/dl
Koo, 2013[14]	Patients with cT1 (1129)	NR	381(33.7)	Median: 54 Range: 18-88	NR	NR	NR	NR	NR
Koo, 2013[14]	Patients with cT1a (754)	NR	271(35.9)	Median: 55 Range: 18-84	NR	NR	NR	NR	NR
Lane,	Overall (851)	Median: 1.4	NR(36)	Median:60	NR	NR	CS: 249(20)	NR	Median: 1

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women:n(%)	Age (years) Mean, Median, Range SD	Race, n(%) White (W), African American (AA), Asian (As), Others,	BMI: Mean (SD)	Current smokers(CS), n(%) Hypertension (H), n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, (SK)n(%)	GFR	Creatinine
2007[15]		Unit: years		Range:23-87			SK: 107(13)		Range: 0.4-5.3 Unit: mg/dl
Leveridge, 2011[16]	-294	NR	NR	Median: 64 Range: 25.7-89.5	NR	NR	NR	NR	NR
Londono, 2013[17]	Overall (126)	NR	NR(33.3)	Mean: 65.3 SD: 14.6	W: NR(76.2) AA: NR(3.2) Asian: NR(3.2) Others: NR(4)	NR	NR	NR	NR
Menogue, 2012[18]	Overall (250)	NR	NR	Median: 64 Range: 22-88	NR	NR	NR	NR	NR
Millet, 2012[19]	-187	NR	30(50)	Median: 60 Range: 20-85	NR	NR	NR	NR	NR
Mullins, 2012[20]	-873	NR	NR	NR	NR	NR	NR	NR	NR
Murphy, 2009[21]	Benign (106)	NR	51(20.9)	Mean: 61.7 Median: 65.5	W: 83(14.2) Others: 23(12.2)	NR	NR	NR	NR
Murphy, 2009[21]	Malignant (669)	NR	192(79.1)	Mean: 61.7 Median: 63.7	W: 503(85.8) Others: 166(87.8)	NR	NR	NR	NR
Neuzillet, 2003 [22]	Overall (88)	NR	40(45)	Mean: 61.32 Median: 64 Range: 21-88	NR	NR	NR	NR	NR
Nishikawa, 2014[23]	Overall (144)	NR	49(34)	Mean: 60.9 SD: 12.5	NR	Mean: 24.5 SD: 3.6	NR	NR	NR
Nishikawa, 2014[23]	Group 1(with an imaging	NR	35(34.3)	Mean: 62.1 SD: 12.1	NR	Mean: 24.6 SD: 3.4	NR	NR	NR

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women:n(%)	Age (years) Mean, Median, Range SD	Race, n(%) White (W), African American (AA), Asian (As), Others,	BMI: Mean (SD)	Current smokers(CS), n(%) Hypertension (H), n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, (SK)n(%)	GFR	Creatinine
	pattern typical for CCRCC) (102)								
Nishikawa, 2014[23]	Group 2(with an imaging pattern atypical for CCRCC) (42)	NR	14(33.4)	Mean: 58 SD: 13.1	NR	Mean: 24.1 SD: 3.6	NR	NR	NR
Park, 2013[25]	-59	NR	18(NR)	Mean: 56.8 Range: 24.0-79.0	NR	NR	NR	NR	NR
Park, 2011[24]	Benign (114)	NR	70(61.4)	Mean: 53.4 Range: 25-82	Asian: 114(100)	NR	SK: 0(0)	NR	NR
Park, 2011[24]	Malignant (1484)	NR	447(30.1)	Mean: 54.4 Range: 10--86	Asian: 1484(100)	NR	NR	NR	NR
Rosenkratz, 2014[26]	-86	NR	41(NR)	Mean: 61 SD: 13	NR	NR	NR	NR	NR
Salem, 2012[27]	Overall (145)	Mean: 25 Unit: months	46(31.7)	Mean: 67.2 SD: 11.6	NR	NR	SK: 3(2.1)	NR	NR
Shannon, 2008[28]	Overall (221)	Median: 18 Unit: months	NR	Mean: 64 Range: 22-92	NR	NR	NR	NR	NR
Sofikerim, 2009[29]	-42	Mean: 44.8 Unit: months	21(50)	Mean: 56.1 Range: 21-77	NR	NR	NR	NR	NR
Soga, 2012[30]	Overall (409)	NR	100(24.4)	Mean: 60.5 Range: 22-86	NR	NR	NR	NR	NR
Vasudevan, 2006[31]	Overall (92)	NR	NR	Mean: 62 Range: 22-92	NR	NR	NR	NR	NR

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women:n(%)	Age (years) Mean, Median, Range SD	Race, n(%) White (W), African American (AA), Asian (As), Others,	BMI: Mean (SD)	Current smokers(CS), n(%) Hypertension (H), n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, (SK)n(%)	GFR	Creatinine
Volpe, 2008[32]	Overall (100)	Mean: 22 Unit: months	NR	NR	NR	NR	NR	NR	NR
Wang, 2009[33]	Overall (110)	Median: 1.1 Unit: year	38(NR)	Mean: 60.4 Range: 28-91	W: 92(NR) AA: 6(NR) Asian: 3(NR) Others: 5(NR)	NR	NR	NR	NR
Xiong, 2010[34]	Benign (31)	NR	20(7)	NR	Asian: 31(100)	NR	NR	NR	NR
Xiong, 2010[34]	Malignant (272)	NR	92(30)	NR	Asian: 272(100)	NR	NR	NR	NR

GFR=Glomerular Filtration Rate; NR=Not reported; n=Number; IQR=Inter Quartile Range CCI=Charlson Co-Morbidity Index; DM=Diabetes Mellitus; BMI=Body Mass Index; CVD=Cardiovascular Disease; CKD=Chronic Kidney Disease

No study reported American Society of Anesthesiologist Score

*Only study that reported Charlson Comorbidity Index with 7(5.6%) patients having an index of 1 and 25(20%) patients having an index of 2.

Table D3: Tumor characteristics

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type: n(%)	Tumor size	Tumor side: n(%)	Tumor location: n(%)	Warm Ischemia time
Akdogan, 2012[1]	Benign (88)	T1: 88(100)	Sac: 39(8.7) RC: 22(4.9) Others: 27(11.2)	Mean: 3.9 SD: 1.5	MUL: 0(0)	NR	NR
Akdogan, 2012[1]	RCC (362)	T1: 362(100)	CC: 21(4.7) Pap: 5(1.1) Chro: 362(80.1)	Mean: 4.6 SD: 1.6	MUL: 0(0)	NR	NR
Antonelli, 2014[2]	Overall (506)	T1a: 506(100)	CC: 43(10.6) Others: 15(3.7)	Median: 2.5 Range: 0.1-4	NR	NR	NR
Bazzi, 2014[3]	Overall (1726)	T1a: 1726(100)	CC: 158(9.1) Sac: 162(9.4) RC: 63(3.7)	Median: 2.5 IQR: 1.8-3.2	RT: 875(50.7) LT: 851(49.3)	NR	NR
Blumenfeld, 2010[35]	Post-op (81)	T1: 44(59) T1a: 35(45) T1b: 11(14) T2: 7(9) T1 and T2: 51(68)	CC: 3(4) Chro: 75(93) Sac: 2(3) Others: 1(1)	Mean: 5.3 Range: 1-17	RT: 32(40) LT: 42(52) BIL: 7(9)	NR	NR
Blumenfeld, 2010[35]	Pre-op (81)	NR	CC: 1(1) Chro: 78(96) Sac: 1(1) Others: 2(2)	NR	RT: 32(40) LIT: 42(52) BIL: 7(9)	NR	NR
Campbell, 1997[4]	Overall (25)	T1: 25(100)	Pap: 1(NR) Others: 4(NR)	Mean: 3.1	NR	NR	NR
Choi, 2012[5]	Benign (17)	T1a: 17(100)	Sac: 8(47) RC: 6(35) Others: 3(18)	Mean: 2.41 SD: 0.73	RT: 10(59) LT: 7(41)	Exophytic: 9(53) Endophytic: 8(47)	NR
Choi, 2012[5]	Malignant (67)	T1a: 67(100)	CC: 5(7) Others: 1(2)	Mean: 2.74 SD: 0.65	RT: 34(51) LT: 33(49)	Exophytic: 44(66) Endophytic: 23(34)	NR
Chung, 2014[6]	(111)	NR	CC: 12 Sac: 2 RC: 22 Others: 6	Mean: AML without fat: 1.5, AML with visible fat: 2.2 Range: 0.8-7.5	NR	NR	NR
Chyhrai, 2010[7]	Overall (25)	T1a:	Sac: 6(24)	Mean: 2.5	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type: n(%)	Tumor size	Tumor side: n(%)	Tumor location: n(%)	Warm Ischemia time
		25(100)		Range: 1.5-4 SD: 1.03			
Fujita, 2013[8]	Benign lesions (12)	NR	NR	Mean: 2 Median: 2 Range: 0.9-3.5 SD: 0.8	RT: 9(75) LT: 3(25)	NR	NR
Fujita, 2013[8]	RCC (137)	T1a: 137(100)	NR	Mean: 2.4 Median: 2.3 Range: 0.7-4.0 SD: 0.8	RT: 73(53.3) LT: 64(46.7)	NR	NR
Halverson, 2013[9]	All masses (151)	T1a: 151(100)	CC: 3(1.9) Pap: 1(0.6) Sac: 0(0) Others: 22(14.5)	NR	NR	NR	NR
Halverson, 2013[9]	Non-benign/indeterminant biopsy (133)	T1a: 133(100)	CC: 3(2.2) Pap: 1(0.7) Sac: 0(0) Others: 4(3.0)	Mean: 2.8 SD: 0.8	NR	NR	NR
Harisinghani, 2003[10]	Overall (28)	NR	Sac: 1(NR)	NR	NR	NR	NR
Jeon, 2010[11]	Benign (81)	T1: 81(100)	Sac: 11(2.9) RC: 35(9.3) Others: 35(9.3)	Mean: 2.1 Range: 0.1-4 SD: 0.9	NR	NR	Mean: 26.6
Jeon, 2010[11]	RCC (295)	T1: 295(100)	CC: 14(3.7) Chro: 295(78.5)	Mean: 2.2 Range: 0.1-4 SD: 0.8	NR	NR	Mean: 29.3
Kava, 2012[12]	Benign (76)	T1: 76(100) T1a: 0(0) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	Sac: 26(8) RC: 29(9) Others: 21(7)	Mean: 3.7 SD: 2.5	NR	NR	NR
Kava, 2012[12]	Malignant (240)	T1: 240(100) T1a: 0(0) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	NR/NA	Mean: 3.4 SD: 1.5	NR	NR	NR
Keehn, 2014[13]	Overall (125)	NR	CC: 9(7.2) Others: 3(2.4)	Median: 2.5 IQR: 1.8-3.9	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type: n(%)	Tumor size	Tumor side: n(%)	Tumor location: n(%)	Warm Ischemia time
Koo, 2013[14]	cT1 (1129)	T1: 1129(100)	CC: 69(6.1) Pap: 3(0.2) Chro: 1012(89.6) Others: 40(3.5)	Median: 3 Range: 0.6-7	RT: 74(6.5)	NR	NR
Koo, 2013[14]	cT1a (754)	T1a: 754(100)	CC: 39(5.1) Pap: 1(0.13) Chro: 658(87.2) Others: 34(4.5)	Median: 2.4 Range: 0.6-4	RT: 56(7.4)	NR	NR
Lane, 2007[15]	Overall (851)	T1: 851(100)	CC: 55(8) Chro: 6(NR) Others: 173(NR)	Median: 3 Range: 0.7-7	RT: 513(60	NR	NR
Leveridge, 2011[16]	NR	NR	CC: 13 Pap: 0 Chro: 208 Sac: 32 RC: 11 Others: 14	Median: 2.5 Range: 0.6-4.0	NR	NR	NR
Londono, 2013[17]	Overall (126)	NR	NR	Mean: 5.5	NR	NR	NR
Menogue, 2012[18]	Overall (250)	T1: 250(100) T1a: 250(100) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	NR	Median: 2.5 Range: 0.9-4	NR	NR	NR
Millet, 2012[19]	(187)	NR	CC: 13 Others: 1	Median: 3 Range: 0.9-4	NR	NR	NR
Mullins, 2012[20]	(873)	NR	CC: 62(7.1) Sac: 77(8.8) RC: 63(7.2) Others: 84(9.6)	Malignant: 2.5, Benign: 2.3	NR	NR	NR
Murphy, 2009[21]	Benign (106)	T1: 106(100)	Sac: 57(53.8) RC: 21(19.8) Others: 28(16.4)	Median: 3	NR	NR	NR
Murphy, 2009[21]	Malignant (669)	T1: 669(100)	CC: 55(8.2) Others: 7(1)	Median: 3.7	NR	NR	NR
Neuzillet, 2003[22]	Overall (88)	T1a: 88(100)	CC: 6(NR) Sac: 10(NR) RC: 3(NR)	Median: 2.8 Range: 0.2-4	RT: 40(45)	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type: n(%)	Tumor size	Tumor side: n(%)	Tumor location: n(%)	Warm Ischemia time
			Others: 7(NR)				
Nishikawa, 2014[23]	Overall (144)	T1a: 144(100)	CC: 8(5.6) Sac: 5(3.5) RC: 11(7.6) Others: 1(0.6)	Mean: 2.4 SD: 0.7	RT: 77(53.5) LT: 67(46.5)	NR	NR
Nishikawa, 2014[23]	Group 1(with an imaging pattern typical for CCRCC) (102)	T1a: 102(100)	CC: 3(3) Sac: 3(3) RC: 4(3.9) Others: 0(0)	Mean: 2.2 Range: 1-4	RT: 57(55.9) LT: 45(44.1)	NR	NR
Nishikawa, 2014[23]	Group 2(with an imaging pattern atypical for CCRCC) (42)	T1a: 42(100)	CC: 5(11.9) Sac: 2(4.8) RC: 7(16.7) Others: 1(2.4)	Mean: 2.5 Range: 1.5-3.9	RT: 20(47.6) LT: 22(52.4)	NR	NR
Park, 2013[25]	(59)	NR	NR	Mean: 2.3 Range: 1.1-3.9	NR	NR	NR
Park, 2011[24]	Benign (114)	NR	Sac: 23(1.4) RC: 47(2.9)	Mean: 3.9 Range: 0.6-16	BIL: 0(0)	NR	NR
Park, 2011[24]	Malignant (1484)	NR	CC: 93(5.8) Chro: 1468(91.9)	Mean: 4.9 Range: 0.6-24	BIL: 0(0)	NR	NR
Rosenkratz, 2014[26]	(86)	NR	CC: 9 Sac: 13 RC: 8	Mean: 1.5 Range: 0.7-2.0 SD: 0.4	NR	NR	NR
Salem, 2012[27]	Overall (145)	T1a: 145(100)	CC: 8(NR) Sac: 15(NR) Others: 24(NR)	Mean: 2.4 SD: 1.1	RT: 77(53.1) LT: 68(46.9)	NR	NR
Shannon, 2008[28]	Overall (221)	T1: 221(100)	CC: 11(NR) Sac: 29(NR) RC: 13(NR)	Median: 2.9 Range: 1-4.9	NR	NR	NR
Sofikerim, 2009[29]	(42)	NR	CC: 3 Pap: 0 Chro: 38 Sac: 1 RC: 1 Others: 2	Range: 25-140 SD: 63.9	NR	NR	NR
Soga, 2012[30]	Overall (409)	NR	CC: 4(1) Pap: 2(0.5) Chro: 393(95.6) Sac: 4(1) RC: 7(1.7) Others: 7(1.7)	Mean: 5 Range: 0.8-23 SD: 3.2	RT: 252(61.3) LT: 159(38.7) MUL: 2(0.4)	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type: n(%)	Tumor size	Tumor side: n(%)	Tumor location: n(%)	Warm Ischemia time
Vasudevan, 2006[31]	Overall (92)	T1: 92(100)	CC: 5(NR) Sac: 14(NR) RC: 9 (NR) Others: 6(NR)	NR	NR	NR	NR
Volpe, 2008[32]	Overall (100)	T1a: 100(100)	CC: 3(5.3) Chro: 4(NR) Sac: 7(38.9) RC: 5(27.8) Others: 12(NR)	NR	RT: NR(47) LT: NR(53)	Exophytic: NR(89)	NR
Wang, 2009[33]	Overall (110)	T1: 110(100) T1a: 110(100)	NR	Mean: 2.7 Range: 0.5-4 SD: 0.9	RT: 50(45.5) LT: 60(54.5)	NR	NR
Xiong, 2010[34]	Benign (31)	NR	Sac: 4(12.9) RC: 15(48.4) Others: 12(38.7)	NR	BIL: 0(0) MUL: 0(0)	NR	NR
Xiong, 2010[34]	Malignant (272)	NR	Chro: 272(90)	NR	BIL: 0(0) MUL: 0(0)	NR	NR

NR: Not Reported; SD: Standard Deviation; RT: Right; LT: Left; BIL: Bilateral; MUL: Multiple; RC: Renal Cell; Sac: Sarcomatoid; Chro: Chromophobe; CC: Clear Cell
No study reported positive margins

Table D4: Tumor scores

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
Akdogan, 201[1]	Benign (88)	NR	NR	NR
Akdogan, 201[1]	RCC (362)	NR	NR	NR
Antonelli, 2014[2]	Overall (506)	NR	Median: 5	NR
Bazzi, 2014[3]	Overall (1726)	NR	NR	NR
Blumenfeld, 201[35]	Post-op (81)	1-2: 36(47) 3-4: 25(32)	NR	NR
Blumenfeld, 2010[35]	Pre-op (81)	1-2: 55(80) 3-4: 14(20)	NR	NR
Campbell, 1997[4]	Overall (25)	NR	NR	NR
Choi, 2012[5]	Benign (17)	NR	NR	NR
Choi, 2012[5]	Malignant (67)	NR	NR	NR
Chung, 2014[6]	(111)	NR	NR	NR
Chyhrai, 2010[7]	Overall (25)	NR	NR	NR
Fujita, 2013[8]	Benign lesions (12)	NR	NR	NR
Fujita, 2013[8]	RCC (137)	NR	NR	NR
Halverson, 2013[9]	All masses (151)	NR	NR	NR
Halverson, 2013[9]	Non-benign/indeterminant biopsy (133)	NR	NR	NR
Harisinghani, 2003[10]	Overall (28)	NR	NR	NR
Jeon, 2010[11]	Benign (81)	NR	NR	NR
Jeon, 2010[11]	RCC (295)	NR	NR	NR
Kava, 2012[12]	Benign (76)	NR	NR	NR
Kava, 2012[12]	Malignant (240)	NR	NR	NR
Keehn, 2014[13]	Overall (125)	1-2: 65(52) 3-4: 16(12.8)	NR	NR
Koo, 2013[14]	cT1 (1129)	NR	Mean: 567 Median: 56 Range: 389 SD: 38.4	Mean: 7.19 Median: Range: 1 to 11 SD: 3.17
Koo, 2013[14]	cT1a (754)	NR	Mean: 410 Median: 62.3 Range: 215 SD: 32.6	Mean: 6.31 Range: 1 to 10 IQR: NR SD: 1.71
Lane, 2007[15]	Overall (851)	1-2: 439(65) 3-4: 233(35)	NR	NR
Leveridge, 2011[16]	NR	1-2: 99 3-4: 11	NR	NR
Londono, 2013[17]	Overall (126)	NR	NR	NR
Menogue, 2012[18]	Overall (250)	1-2: NR(94)	NR	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
		3-4: NR(6)		
Millet, 2012[19]	(187)	1-2: 53 3-4: 8	NR	NR
Mullins, 2012[20]	(873)	NR	NR	NR
Murphy, 2009[21]	Benign (106)	NR	NR	NR
Murphy, 2009[21]	Malignant (669)	NR	NR	NR
Neuzillet, 2003[22]	Overall (88)	1-2: 55(NR) 3-4: 6(NR)	NR	NR
Nishikawa, 2014[23]	Overall (144)	NR	NR	NR
Nishikawa, 2014[23]	Group 1(with an imaging pattern typical for CCRCC) (102)	NR	NR	NR
Nishikawa, 2014[23]	Group 2(with an imaging pattern atypical for CCRCC) (42)	NR	NR	NR
Park, 2013[25]	(59)	NR	NR	NR
Park, 2011[24]	Benign (114)	NR	NR	NR
Park, 2011[24]	Malignant (1484)	NR	NR	NR
Rosenkratz, 2014[26]	(86)	NR	NR	NR
Salem, 2012[27]	Overall (145)	1-2: 28(NR) 3-4: 19(NR)	NR	NR
Shannon, 2008[28]	Overall (221)	NR	NR	NR
Sofikerim, 2009[29]	(42)	NR	NR	NR
Soga, 2012[30]	Overall (409)	NR	NR	NR
Vasudevan, 2006[31]	Overall (92)	NR	NR	NR
Volpe, 2008[32]	Overall (100)	1-2: 30(73.2) 3-4: 11(26.8)	NR	NR
Wang, 2009[33]	Overall (110)	NR	NR	NR
Xiong, 2010[34]	Benign (31)	NR	NR	NR
Xiong, 2010[34]	Malignant (272)	NR	NR	NR

NR: Not Reported; SD: Standard Deviation; IQR: Inter-Quartile Range

Table D5: Studies reporting test accuracy outcomes

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Akdogan, 2012,[1]	Overall(Overal)	450	Age(NR)	NR(NR)	N(NR)	Logistic regression	P: 0.217	OR: 0.97 95%CI: 0.58-1.62 P: 0.917
Akdogan, 2012,[1]	Overall(Overal)	450	Women vs Men(NR)	NR(NR)	Y(28.2)	Logistic regression	P: <.001	OR: 3.26 95%CI: 1.93-5.51 P: <0.001
Akdogan, 2012,[1]	Overall(Overal)	450	Cystic vs Solid tumor(NR)	NR(NR)	Y(30.2)	Logistic regression	P: 0.022	OR: 2.41 95%CI: 1.23-4.7 P: 0.01
Akdogan, 2012,[1]	Overall(Overal)	450	Tumor size(NR)	NR(NR)	Y(NR)	Logistic regression	P: <.001	OR: 1.96 95%CI: 1.03-3.7 P: 0.39
Antonelli, 2014,[2]	Overall(Overall)	506	Sex Main Effect(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 2.59 95%CI: 1.66-4.03 P: <0.001	OR: 2.67 95%CI: 1.7-4.21 P: <0.001
Antonelli, 2014,[2]	Overall(Overall)	506	Age Main Effect(years)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.96 95%CI: 0.77-1.2 P: 0.71	OR: 0.9 95%CI: 0.66-1.24 P: 0.52
Antonelli, 2014,[2]	Overall(Overall)	506	Sex-Age Interaction(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.1 95%CI: 0.69-1.75 P: 0.693
Antonelli, 2014,[2]	Overall(Overall)	506	E Score 1 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.46 95%CI: 0.15-1.35	OR: 0.5 95%CI: 0.15-1.61
Antonelli, 2014,[2]	Overall(Overall)	506	E Score 2 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.67 95%CI: 0.22-2.04	OR: 0.71 95%CI: 0.22-2.3
Antonelli, 2014,[2]	Overall(Overall)	506	N Score 2 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.81 95%CI: -5.94	OR: 1.89 95%CI: 0.63-5.68

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Antonelli, 2014,[2]	Overall(Overall)	506	N Score 3 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.95 95%CI: 0.93-4.07	OR: 2.52 95%CI: 0.94-6.77
Antonelli, 2014,[2]	Overall(Overall)	506	L Score 1 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.53 95%CI: 0.32-0.87	OR: 0.56 95%CI: 0.33-0.93
Antonelli, 2014,[2]	Overall(Overall)	506	L Score 3 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.61 95%CI: 0.30-1.25	OR: 0.58 95%CI: 0.28-1.23
Antonelli, 2014,[2]	Overall(Overall)	506	H Score Present vs Absent(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014,[2]	Overall(Overall)	506	Nephrometry Score AUC(AUC)	Yes(AUC 0.57 (0.51-0.63), p=0.031)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014,[2]	Overall(Overall)	506	Grade Prediction/Concordance (Concordance)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66 P: 0.271	OR: 0.15 95%CI: 0.03-0.74 P: 0.024
Antonelli, 2014,[2]	Overall(Overall)	506	Sex Main Effect(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 2.59 95%CI: 1.66-4.03 P: <0.001	OR: 2.67 95%CI: 1.7-4.21 P: <0.001
Antonelli, 2014,[2]	Overall(Overall)	506	Age Main Effect(years)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.96 95%CI: 0.77-1.2 P: 0.71	OR: 0.9 95%CI: 0.66-1.24 P: 0.52
Antonelli, 2014,[2]	Overall(Overall)	506	Sex-Age Interaction(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.1 95%CI: 0.69-1.75 P: 0.693
Antonelli, 2014,[2]	Overall(Overall)	506	E Score 1 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.46 95%CI: 0.15-1.35	OR: 0.5 95%CI: 0.15-1.61

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Antonelli, 2014,[2]	Overall(Overall)	506	E Score 2 vs 3(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.67 95%CI: 0.22-2.04	OR: 0.71 95%CI: 0.22-2.3
Antonelli, 2014,[2]	Overall(Overall)	506	N Score 2 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.81 95%CI: -5.94	OR: 1.89 95%CI: 0.63-5.68
Antonelli, 2014,[2]	Overall(Overall)	506	N Score 3 vs 1(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 1.95 95%CI: 0.93-4.07	OR: 2.52 95%CI: 0.94-6.77
Antonelli, 2014,[2]	Overall(Overall)	506	L Score 1 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.53 95%CI: 0.32-0.87	OR: 0.56 95%CI: 0.33-0.93
Antonelli, 2014,[2]	Overall(Overall)	506	L Score 3 vs 2(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.61 95%CI: 0.30-1.25	OR: 0.58 95%CI: 0.28-1.23
Antonelli, 2014,[2]	Overall(Overall)	506	H Score Present vs Absent(NA)	Yes(NR)	NR(NR)	Logistic regression	OR: 0.49 95%CI: 0.14-1.66	OR: 0.15 95%CI: 0.03-0.74
Bazzi, 2014,[3]	Overall(Overall)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.99 95%CI: 0.98-1 P: 0.14
Bazzi, 2014,[3]	Overall(Overall)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.02 95%CI: .55-1.87 P: 0.96
Bazzi, 2014,[3]	Overall(Overall)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.95 95%CI: .54-1.68 P: 0.86
Bazzi, 2014,[3]	Overall(Overall)	1726	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.4 95%CI: 1.20-1.62 P: <0.01
Bazzi, 2014,[3]	Overall(Overall)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.07 95%CI: .73-1.55 P: 0.74
Bazzi, 2014,[3]	Overall(Overall)	1726	Gender-Female vs male(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.44 95%CI: .34-0.58 P: <0.01

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Bazzi, 2014,[3]	Overall(Overall)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.37 95%CI: 1.04-1.8 P: 0.02
Bazzi, 2014,[3]	Overall(Female Only)	681	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.99-1.02 P: 0.35
Bazzi, 2014,[3]	Overall(Female Only)	681	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.17 95%CI: 0.54-2.55 P: 0.69
Bazzi, 2014,[3]	Overall(Female Only)	681	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.92 95%CI: 0.43-1.99 P: 0.84
Bazzi, 2014,[3]	Overall(Female Only)	681	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.57 95%CI: 1.07-2.32 P: 0.02
Bazzi, 2014,[3]	Overall(Female Only)	681	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.46 95%CI: 1.19-1.79 P: <0.01
Bazzi, 2014,[3]	Overall(Female Only)	681	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.15 95%CI: 0.67-2 P: 0.31
Bazzi, 2014,[3]	Overall(Male Only)	1045	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.97 95%CI: 0.95-0.99 P: <0.01
Bazzi, 2014,[3]	Overall(Male Only)	1045	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.79 95%CI: 0.30-2.1 P: 0.64
Bazzi, 2014,[3]	Overall(Male Only)	1045	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.09 95%CI: 0.45-2.62 P: 0.85

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Bazzi, 2014,[3]	Overall(Male Only)	1045	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.16 95%CI: 0.78-1.71 P: 0.46
Bazzi, 2014,[3]	Overall(Male Only)	1045	Tumor Size(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.33 95%CI: 1.06-1.67 P: 0.01
Bazzi, 2014,[3]	Overall(Male Only)	1045	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.6-1.72 P: 0.96
Bazzi, 2014,[3]	Overall(Overall)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.99 95%CI: 0.98-1 P: 0.14
Bazzi, 2014,[3]	Overall(Overall)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.02 95%CI: .55-1.87 P: 0.96
Bazzi, 2014,[3]	Overall(Overall)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.95 95%CI: .54-1.68 P: 0.86
Bazzi, 2014,[3]	Overall(Overall)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.07 95%CI: .73-1.55 P: 0.74
Bazzi, 2014,[3]	Overall(Overall)	1726	Gender-Female vs male(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.44 95%CI: .34-0.58 P: <0.01
Bazzi, 2014,[3]	Overall(Overall)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.37 95%CI: 1.04-1.8 P: 0.02
Bazzi, 2014,[3]	Overall(Female Only)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.99-1.02 P: 0.35
Bazzi, 2014,[3]	Overall(Female Only)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.17 95%CI: 0.54-2.55 P: 0.69

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Bazzi, 2014,[3]	Overall(Female Only)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.92 95%CI: 0.43-1.99 P: 0.84
Bazzi, 2014,[3]	Overall(Female Only)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.57 95%CI: 1.07-2.32 P: 0.02
Bazzi, 2014,[3]	Overall(Female Only)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.15 95%CI: 0.67-2 P: 0.31
Bazzi, 2014,[3]	Overall(Male Only)	1726	Age at surgery(years)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.97 95%CI: 0.95-0.99 P: <0.01
Bazzi, 2014,[3]	Overall(Male Only)	1726	Race-African american vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 0.79 95%CI: 0.30-2.1 P: 0.64
Bazzi, 2014,[3]	Overall(Male Only)	1726	Race-Other vs Caucasian(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.09 95%CI: 0.45-2.62 P: 0.85
Bazzi, 2014,[3]	Overall(Male Only)	1726	ASA class-III-IV vs I-II(NA)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.16 95%CI: 0.78-1.71 P: 0.46
Bazzi, 2014,[3]	Overall(Male Only)	1726	Creatinine(mg/dl)	Yes(NR)	NR(NR)	Logistic regression	NR	OR: 1.01 95%CI: 0.6-1.72 P: 0.96
Choi, 2012,[5]	Overall(Overall)	84	Sex(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.017
Choi, 2012,[5]	Overall(Overall)	84	Enhancement pattern(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.055
Choi, 2012,[5]	Overall(Overall)	84	HU CMP(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.021
Choi, 2012,[5]	Overall(Overall)	84	HU NP(NA)	Y(NR)	Y(NR)	Logistic regression	NR	P: 0.519

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Chung, 2014,[6]	Overall(Overal)	111	MRI: tumor to kidney signal intensity ratio >1.09NR	Y(98)	(1.9)		NR	NR
Fujita, 2013,[8]	Overall(Overal)		AgeNR	NR	NR		NR	OR: 0.943 RD: 95%CI: 0.891-0.998 P: 0.0356
Fujita, 2013,[8]	Overall(Overal)		GenderNR	NR	NR		NR	OR: 0.188 RD: 95%CI: 0.045-0.793 P: 0.0183
Fujita, 2013,[8]	Overall(Overal)		Tumor sizeNR	NR	NR		NR	OR: 0.529 RD: 95%CI: 0.196-1.428 P: 0.2042
Fujita, 2013,[8]	Overall(Overal)		Tumor sitesNR	NR	NR		NR	OR: 3.027 RD: 95%CI: 0.668-13.711 P: 0.1321
Fujita, 2013,[8]	Overall(Overal)		PresentationNR	NR	NR		NR	OR: 0.314 RD: 95%CI: 0.027-3.661 P: 0.3133
Fujita, 2013,[8]	Overall(Overal)		Exophytic on imagingNR	NR	NR		NR	OR: 0.033 RD: 95%CI: 0.049-0.944 P: 0.216
Jeon, 2010,[11]	Overall(Overal)	376	Sex(Male vs Female)(NR)	NR	NR	Logistic regression	OR: 4.57 95%CI: 2.72-7.67 P: <.001	OR: 4.91 95%CI: 2.76-8.75 P: <.001

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Jeon, 2010,[11]	Overall(Overal)	376	Age(NR)	NR	NR	Logistic regression	OR: 0.96 95%CI: 0.95-0.98 P: 0.001	OR: 0.97 95%CI: 0.95-0.99 P: 0.009
Jeon, 2010,[11]	Overall(Overal)	376	BMI:23-25 vs. <23(NR)	NR	NR	Logistic regression	OR: 0.72 95%CI: 0.38-1.35 P: 0.309	OR: 1.19 95%CI: 0.59-2.41 P: 0.611
Jeon, 2010,[11]	Overall(Overal)	376	BMI:>25 vs. <23(NR)	NR	NR	Logistic regression	OR: 0.46 95%CI: 0.25-0.85 P: 0.014	OR: 0.8 95%CI: 0.4-1.59 P: 0.538
Jeon, 2010,[11]	Overall(Overal)	376	Tumor size(NR)	NR	NR	Logistic regression	OR: 0.82 95%CI: 0.61-1.10 P: 0.193	OR: 0.84 95%CI: .59-1.17 P: 0.311
Kava, 2012,[12]	Overall(Overal)	316	female gender(NR)	NR	NR	Logistic regression	NR	OR: 3.97 95%CI: 2.92-4.53 P: <.001
Kava, 2012,[12]	Overall(Overal)	316	peripheral tumor location(NR)	NR	NR	Logistic regression	NR	OR: 2.27 95%CI: 1.73-3.21 P: 0.014
Kava, 2012,[12]	Overall(Overal)	316	BMI(NR)	NR	NR	Logistic regression	NR	OR: 1.5 95%CI: 1.12-1.94 P: 0.015
Keehn, 2014,[13]	Overall(Overall)	125	Ct or MRI for visceral fat (NA)	(NR)	NR	NR	NR	OR: 1.01 95%CI: 1-1.17 P: 0.017
Keehn, 2014,[13]	Overall(Overall)	125	Ct or MRI for subcutaneous fat(NA)	(NR)	NR	NR	NR	OR: 1 95%CI: 0.99-1.01 P: 0.59
Keehn, 2014,[13]	Overall(Overall)	125	Race-African American(NA)	(NR)	NR	NR	NR	OR: 2.49 95%CI: 0.65-

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
								9.58 P: 0.183
Keehn, 2014,[13]	Overall(Overall)	125	Age(NA)	(NR)	NR	NR	NR	OR: 1.03 95%CI: 0.95-1.12 P: 0.461
Keehn, 2014,[13]	Overall(Overall)	125	Sex(NA)	(NR)	NR	NR	NR	OR: 2.22 95%CI: 0.44-11.15 P: 0.332
Keehn, 2014,[13]	Overall(Overall)	125	BMI(NA)	(NR)	NR	NR	NR	OR: 1.02 95%CI: 0.82-1.28 P: 0.851
Koo, 2013,[14]	Arm 1(cT1)	1129	Renal nephrometry scores includes diameter of tumor, nearness of tumor to collecting system or sinus, location relative to the polar lines and presence of an abutting renal artery or veinNR	Y(0.722 (95% CI: 0.669-0.774))	Y(0.574 (95% CI: 0.537-0.6121))	NR	NR	NR
Koo, 2013,[14]	Arm 2(cT1a)	754	Renal nephrometry scores includes diameter of tumor, nearness of tumor to collecting system or sinus, location relative to the polar lines and presence of an abutting renal artery or veinNR	Y(0.727 (95% CI: 0.674-0.779))	Y(0.495 (95% CI: 0.448-0.542))	NR	NR	NR
Lane, 2007,[15]	Overall(Overall)	851	Age(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: <0.0001
Lane, 2007,[15]	Overall(Overall)	851	Sex(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: <0.0001
Lane,	Overall(Overall)	851	age/sex interaction(NA)	Yes(NR)	Yes(NR)	Logistic	NR	P: <0.0001

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
2007,[15]						regression		
Lane, 2007,[15]	Overall(Overall)	851	CT estimated size(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.0002
Lane, 2007,[15]	Overall(Overall)	851	smoking history(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.0277
Lane, 2007,[15]	Overall(Overall)	851	clinical presentation(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	P: 0.9891
Leonard, 2013,[36]	Overall(Overal)		Scottish Index of Multiple Deprivations include scores on incomr, employment, health, education, skills, training, geographic access and housingNR	NR	NR		NR	NR
Leveridge, 2011, [16]	Overall(Overal)		Tumor sizeNR	NR	NR		NR	OR: 3.11 RD: 95%CI: 1.54-6.28 P: 0.002
Leveridge, 2011, [16]	Overall(Overal)		Tumor typeNR	NR	NR		NR	OR: 13.9 RD: 95%CI: 3.78-50.7 P: <0.0001
Leveridge, 2011, [16]	Overall(Overal)		image guidance (US vs CT or US plus CTNR	NR	NR		NR	OR: 1.48 RD: 95%CI: 0.54-4.09 P: 0.45
Leveridge, 2011, [16]	Overall(Overal)		Tumor locationNR	NR	NR		NR	OR: 0.78 RD: 95%CI: 0.24-2.47 P: 0.91
Leveridge, 2011, [16]	Overall(Overal)		Upper vs lower poleNR	NR	NR		NR	OR: 0.91 RD: 95%CI: 0.25-

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
								3.32
Leveridge, 2011, [16]	Overall(Overal)		Between benign, malignant and nondiagnostic histologyNR	NR	NR		NR	NR
Leveridge, 2011, [16]	Overall(Overal)		between RCC subtypesNR	NR	NR		NR	NR
Mullins, 2012,[20]	Overall(cT1)	873	Male GenderNR	NR	NR		NR	OR: 4.28 RD: 95%CI: 2.41-7.23 P: p<0.001
Mullins, 2012,[20]	Overall(cT1)	873	Intermediate RENAL scoreNR	NR	NR		NR	OR: 2.79 RD: 95%CI: 1.48-5.27 P: 0.026
Mullins, 2012,[20]	Overall(cT1)	873	High RENAL scoreNR	NR	NR		NR	OR: 11.62 RD: 95%CI: 1.80-74.92 P: 0.01
Mullins, 2012,[20]	Overall(cT1a)	694	Intermediate RENAL scoreNR	NR	NR		NR	OR: 2.59 RD: 95%CI: 1.26-5.29 P: 0.009
Mullins, 2012,[20]	Overall(cT1a)	694	Male GenderNR	NR	NR		NR	OR: 3.61 RD: 95%CI: 1.99-6.54 P: p<0.001
Murphy, 2009,[21]	Overall(Overal)	775	Age(NR)	NR	NR	Logistic regression	OR: 1 95%CI: 0.98-1.02 P: 0.999	OR: 0.99 95%CI: 0.98-1.01 P: 0.464

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Murphy, 2009,[21]	Overall(Overal)	775	Sex(NR)	NR	NR	Logistic regression	OR: 0.45 95%CI: 0.3-0.68 P: <0.001	OR: 0.42 95%CI: 0.27-0.65 P: <0.001
Murphy, 2009,[21]	Overall(Overal)	775	Race(NR)	NR	NR	Logistic regression	OR: 1.19 95%CI: 0.74-1.98 P: 0.497	OR: 1.44 95%CI: 0.87-2.47 P: 0.165
Murphy, 2009,[21]	Overall(Overal)	775	Obesity(NR)	NR	NR	Logistic regression	OR: 3 95%CI: 1.36-7.21 P: 0.001	OR: 2.35 95%CI: 1.01-5.83 P: 0.054
Nishikawa, 2014,[23]	Overall(Overall)	144	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.86 P: 0.054
Nishikawa, 2014,[23]	Overall(Overall)	144	Gender(male vs. female)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.62 P: 0.079
Nishikawa, 2014,[23]	Overall(Overall)	144	BMI (<25 vs. >/=25)(kg/m2)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 2.78 P: 0.1
Nishikawa, 2014,[23]	Overall(Overall)	144	Enhanced CT findings (group 1 vs. group 2)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 4.19 P: <0.001
Nishikawa, 2014,[23]	Arm 1(Group 1(with an imaging pattern typical for CCRCC))	102	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 3.45 P: 0.094
Nishikawa, 2014,[23]	Arm 1(Group 1(with an imaging pattern typical for CCRCC))	102	Gender(male vs. female)(NA)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 1.25 P: 0.51
Nishikawa, 2014,[23]	Arm 2(Group 2(with an imaging pattern atypical for CCRCC))	42	Age(<60 vs.>60)(years)	Yes(NR)	Yes(NR)	Logistic regression	NR	HR: 9.88 P: 0.013
Nishikawa,	Arm 2(Group	42	BMI (<25 vs.	Yes(NR)	Yes(NR)	Logistic	NR	HR: 14.71

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
2014,[23]	2(with an imaging pattern atypical for CCRCC))		>/=25)(kg/m2)			regression		P: 0.021
Park, 2011,[24]	Overall(Overal)	1598	Age(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 0.994 95%CI: 0.98-1.01 P: 0.476
Park, 2011,[24]	Overall(Overal)	1598	female gender(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 3.899 95%CI: 2.62-5.81 P: <0.001
Park, 2011,[24]	Overall(Overal)	1598	tumor size(NR)	Y(NR)	Y(NR)	Logistic regression	NR	OR: 0.882 95%CI: 0.81-0.96 P: 0.002
Park, 2013,[25]	Overall(Overal)	59	AgeNR	NR	NR		NR	OR: 1.04 RD: 95%CI: 0.98-1.11 P: 0.22
Park, 2013,[25]	Overall(Overal)	59	BMINR	NR	NR		NR	OR: 1.05 RD: 95%CI: 0.85-1.30 P: 0.637
Park, 2013,[25]	Overall(Overal)	59	Size of massNR	NR	NR		NR	OR: 3.32 RD: 95%CI: 1.02-10.8 P: 0.46
Park, 2013,[25]	Overall(Overal)	59	Upper pole massNR	NR	NR		NR	OR: 4.25 RD: 95%CI: 1.07-16.8 P: 0.039
Park,	Overall(Overal)	59	Cystic massNR	NR	NR		NR	OR: 13.1

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
2013,[25]								RD: 95%CI: 2.02-85.7 P: 0.007
Park, 2013,[25]	Overall(Overal)	59	Number of coresNR	NR	NR		NR	OR: 2.52 RD: 95%CI: 1.17-5.43 P: 0.018
Park, 2013,[25]	Overall(Overal)	59	Biopsy distanceNR	NR	NR		NR	OR: 1.01 RD: 95%CI: 0.59-1.74 P: 0.972
Park, 2013,[25]	Overall(Overal)		Between biopsy and surgical resultsNR	NR	NR		NR	NR
Park, 2013,[25]	Overall(Overal)		RCC subtypeNR	NR	NR		NR	NR
Rosenkratz, 2014,[26]	Overall(Overal)		AgeNR	N(NR)	NR		NR0.061	NR
Rosenkratz, 2014,[26]	Overall(Overal)		Cystic or necroticNR	N(27.9)	(8.3)		NR0.053	NR
Soga, 2012,[30]	Overall(Overal)	411	Age(<60 years vs. >/=60 years(NR)	NR	NR	Logistic regression	OR: 3.14 95%CI: 1.1-8.98	OR: 2.96 95%CI: 1-8.77 P: 0.051
Soga, 2012,[30]	Overall(Overal)	411	Sex(female vs. male)(NR)	NR	NR	Logistic regression	OR: 3.32 95%CI: 1.28-8.61	OR: 3.68 95%CI: 1.35-10.05 P: 0.011
Soga, 2012,[30]	Overall(Overal)	411	Tumor size(<2cm vs. >/=2cm)(NR)	NR	NR	Logistic regression	OR: 6.15 95%CI: 2.33-16.16	OR: 4.84 95%CI: 1.59-14.73 P: 0.005
Xiong, 2010,[34]	Overall(Overal)	303	Gender(NR)	NR	NR	Logistic regression	NR	OR: 3.833 95%CI: 1.740-8.446 P: 0.001

Author, year	Arm(name)	N for analysis	Profile definition(units)	Predict malignancy condition (% Malignancy)	Predict benign condition (% Benign)	Select the Analysis-Model	Unadjusted result	Fully adjusted result
Xiong, 2010,[34]	Overall(Overal)	303	Tumor size(NR)	NR	NR	Logistic regression	NR	OR: 2.563 95%CI: 1.180-5.565 P: 0.017

N=Number; OR=Odds Ratio; NR=Not reported; RD=Risk Difference; P=p value

Table D6: Accuracy data

Author, year	Imaging	N of Biopsies(Needle size)	N of surgeries	Benign	Malignant	NON diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
Campbell, 1997,[4]	CTNA	25(22)	25	N benign biopsies: 6 N with Surgical Pathology: 6 N found Malignant: 6	N malignant biopsies: 10 N with Surgical Pathology: 10 N found Malignant: 10	N non diagnostic biopsies: 9 N with Surgical Pathology: 9 N found Malignant: 9	25	1	FP: 0 TP: 10 FN: 15 TN: 0
Chyhrai, 2010,[7]	UltrasoundNA	25(18 G)	21	N benign biopsies: 7 N with Surgical Pathology: 6 N found Malignant: 5	N malignant biopsies: 15 N with Surgical Pathology: 13 N found Malignant: 13	N non diagnostic biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	NR	NR	NR
Halverson, 2013,[9]	Other: specifyCT or US	133(NR)	133	N benign biopsies: NA N with Surgical Pathology: NA N found Malignant: NA	N malignant biopsies: 133 N with Surgical Pathology: 133 N found Malignant: 133	N non diagnostic biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	118	NR	FP: 0 TP: 133 FN: 0 TN: 0 Sn: 100 Sp: 100
Harisinghani, 2003,[10]	CTNA	28(22-G and 18-G)	16	N benign biopsies: 11 N with Surgical Pathology: 0 N found Malignant: NA	N malignant biopsies: 17 N with Surgical Pathology: 16 N found Malignant: 16	N non diagnostic biopsies: NA N with Surgical Pathology: NA N found Malignant: NA	NR	NR	NR
Leveridge, 2011,[16]	Other: specifyUS, CT or MRI	345(17 G)	74	N benign biopsies: 57 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 221 N with Surgical Pathology: NR N found Malignant: NR	N non diagnostic biopsies: 67 N with Surgical Pathology: 6 N found Malignant: 4	100	NR	NR
Londono, 2013,[17]	Other: specifyCT or ultrasound guided	132(14Fr to 21Fr)	63	N benign biopsies: 38 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 87 N with Surgical Pathology: NR N found Malignant: NR	N non diagnostic biopsies: 7 N with Surgical Pathology: NR N found Malignant: NR	NR	NR	Sn: 75.4 Sp: 100 PPV: 100 NPV: 11.7 Acc: 76
Londono, 2013,[17]	Other: specifyCT or	60(14Fr to 21Fr)	25	N benign biopsies: 21 N with Surgical	N malignant biopsies: 33 N with Surgical	N non diagnostic biopsies: 6 N with	NR	NR	Sn: 66.7 Sp: 100

Author, year	Imaging	N of Biopsies(Needle size)	N of surgeries	Benign	Malignant	NON diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
	ultrasound guided			Pathology: 8 N found Malignant: 7	Pathology: 16 N found Malignant: 16	Surgical Pathology: 1 N found Malignant: 1			PPV: 100 NPV: 11.1 Acc: 100
Londono, 2013,[17]	Other: specifyCT or ultrasound guided	72(14Fr to 21Fr)	38	N benign biopsies: 17 N with Surgical Pathology: 7 N found Malignant: 6	N malignant biopsies: 54 N with Surgical Pathology: 30 N found Malignant: 30	N non diagnostic biopsies: 1 N with Surgical Pathology: 1 N found Malignant: 1	NR	NR	Acc: 88.2
Menogue, 2012,[18]	Other: specifyultrasonography or CT guidance	268(18-G)	134 note: 125 with diagnostic biopsy	N benign biopsies: 56 N with Surgical Pathology: 6 N found Malignant: 6	N malignant biopsies: 158 N with Surgical Pathology: 114 N found Malignant: 114	N non diagnostic biopsies: 54 N with Surgical Pathology: 9 N found Malignant: 8	122	17	FP: 6 TP: 114 FN: 6 TN: 0 Sn: 95 Sp: 0 PPV: 95 NPV: 0 Acc: 100
Millet, 2012,[19]	CTNA	187(17G)	61	N benign biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 145 N with Surgical Pathology: 61 N found Malignant: 61	N non diagnostic biopsies: NR N with Surgical Pathology: NR N found Malignant: NR	61	11	NR
Neuzillet, 2003,[22]	CTNA	88(18-G)	62	N benign biopsies: 14 N with Surgical Pathology: 1 N found Malignant: 0	N malignant biopsies: 66 N with Surgical Pathology: 56 N found Malignant: 56	N non diagnostic biopsies: 8 N with Surgical Pathology: 5 N found Malignant: 5	52	8	NR
Park, 2013,[25]	UltrasoundNA	59(18 G)	13	N benign biopsies: 11 N with Surgical Pathology: NR N found Malignant: NR	N malignant biopsies: 37 N with Surgical Pathology: 11 N found Malignant: 11	N non diagnostic biopsies: 11 N with Surgical Pathology: 2 N found Malignant: 2	4	2	NR
Salem, 2012,[27]	CTNA	145(16-20 G)	94	N benign biopsies: 19 N with Surgical Pathology: 0 N found Malignant: 0	N malignant biopsies: 87 N with Surgical Pathology: 87 N found Malignant: 87	N non diagnostic biopsies: 19 N with Surgical Pathology: 6 N found Malignant: 6	47	NR	NR

Author, year	Imaging	N of Biopsies(Needle size)	N of surgeries	Benign	Malignant	NON diagnostic	N with Grade on Biopsy	Number Upgraded on Pathology (from 1-2 to 3-4)	Test Results
Scanga, 2014,[37]	Other: specifyUS or CT	154(21 or smaller for FNA and 20 or larger for CB)	37	N benign biopsies: 21 N with Surgical Pathology: 6 N found Malignant: 2	N malignant biopsies: 123 N with Surgical Pathology: 29 N found Malignant: 29	N non diagnostic biopsies: 32 N with Surgical Pathology: NR N found Malignant: NR	3	1	NR
Shannon, 2008,[28]	Other: specifyCT or US	235(18G)	118	N benign biopsies: 46 N with Surgical Pathology: 8 N found Malignant: 0	N malignant biopsies: 138 N with Surgical Pathology: 100 N found Malignant: 100	N non diagnostic biopsies: 40 N with Surgical Pathology: 10 N found Malignant: 8	NR	NR	NR
Sofikerim, 2009,[29]	Other: specifyUS, CT or MRI	42(18 G)	42	N benign biopsies: 6 N with Surgical Pathology: 6 N found Malignant: 3	N malignant biopsies: 34 N with Surgical Pathology: 34 N found Malignant: 34	N non diagnostic biopsies: 2 N with Surgical Pathology: 2 N found Malignant: 2	34	18	NR
Vasudevan, 2006,[31]	Other: specifyeither ultrasound or ct	100(16-G)	53	N benign biopsies: 23 N with Surgical Pathology: 4 N found Malignant: 0	N malignant biopsies: 47 N with Surgical Pathology: 44 N found Malignant: 44	N non diagnostic biopsies: 30 N with Surgical Pathology: 9 N found Malignant: 8	NR	NR	NR
Volpe, 2008,[32]	Other: specifyeither ultrasound or ct	100(17-G)	21	N benign biopsies: 18 N with Surgical Pathology: 0 N found Malignant: 0	N malignant biopsies: 66 N with Surgical Pathology: 20 N found Malignant: 20	N non diagnostic biopsies: 16 N with Surgical Pathology: 3 N found Malignant: 1	12	0	NR
Wang, 2009,[33]	Other: specifyCT or US	110(17 and 18 G)	37	N benign biopsies: 35 N with Surgical Pathology: 1 N found Malignant: 0	N malignant biopsies: 65 N with Surgical Pathology: 31 N found Malignant: 31	N non diagnostic biopsies: 10 N with Surgical Pathology: 2 N found Malignant: 2	NR	NR	NR

N=Number; NR=Not reported; FP:= False Positive; TP: True Positive; FN:=False Negative; TN=True Negative; Sn=Sensitivity; Sp=Specificity; PPV=Positive Predictive value; NPV=Negative Predictive Value; Acc=Accuracy

Table D7: Harms

Author, year	Select Outcome	Patients with outcome(%)	n of EVENTS with outcomes(%)
Campbell, 1997,[4]	Subcapsular hematoma	10(40)	NR
Campbell, 1997,[4]	Hemorrhage	0(NR)	NR
Campbell, 1997,[4]	Tumor seeding	0(NR)	NR
Campbell, 1997,[4]	Pneumothorax	0(NR)	NR
Campbell, 1997,[4]	Radiation exposure	25(100)	NR
Vasudevan, 2006,[31]	Hemorrhage	1(1)	NR
Neuzillet, 2003,[22]	Pain	0(0)	0(0)
Neuzillet, 2003,[22]	Hemorrhage	0(0)	0(0)
Neuzillet, 2003,[22]	Tumor seeding	0(0)	0(0)
Volpe, 2008,[32]	Hemorrhage	1(NR)	NR
Volpe, 2008,[32]	Pain	1(NR)	NR
Volpe, 2008,[32]	Pneumothorax	1(NR)	NR
Volpe, 2008,[32]	Tumor seeding	0(0)	NR
Salem, 2012,[27]	Subcapsular hematoma	2(1.4)	NR
Salem, 2012,[27]	Flank ecchymosis	1(0.7)	NR
Schmit, 2010,[38]	Hemorrhage	4(NR)	4(NR)
Park, 2013,[25]	Pain	3(NR)	3(NR)
Sofikerim, 2009,[29]	Pain	0(NR)	(NR)
Sofikerim, 2009,[29]	Hemorrhage	0(NR)	(NR)
Sofikerim, 2009,[29]	Tumor seeding	0(NR)	(NR)
Leveridge, 2011,[16]	Tumor seeding	0(NR)	NR
Leveridge, 2011,[16]	Pneumothorax	2(NR)	NR
Leveridge, 2011,[16]	Hematoma	22(NR)	NR
Leveridge, 2011,[16]	Syncope	1(NR)	NR
Leveridge, 2011,[16]	Hematuria	3(NR)	NR
Park, 2013,[25]	Hematuria	0(NR)	NR

Author, year	Select Outcome	Patients with outcome(%)	n of EVENTS with outcomes(%)
Park, 2013,[25]	Hematoma	9(NR)	NR
Park, 2013,[25]	Pain	3(NR)	NR
Shannon, 2008,[28]	Hemorrhage	1(NR)	NR
Shannon, 2008,[28]	Tumor seeding	0(NR)	NR
Shannon, 2008,[28]	Hematoma	1(NR)	NR
Wang, 2009,[33]	Pain	4(NR)	NR
Wang, 2009,[33]	Pneumothorax	0(NR)	NR
Wang, 2009,[33]	Hematoma	2(NR)	NR
Wang, 2009,[33]	Wound infection	1(NR)	NR
Wang, 2009,[33]	Hypotension	1(NR)	NR
Campbell, 1997,[4]	Pain	0(NR)	NR
Campbell, 1997,[4]	Hemorrhage	0(NR)	NR
Campbell, 1997,[4]	Tumor seeding	0(NR)	NR
Campbell, 1997,[4]	Pneumothorax	0(NR)	NR
Campbell, 1997,[4]	Radiation exposure	0(NR)	NR
Chyhrai, 2010,[7]	Pain	1(NR)	NR
Chyhrai, 2010,[7]	Hemorrhage	1(NR)	NR

N=Number of patients; NR=Not Reported
No Study reported time point of assessment, within arm comparison or between arm comparisons

Evidence Tables for KQs 3a and 3b-Management KQs

Table D8: Study Characteristics Table

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Open Partial Nephrectomy vs Open Radical Nephrectomy											
Barbalias, 1999[39]	Retrospective cohort	Multiple center Europe	1986	NR	X		X			X	X
Ficarra, 2003[40]	Retrospective cohort	Single center Europe	1985	NR				X			
Indudhara,1997[41]	Retrospective cohort	Single center North America	1989	NR	X				X	X	X
Kim, 2010[42]	Retrospective cohort	Single center Asia	1995	NR							
Mariusdottir, 2013[43]	Cohort with comparison	Multiple center Europe	2000	NR	X	X	X		X		
Milonas, 2013[44]	Retrospective cohort	Single center Europe	1998	NR	X				X		
Roos, 2012[45]	Retrospective cohort	Multiple center Europe	1988	NR	X	X	X		X	X	X
Shinohara, 2001[46]	Retrospective cohort	Single center Asia	1986	NR	X			X		X	X
Xu, 2014[47]	Retrospective cohort	Single center Asia	2006	NR						X	X
Partial Nephrectomy (Technique Unclear) vs Radical Nephrectomy (Technique Unclear)											
Antonelli, 2011[48]	Retrospective cohort	Multiple center Europe	1995	NR	X						
Antoniewicz, 2012[49]	Prospective cohort	Single center Europe	NR	NR			X				

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Badalato, 2011[50]	Retrospective cohort with propensity analysis	Multiple center North America SEER database	1998	NR	X				X		
Bedke, 2008[51]	Retrospective cohort	Single center Europe	1990	NR	X						
Crepel, 2010[52]	Retrospective cohort	Multiple center North America	1988	NR							
Crepel, 2010[53]	Retrospective cohort	Multiple center North America	1988	NR	X						
Dash, 2006[54]	Retrospective cohort	Single center North America	1998	NR			X				
Daugherty, 2014[55]	Retrospective cohort	Single center North America	1993	NR	X				X		
Houston, 2009[56]	Retrospective cohort	Multiple center North America	1989	NR	X				X		
Huang, 2006[57]	Retrospective cohort	Single center North America	1989	Government		X					
Huang, 2009[58]	Retrospective cohort	Multiple center North America	1995	NR	X				X		
Kates, 2011[59]	Retrospective cohort	Multiple center North America	1998	NR					X		
Kopp, 2014[60]	Retrospective cohort	Single center North America	2002	No funding	X				X	X	X
Kyung, 2014[61]	Retrospective cohort	Single center Asia	2000	NR	X	X	X		X	X	
Lane, 2010[62]	Retrospective cohort	Single center North America	1983	NR	X	X	X		X	X	
Li, 2007[63]	Retrospective cohort	Single center Asia	1982	NR	X		X		X		
Li, 2010[64]	Retrospective cohort	Single center Asia	1998	Government							
Lowrance, 2010[65]	Retrospective cohort	Single center North America	2000	Multiple-specify govt, nonprofit						X	
McKiernan,	Retrospective	Single center	1989	NR	X	X	X				

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
2002[66]	cohort	North America									
Medina-Polo, 2011[67]	Retrospective cohort	Single center Europe	1989	NR	X	X	X		X		
Meskawi, 2013[68]	Retrospective cohort with propensity analysis	Multiple center North America SEER database	1988	Non-profit	X				X		
Mitchell, 2006[69]	Retrospective cohort	Single center North America	1988	NR	X					X	
Miyamoto, 2012[70]	Retrospective cohort	Single center Asia	1999	NR	X	X	X	X	X	X	X
Patard, 2004[71]	Retrospective cohort	Multiple center Multiple-specify Europe, N America	1984	NR	X						
Scosyrev, 2014[72]	RCT Post hoc analysis	Multiple center Europe	1992	Non-profit		X	X				
Smaldone, 2012[73]	Retrospective cohort	Multiple center North America	1995	Government NCI/NIH/DOD					X		
Sun, 2012[74]	Retrospective cohort	Multiple center North America	1998	No funding		X				X	
takagi, 2011[75]	Retrospective cohort	Single center Asia	NR	NR		X			X		
Tan, 2012[76]	Retrospective cohort	Multiple center North America	1992	Government	X				X		
Thompson, 2008[77]	Retrospective cohort	Single center North America	1989	NR					X		
Tomaszewski, 2014[78]	Retrospective cohort	Single center North America	2005	NR						X	X
Uchida, 2004[79]	Retrospective cohort	Single center Asia	1992	NR	X					X	X
Uzzo, 1999[80]	Retrospective cohort	Single center North America	1991	NR	X					X	X
Van Poppel, 2011[81]	RCT	Multiple center Europe	1992	Government	X		X		X	X	X

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Weight, 2010[82]	Retrospective cohort	Single center North America	1999	NR							
Weight, 2010[83]	Retrospective cohort	Single center North America	1999	NR	X				X		
Weight,2010[84]	Retrospective cohort	Single center North America	1999	Industry	X				X		
Woldu, 2014[85]	Retrospective cohort	Single center North America	1992	NR		X	X				
Yasuda, 2012[86]	Retrospective cohort	Single center Asia	2005	NR			X			X	X
Zini, 2009[87]	Retrospective cohort	Multiple center North America	1988	NR					X		
Minimally Invasive Partial Nephrectomy vs Minimally Invasive Radical Nephrectomy											
Brewer, 2012[88]	Retrospective cohort	Single center North America	2004	NR		X	X			X	X
Deklaj, 2010[89]	Retrospective cohort	Single center North America	2002	NR	X	X	X		X	X	X
Janetschek, 2000[90]	Prospective cohort	Single center Europe	1994	NR	X					X	X
Kim, 2003[91]	Retrospective cohort	Single center North America	1998	NR	X		X			X	X
Snow, 2008[92]	Retrospective cohort	Single center North America	NR	Industry			X				
Zorn, 2007[93]	Retrospective cohort	Single center North America	2002	NR		X	X				X
Minimally Invasive Radical Nephrectomy vs Partial Nephrectomy(											

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
unclear technique)											
Becker, 2014[94]	Retrospective cohort	Multiple center North America	1992	NR						X	
Minimally Invasive Radical Nephrectomy vs Open Partial Nephrectomy											
Matin, 2002[95]	Retrospective cohort	Single center North America	1996	NR			X			X	X
Roos, 2010[96]	Retrospective cohort	Single center Europe	1981	NR	X	X	X		X	X	X
Open Partial Nephrectomy vs Radical Nephrectomy(unclear technique)											
Iizuka, 2012[97]	Retrospective cohort	Single center Asia	1979	NR	X		X		X		X
Minervini, 2012[98]	Retrospective cohort	Single center Europe	1995	NR	X				X		
Open Radical Nephrectomy vs Partial Nephrectomy(unclear technique)											
Jeon,2009[99]	Retrospective cohort	Single center Asia	1998	NR		X					
Minimally Invasive Partial Nephrectomy vs											

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Open/Minimally Invasive Radical Nephrectomy											
Gratzke, 2009[100]	Prospective cohort	Single center Europe	2001	NR	X		X		X	X	X
Minimally Invasive Partial Nephrectomy vs Minimally Invasive Thermal Ablation											
Bensalah, 2007[101]	Retrospective cohort	Single center North America	2000	NR	X				X	X	X
Desai, 2005[102]	Retrospective cohort	Single center North America	1997	NR	X		X		X	X	X
Emara, 2014[103]	Prospective cohort	Single center Europe	2008	NR	X	X	X		X	X	X
Guillotreau, 2012[104]	Retrospective cohort	Single center North America	1998	NR	X	X	X			X	X
Haramis, 2012[105]	Retrospective cohort	Single center North America	2005	NR	X		X		X	X	X
Kiriluk, 2011[106]	Retrospective cohort	Single center North America	2002	NR			X			X	X
Pascal, 2011[107]	Retrospective cohort	Single center North America	1998	NR	X	X	X		X	X	X
Partial Nephrectomy(Technique Unclear) vs Thermal Ablation (Technique Unclear)											
Chang, 2014[108]	Retrospective cohort	Single center Asia	2006	NR	X				X	X	

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Faddegon, 2013[109]	Retrospective cohort	Single center North America	1999	NR			X				
Mues, 2012[110]	Retrospective cohort	Multiple center North America and The Netherlands	1998	NR	X	X	X		X	X	X
Stern, 2007[111]	Retrospective cohort	Single center North America	1996	NR	X					X	
Thompson, 2014[112]	Retrospective cohort	Single center North America	2000	No funding	X				X		
Turna, 2009[113]	Prospective cohort	Single center North America	1997	NR	X	X	X		X	X	X
Whitson, 2012[114]	Retrospective cohort	Multiple center North America	1998	NR	X				X		
Minimally Invasive Partial Nephrectomy vs Thermal Ablation (Technique Unclear)											
Olweny, 2012[115]	Retrospective cohort	Single center North America	1998	No funding	X				X		
Tanagho, 2013[116]	Retrospective cohort	Single center North America	2000	Non-profit	X		X		X	X	X
Open Partial Nephrectomy vs Thermal Ablation (Technique Unclear)											
Klatte, 2011[117]	Retrospective cohort	Single center North America	2004	NR	X	X	X			X	X
Mitchell, 2011[118]	Retrospective cohort	Single center North America	2003	NR		X	X				
Youn, 2013[119]	Prospective cohort	Single center Asia	2007	NR	X		X			X	X

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Active Surveillance vs Partial Nephrectomy (Technique Unclear) vs Radical Nephrectomy (Technique Unclear)											
Patel, 2014[120]	Retrospective cohort	Multiple center North America	1995	Government	X				X		
Patel, 2014[121]	Retrospective cohort	Multiple center North America	1995	Government Non-Profit	X				X		
Sun, 2013[122]	Retrospective cohort	Multiple center North America	1988	No funding	X						
Radical Nephrectomy(Technique Unclear) vs Thermal Ablation (Technique Unclear)											
Takaki, 2014[123]	Retrospective cohort	Single center Asia	2002	No funding	X		X		X	X	
Active Surveillance vs Radical Nephrectomy (Technique Unclear)											
Lane, 2010[124]	Retrospective cohort	Single center North America	2000	NR	X	X	X		X		
Thermal ablation vs Partial											

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
Nephrectomy (Technique Unclear) vs Radical Nephrectomy (Technique Unclear)											
Choueiri, 2011[125]	Retrospective cohort	Multiple center North America	2004	NR	X				X		
Lucas, 2007[126]	Retrospective cohort	Single center North America	1995	NR	X	X	X				
Permpongkosol, 2007[127]	Retrospective cohort	Single center North America	1993	NR						X	X
Takaki, 2010[128]	Retrospective cohort	Single center Asia	2002	NR							
Minimally Invasive Thermal ablation vs Minimally Invasive Partial Nephrectomy vs Minimally Invasive Radical Nephrectomy											
Deklaj,2010[129]	Retrospective cohort	Single center North America	2002	NR		X	X			X	X
Foyil, 2008[130]	Retrospective cohort	Single center North America	2000	NR			X				
Thermal ablation vs Open/Minimally Partial Nephrectomy vs Open/Minimal											

Author, year	Study design	Study site Study location	Start year of recruitment	Funding source	Oncologic	Renal Functional (Categorical)	Renal Functional (Continuous)	Quality of life	Overall Survival	Harms	Perioperative Outcomes
ly Radical Nephrectomy											
Kaowalczyk, 2013[131]	Retrospective cohort	Multiple center North America	2005	Government		X				X	X
ACTIVE SURVEILLANCE (UNCONTROLLED STUDIES)											
Abouassaly, 2008[132]	Retrospective cohort	Single center North America	2000	NR	X	X					
Crispen, 2008[133]	Retrospective cohort	Single center North America	2000	NR	X						
Crispen, 2009[134]	Retrospective cohort	Single center North America	2000	Government Industry	X						
Jewett, 2011[135]	Retrospective cohort	Multiple center North America	2004	No funding	X	X					
Kunkle, 2007[136]	Other - please specify Retrospective and Prospective cohort	Single center North America	NR	NR	X						
Leonard, 2013[36]	Retrospective cohort	Single center Europe	2007	NR	X						
Rosales, 2010[137]	Retrospective cohort	Single center North America	1993	NR	X	X					

NR: Not reported; RCT: Randomized Control Trial

Table D9: Participant characteristics

Author, year	Arm (n)	Actual length of follow-up (mean, median)	Women :n(%)	Age (years) Mean, median, range sd	Race, n(%)	BMI: Mean(Sd)	Current smokers, n(%) Hypertension, n(%) DM, n (%) CVD, n(%) CKD-3, n(%) Solitary kidney, n(%)	GFR	Creatinine	American Society of Anesthesiologists score Mean, median, range sd	American Society of Anesthesiologists score, n(%)	Charlson Comorbidity Index
Antonelli, 2011[48]	RN-cT1a (919)	Median: 47 Unit: months	316(34.4)	Mean: 62.7 SD: 11.3	NR	NR	NR	NR	NR	NR	NR	NR
Antonelli, 2011[48]	PN-cT1a (1068)	Median: 47 Unit: months	321(30.1)	Mean: 60.5 SD: 12.7	NR	NR	NR	NR	NR	NR	NR	NR
Antonelli, 2011[48]	RN-cT1b (1426)	Median: 47 Unit: months	524(36.7)	Mean: 62.4 SD: 11.6	NR	NR	NR	NR	NR	NR	NR	NR
Antonelli, 2011[48]	PN-cT1b (198)	Median: 47 Unit: months	64(32.3)	Mean: 58.2 SD: 14.8	NR	NR	NR	NR	NR	NR	NR	NR
Antoniewicz, 2011[49]	RN (33)	Mean: 12 Unit: months	(29)	Mean: 61.9	W: 33(100) AA: 0(0) Asian: 0(0) Others: 0(0)	NR	H: 22(67) DM: 6(18)	NR	Mean: 90.5 SD: 19.5 Unit: mmol/l	NR	NR	NR
Antoniewicz, 2011[49]	PN (18)	Mean: 12 Unit: month	(22)	Mean: 62.7	W: 18(100) AA: 0(0) Asian:	NR	H: 10(67) DM: 3(17)	NR	Mean: 89.4 SD: 23.3 Unit:	NR	NR	NR

		s			0(0) Others: 0(0)				mmol/l			
Badalato, 2011[50]	PN pre-propensity (1047)	Median: 41 Unit: months	370(35)	Mean: 58.4 SD: 12.7	W: 760(73) AA: 98(9) Others: 68(6)	NR	NR	NR	NR	NR	NR	NR
Badalato, 2011[50]	RN pre-propensity (10209)	Median: 33 Unit: months	4166(41)	Mean: 60.7 SD: 12.8	W: 7425(73) AA: 809(8) Others: 679(7)	NR	NR	NR	NR	NR	NR	NR
Barbalias, 1999[39]	Partial nephrectomy (41)	Mean: 4.9 Unit: years	NR	Mean: 64 Range: 44-71	NR	NR	SK: 10(24.4)	NR	NR	NR	NR	NR
Barbalias, 1999[39]	Radical nephrectomy (48)	Mean: 4.9 Unit: years	NR	Mean: 66 Range: 42-75	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Becker, 2014[94]	NR (2277)	Mean: 30 Unit: months	1075(47.2)	Mean: 73.6 Median: 73 Range: >65 IQR: 69-77	W: 1955(85.9) AA: 158(6.9) Others: 164(7.1)	NR	NR	NR	NR	NR	NR	0: 730(32.1) 1: 355(15.6) 2: 384(16.9) 3+: 808(35.5)
Becker, 2014[94]	LRN (1066)	Mean: 30 Unit: months	555(54.1)	Mean: 74.5 Median: 74 Range: >65 IQR: 70-79	W: 895(87.2) AA: 55(5.4) Others: 76(7.4)	NR	NR	NR	NR	NR	NR	0: 312(30.4) 1: 179(17.4) 2: 168(16

												.4) 3+: 367(35 .8)
Becker, 2014[94]	PN (1251)	Mean: 30 Unit: month s	520(41. 6)	Mean: 72.8 Median: 72 Range: >65 IQR: 69-76	W: 1060(84 .7) AA: 103(8.3) Others: 88(7)	NR	NR	NR	NR	NR	NR	0: 418(33 .4) 1: 176(14 .1) 2: 216(17 .3) 3+: 441(35 .5)
Bedke, 2008[51]	RN (398)	Mean: 5.9 Media n: 5.3 Unit: years	161(40. 5)	Mean: 60 Range: 20.2-88.6 SD: 11.9	NR	NR	NR	NR	NR	NR	NR	NR
Bedke, 2008[51]	PN (66)	Mean: 4.5 Media n: 3.6 Unit: years	17(25.8)	Mean: 59.3 Range: 24.6-83.1 SD: 13.4	NR	NR	NR	NR	NR	NR	NR	NR
Bensalah , 2007[101]	LPN (50)	Mean: 15 Unit: month s	19(38)	Mean: 56.5 SD: 11.7	NR	Mean: 31.1 SD: 8	NR	NR	NR	NR	NR	NR
Bensalah , 2007[101]	LRFA (38)	Mean: 25.2 Unit: month s	16(42)	Mean: 62 SD: 17.5	NR	Mean: 29.6 SD: 4.8	NR	NR	NR	NR	NR	NR
Brewer, 2012[88]	MPN (45)	NR	17(37.8)	Mean: 62.6 SD: 15.2	W: 42(93.3) Others: 3(6.7)	Mean: 31.5 SD: 6.5	CS: 8(17.8) SK: 0(0)	Mean: 74.9 Unit: ml/min/1 .73m2	NR	NR	NR	0: 27(60) 0-2: 41(91. 1)
Brewer, 2012[88]	MRN (108)	NR	39(36.2)	Mean: 65.1 SD: 13.2	W: 99(91.7)	Mean: 31.4	CS: 23(21.3) SK: 0(0)	Mean: 69.5	NR	NR	NR	0: 64(59.

					Others: 9(8.3)	SD: 7.5		Unit: ml/min/1.73m2				3) 0-2: 97(89.9)
Chang, 2014[108]	RFA (27)	Mean: 65.9 Median: 73 Unit: months	9(33.3)	Mean: 64 SD: 8.4	NR	NR	NR	Mean: 78.8 SD: 28.9 Unit: ml/min/1.73m2	NR	Mean: 2.1 Range: 1-3' SD: 0.7	NR	NR
Chang, 2014[108]	PN (29)	Mean: 70.2 Median: 71 Unit: months	11(37.9)	Mean: 56.9 SD: 9.9	NR	NR	NR	Mean: 86.4 SD: 29.3 Unit: ml/min/1.73m2	NR	Mean: 1.5 Range: 1-3' SD: 0.5	NR	NR
Choueiri, 2011[125]	TA (578)	Median: 21.2 Unit: months	222(38.4)	NR	W: 492(85.1) AA: 55(9.5) Others: 31(5.4)	NR	NR	NR	NR	NR	NR	NR
Choueiri, 2011[125]	PN (4402)	Median: 21.2 Unit: months	1692(38.4)	NR	W: 3695(83.9) AA: 405(9.2) Others: 302(6.9)	NR	NR	NR	NR	NR	NR	NR
Choueiri, 2011[125]	RN (10165)	Median: 21.2 Unit: months	4166(41)	NR	W: 8507(83.7) AA: 984(9.7) Others: 674(6.6)	NR	NR	NR	NR	NR	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, and	Mean: 29 Unit: months	NR(38.6)	Mean: 59.5 Range: 18-90	NR	NR	NR	NR	NR	NR	NR	NR

	Year of Surgery (1564)											
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, and Year of Surgery (3955)	Mean: 41 Unit: months	NR(40.3)	Mean: 60.5 Range: 18-97	NR	NR	NR	NR	NR	NR	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (961)	Mean: 24 Unit: months	NR(38.5)	Mean: 59.3 Range: 18-89	NR	NR	NR	NR	NR	NR	NR	NR
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (2341)	Mean: 38 Unit: months	NR(42.1)	Mean: 60.6 Range: 19-93	NR	NR	NR	NR	NR	NR	NR	NR
Crepel, 2010[53]	PN (275)	Mean: 40.7 Median: 29 Unit: months	100(36.4)	Mean: 60.5 Range: 25-87	NR	NR	NR	NR	NR	NR	NR	NR
Crepel, 2010[53]	RN (1100)	Mean: 46.7 Median: 33.5 Unit:	433(39.4)	Mean: 60.5 Range: 20-92	NR	NR	NR	NR	NR	NR	NR	NR

		months										
Dash, 2006[54]	PN (45)	Median: 21 Unit: months	13(29)	Mean: 56.7 SD: 13	W: 42(93)	NR	NR	NR	Mean: 1.16 SD: 0.33 Unit: mg/dL	NR	NR	NR
Dash, 2006[54]	RN (151)	Median: 21 Unit: months	52(34)	Mean: 63.1 SD: 11.5	W: 127(84)	NR	NR	NR	Mean: 1.09 SD: 0.36 Unit: mg/dL	NR	NR	NR
Daughertty, 2014[55]	Radical Nephrectomy (494)	Median: 99 Unit: Months	202(56.6)	NR	W: 371(79.8) AA: 62(14) Others: 30(7.7)	NR	NR	NR	NR	NR	NR	NR
Daughertty, 2014[55]	Partial Nephrectomy (222)	Median: 92 Unit: Months	84(37.8)	NR	W: 176(79.3) AA: 27(12.2) Others: 19(8.6)	NR	NR	NR	NR	NR	NR	NR
Deklaj, 2010[89]	Partial nephrectomy (33)	Median: 15 Unit: months	(30.3)	Mean: 59.6 Range: 23-83	NR	Mean: 29 Range: 18.2-40.3	CS: (33) H: 17(55) DM: 7(21.2) CVD: 5(15.1) CKD-3: 18(NR)	Mean: 87.39 Unit: ml/min/1.73m^2	NR	NR	NR	NR
Deklaj, 2010[89]	Radical nephrectomy (52)	Median: 21 Unit: months	(46.1)	Mean: 64.4 Range: 27-85	NR	Mean: 60 Range: 28.9-52.0	CS: (46) H: 26(50) DM: 8(15.4) CVD: 9(17.3) CKD-3: 25(NR)	Mean: 101.35 Unit: ml/min/1.73m^2	NR	NR	NR	NR
Deklaj,2010[129]	LRN (19)	Mean: 21 Unit: months	9(47.4)	Mean: 76.2 Range: ≥70 SD: 4.3	W: 12(62.5)	Mean: 27.5 SD: 4.2	CS: 8.816(46.4) H: 14.003(73.7) DM: 4.009(21.1)	NR	Mean: 63.3 SD: 16.2 Unit: mL/min	NR	NR	NR

							CVD: 6.004(31.6) CKD-3: 8(42.1)					
Deklaj,2010[129]	LPN (28)	Mean: 21 Unit: months	12(42.9)	Mean: 74.9 Range: ≥70 SD: 4	W: 16.996(60.7)	Mean: 28 SD: 4.6	CS: 10.5(37.5) H: 19.012(67.9) DM: 4.004(14.3) CVD: 5.992(21.4) CKD-3: 11(39.3)	NR	Mean: 63.2 SD: 17.7 Unit: mL/min	NR	NR	NR
Deklaj,2010[129]	LTA (19)	Mean: 21 Unit: months	8(42.1)	Mean: 76.5 Range: ≥70 SD: 4.9	W: 11.875(62.5)	Mean: 29.1 SD: 5.1	CS: 3.572(18.8) H: 14.003(73.7) DM: 9.006(47.4) CVD: 6.992(36.8) CKD-3: 8(42.1)	NR	Mean: 65.2 SD: 26.4 Unit: mL/min	NR	NR	NR
Desai, 2005[102]	Laparascopic PN (153)	Mean: 5.8 Unit: months	64(42)	Mean: 60.59 Range: 17 - 87 SD: 13.19	NR	Mean: 29.06 Range: 18 - 56.2 SD: 6.42	SK: 8(5)	NR	Mean: 1.02 Range: 0.5 - 2.5 SD: 0.32 Unit: mg/dl	NR	NR	NR
Desai, 2005[102]	Cryoablation (89)	Mean: 24.6 Unit: months	35(31)	Mean: 65.55 Range: 28 - 88 SD: 12.69	NR	Mean: 27.43 Range: 17 - 45 SD: 5.59	SK: 18(20)	NR	Mean: 1.19 Range: 0.5 - 3.4 SD: 0.57 Unit: mg/dl	NR	NR	NR
Emara, 2014[103]	Cryoablation (56)	Mean: 31.3 Unit: Months	11(NR)	Mean: 69.75 Range: 42-90	NR	NR	NR	NR	NR	Median: 1 Range: 1-3	NR	NR
Emara,	Robot	Mean:	16(NR)	Mean: 60.5	NR	NR	NR	NR	NR	Median: 2	NR	NR

2014[103]	assisted partial nephrectomy (47)	16.5 Unit: Months		Range: 38-80						Range: 1-3'		
Faddegon, 2013[109]	PN (142)	Mean: 56.72 Unit: months	63(NR)	Mean: 61.3 SD: 13.2	W: 109(76.8) AA: 17(12) Asian: 0(0) Others: 16(11.2)	Mean: 24.3 SD: 3.17	H: 60(42.2) DM: 26(18.3) CVD: NR CKD-3: 33(23.2) SK: 0(0)	Mean: 75 Median: 22.5 SD: 22.5 Unit: ml/min/1.73m2	NR	NR	NR	NR
Faddegon, 2013[109]	RFA (205)	Mean: 42.2 Unit: months	92(NR)	Mean: 54.3 SD: 12.7	W: 143(69.8) AA: 29(14.1) Asian: 4(2) Others: 29(14.2)	Mean: 24.5 SD: 3.13	H: 104(50.7) DM: 37(18) CKD-3: 31(15.2) SK: 0(0)	Mean: 80.7 Median: 21.8 SD: 21.8 Unit: ml/min/1.73m2	NR	NR	NR	NR
Ficarra, 2003[40]	RN (88)	Mean: 68 Unit: months	32(36.4)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ficarra, 2003[40]	NSS (56)	Mean: 62.25 Unit: months	16(28.6)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Foyil, 2008[130]	LPN-Non (55)	NR	NR	Mean: 61.4 Range: 21-89	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Foyil, 2008[130]	LPN-Warm ischemia (37)	NR	NR	Mean: 54.9 Range: 30-82	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Foyil, 2008[130]	LPN-Cold ischemia (6)	NR	NR	Mean: 59.2 Range: 44-74	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Foyil, 2008[130]	LRN (50)	NR	NR	Mean: 60.7 Range: 39-86	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR

Foyil, 2008[130]	Cryo (49)	NR	NR	Mean: 67.8 Range: 28-90	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Gratzke, 2009[100]	Retroperitoneoscopic radical nephrectomy (36)	Mean: 22 Unit: months	13(36)	Mean: 67.8 Range: IQR: SD: 12.8	NR	NR	NR	NR	NR	NR	1: 0(0) 2: 20(56) 3: 16(44) 4: 0(0)	NR
Gratzke, 2009[100]	Open radical nephrectomy (37)	Mean: 22 Unit: months	14(38)	Mean: 61.1 SD: 12.7	NR	NR	NR	NR	NR	NR	1: 3(8) 2: 21(57) 3: 21(57) 4: 0(0)	NR
Gratzke, 2009[100]	Nephron-sparing surgery (44)	Mean: 22 Unit: months	15(34)	Mean: 60.7 SD: 12.4	NR	NR	NR	NR	NR	NR	1: 2(4) 2: 30(67) 3: 12(26) 4: 1(2)	NR
Guillotreau, 2012[104]	RPN (210)	Mean: 4.8 Unit: months	NR(42)	Mean: 57.8 SD: 11.8	NR	Mean: 30.1 SD: 6.4	NR	Mean: 86.3 SD: 36 Unit: ml/min	Mean: 0.94 SD: 0.28 Unit: NR	NR	NR	NR
Guillotreau, 2012[104]	LCA (226)	Mean: 44.5 Unit: months	NR(29)	Mean: 67.4 SD: 11.3	NR	Mean: 29.3 SD: 6.2	NR	Mean: 65.8 SD: 28.6 Unit: ml/min	Mean: 1.34 SD: 0.71 Unit: NR	NR	NR	NR
Haramis, 2012[105]	LCA (75)	Median: 14 Unit: months	28(37.3)	Mean: 69.2 Range: 19-84	W: 56(74.7) AA: 6(8) Others: 13(17.3)	NR	SK: 9(12)	NR	Mean: 1.1 Unit: mg/dl	Mean: 1.9 Range: 1-3	NR	NR
Haramis, 2012[105]	LPN (92)	Median: 21.8 Unit: months	36(39.2)	Mean: 58.8 Range: 37-85	W: 78(84.9) AA: 4(4.3) Others: 10(10.8)	NR	SK: 4(4.3)	NR	Mean: 0.9 Unit: mg/dl	NR	NR	NR

Houston, 2009[56]	RN (873)	Median: 5.3 Unit: years	538(62)	NR	NR	NR	DM: 73(9) SK: 2(0.2)	Median: 66 Range: 5-156 Unit: ml/min/1.73m3	NR	NR	NR	0: 341(43)
Houston, 2009[56]	PN (286)	Median: 3.4 Unit: years	196(68)	NR	NR	NR	DM: 34(12) SK: 29(10)	Median: 63 Range: 8-148 Unit: ml/min/1.73m4	NR	NR	NR	0: 113(45)
Huang, 2006[57]	GFR>60 partial (287)	Median: 19 Unit: months	120(42)	Median: 57 IQR: 47-65	W: 271(94) AA: 16(6) Others: reported in white or other(NR)	NR	H: 102(42) DM: 25(9) SK: 0(0)	Median: 74 IQR: 66.8-86.0 Unit: mL/min per 1.73m2	Median: 88 IQR: 71-97 Unit: umol/L	NR	NR	2: 188(66) 3: 96(33)
Huang, 2006[57]	GFR>60 radical (204)	Median: 19 Unit: months	85(41)	Median: 63 IQR: 55-70	W: 194(95) AA: 10(5) Others: reported in white or other(NR)	NR	H: 84(42) DM: 18(9) SK: 0(0)	Median: 73.3 IQR: 67.1-80.9 Unit: mL/min per 1.73m2	Median: 88 IQR: 79-97 Unit: umol/L	NR	NR	2: 123(60) 3: 81(40)
Huang, 2006[57]	GFR>45 partial (385)	Median: 25 Unit: months	176(46)	Median: 59 IQR: 50-67	W: 376(95) AA: 18(5) Others: reported in white or other(NR)	NR	H: 156(46) DM: 36(9) SK: 0(0)	Median: 70.4 IQR: 59.8-80.9 Unit: mL/min per 1.73m2	Median: 88 IQR: 79-106 Unit: umol/L	NR	NR	2: 234(61) 3: 148(38)

Huang, 2006[57]	GFR>45 radical (262)	Median: 25 Unit: months	118(45)	Median: 65 IQR: 56-71	W: 251(96) AA: 11(4) Others: reported in white or other(NR)	NR	H: 115(45) DM: 23(9) SK: 0(0)	Median: 69.2 IQR: 61.6-78.6 Unit: mL/min per 1.73m2	Median: 88 IQR: 79-106 Unit: umol/L	NR	NR	2: 155(59) 3: 106(40)
Huang, 2009[58]	PN (556)	NR	NR(16)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Huang, 2009[58]	RN (2435)	NR	NR(84)	NR	NR	NR	NR	NR	NR	NR	NR	NR
Iizuka, 2012[97]	T1b-Partial Nephrectomy (67)	Mean: 31.3 Median: 22.4 Unit: months	16(NR)	Mean: 57.6 Median: 60 Range: 23-78	NR	NR	H: 33(49) DM: 7(10) SK: 8(12)	Mean: 70.6 Median: 68.8 Range: 9.9-111 Unit: ml/min/1.73m2	NR	NR	NR	NR
Iizuka, 2012[97]	T1b-Radical Nephrectomy (195)	Mean: 93 Median: 71.1 Unit: months	76(NR)	Mean: 58.1 Median: 59 Range: 19-85	NR	NR	H: 43(22) DM: 30(15) SK: 0(0)	Mean: 70.3 Median: 72.1 Range: 3.6-178 Unit: ml/min/1.73m2	NR	NR	NR	NR
Iizuka, 2012[97]	T1a-Partial Nephrectomy (324)	Mean: 45.1 Median: 30.1 Unit: months	83(NR)	Mean: 58.8 Median: 60 Range: 23-88	NR	NR	H: 103(31) DM: 53(16) SK: 24(7)	Mean: 71.1 Median: 71.7 Range: 15-133 Unit: ml/min/1.73m2	NR	NR	NR	NR
Indudhara, 1997[41]	nephron-sparing surgery	Mean: 3.1 Unit:	13(37.14)	Mean: 42 Range: 28-77	NR	NR	SK: 2(5.71)	NR	Mean: 0.9 Unit: mg/dL	NR	NR	NR

	(35)	years										
Indudhara, 1997[41]	radical nephrectomy (71)	Mean: 3.6 Unit: years	24(33.80)	Mean: 47 Range: 26-81	NR	NR	SK: 0(0)	NR	Mean: 1 Unit: mg/dL	NR	NR	NR
Janetschek, 2000[90]	Partial nephrectomy (25)	Mean: 22.2 Unit: months	7NR	Mean: 62.9 Range: 39-80	NR	NR	NR	NR	NR	NR	NR	NR
Janetschek, 2000[90]	Radical nephrectomy (73)	Mean: 13.3 Unit: months	41NR	Mean: 63.3 Range: 34-83	NR	NR	NR	NR	NR	NR	NR	NR
Jeon,2009[99]	PN (96)	Mean: 42.7 Unit: months	28(29.2)	Mean: 51.3 Median: 51 Range: 24-78 SD: 12.1	NR	Mean: 24.2 SD: 2.8	H: 19(19.8) DM: 7(7.3) CVD: NR SK: 0(0)	Mean: 83.8 Median: 80 Range: 60-145 SD: 15.7 Unit: mL/min	NR	NR	0: 0(0)	NR
Jeon,2009[99]	RN (129)	Mean: 42.7 Unit: months	34(26.4)	Mean: 53.4 Median: 53 Range: 22-83 SD: 12.3	NR	Mean: 24.8 SD: 3.4	H: 34(26.4) DM: 13(10.1) SK: 0(0)	Mean: 82.8 Median: 81 Range: 60-142 SD: 16.7 Unit: mL/min	NR	NR	0: 0(0)	NR
Kaowalczyk, 2013[131]	Ablation (211)	NR	97(46)	NR	W: 194(91.9) Others: 17(8)	NR	NR	NR	NR	NR	NR	0: 94(44.6) 1: 58(27.5)
Kaowalczyk, 2013[131]	MIPN (160)	NR	80(50)	NR	W: 139(86.9)	NR	NR	NR	NR	NR	NR	0: 85(53.1)

					Others: 21(13.1)							1: 56(35)
Kaowalczyk, 2013[131]	OPN (330)	NR	151(45.8)	NR	W: 283(85.8) Others: 47(14)	NR	NR	NR	NR	NR	NR	0: 161(48.8) 1: 81(24.6)
Kaowalczyk, 2013[131]	MIRN (535)	NR	272(50.8)	NR	W: 481(89.9) Others: 54(10.1)	NR	NR	NR	NR	NR	NR	0: 290(54.2) 1: 134(25.1)
Kaowalczyk, 2013[131]	ORN (404)	NR	194(48)	NR	W: 361(89.4) Others: 43(10.6)	NR	NR	NR	NR	NR	NR	0: 236(58.4) 1: 93(23)
Kates, 2011[59]	PN (2301)	NR	NR(41)	Mean: 56.4	W: NR(74) AA: NR(9) Others: NR(17)	NR	NR	NR	NR	NR	NR	NR
Kates, 2011[59]	RN (1915)	NR	NR(43)	Mean: 58.9	W: NR(72) AA: NR(13) Others: NR(14)	NR	NR	NR	NR	NR	NR	NR
Kim, 2003[91]	Partial nephrectomy (79)	Mean: 19.8 Unit: months	31(39.9)	Mean: 58.33 Range: 32-82 SD: 12.3	NR	Mean: 27.71 19.8-33.9 SD: 3.84	SK: 0(0)	NR:	Mean: 1.02 Range: 0.3-2.3 IQR: SD: 0.44 Unit: mg/dl	Mean: 2.2 Range: 1-4 SD: 0.5	NR	NR
Kim, 2003[91]	Radical nephrectomy (35)	Mean: 18.6 Unit: months	9(25.7)	Mean: 57.48 Range: 37-86 SD: 11.65	NR	Mean: 29.9 20.6-42.3 SD: 5.3	SK: 0(0)	NR	Mean: 1.18 Range: 0.6-2.4 SD: 0.37	Mean: 2.4 Range: 1-4 SD: 0.6	NR	NR

									Unit: mg/dl			
Kim, 2010[42]	PN (18)	Mean: 78.2 Unit: months	5(27.8)	Mean: 47.3 SD: 9.8	NR	Mean: 23.1 SD: 2.6	DM: 3(16.7)	Mean: 86 SD: 20 Unit: ml/min/1.73m2	Mean: 1 SD: 0.2 Unit: mg/dl	NR	NR	0: 10(55.5) 1: 4(22.2) 2: 3(16.7) 3+: 1(5.6)
Kim, 2010[42]	RN (52)	Mean: 66.5 Unit: months	16(30.8)	Mean: 57.3 SD: 10.7	NR	Mean: 23.8 SD: 2.8	DM: 5(9.6)	Mean: 81.2 SD: 19.9 Unit: ml/min/1.73m2	Mean: 1 SD: 0.2 Unit: mg/dl	NR	NR	0: 26(50) 1: 17(32.7) 2: 6(11.5) 3+: 3(5.8)
Kiriluk, 2011[106]	LPN (51)	Mean: 18.3 Unit: months	25(49)	Mean: 66 Range: 23 - 83	NR	Mean: 29.1 Range: 18.2 - 24	CS: 18(35.3) H: 27(52.9) DM: 12(23.5) CVD: 9(17.66) CKD-3: 7(NR) SK: 3(5.9)	Mean: 87 Range: 22.1 - 146.31 Unit: ml/min	NR	NR	NR	NR
Kiriluk, 2011[106]	LTA (51)	Mean: 27.9 Unit: months	25(49)	Mean: 65.7 Range: 27 - 75	NR	Mean: 30 Range: 12.1 - 56.9	CS: 11(21.6) H: 31(60.8) DM: 12(23.5) CVD: 14(27.5) CKD-3: 10(NR) SK: 5(9.8)	Mean: 88 Range: 13.6 - 253.3 Unit: ml/min	NR	NR	NR	NR
Klatte, 2011[117]	Cryoablation (41)	Median: 33.6 Unit: months	10(24)	Median: 74.9 Range: 41.4-87.2	NR	NR	NR	Median: 63.6 Range: 11.6-171.1 Unit: ml/min/1.73m2	NR	NR	NR	NR

Klatte, 2011[117]	PN (82)	Median: 33.6 Unit: months	18(22)	Median: 69.8 Range: 40.3-84.6	NR	NR	NR	Median: 63.6 Range: 15.6-104.5 Unit: ml/min/1.73m2	NR	NR	NR	NR
Kopp, 2014[60]	RN (122)	Median: 47.4 Unit: months	45(36.9)	Mean: 58 SD: 9	W: 62(52.1) Others: 57(47.9)	Mean: 29.2 Median: 5.1 SD: 5.1	H: 73(59.8) DM: 24(19.7)	NR	NR	NR	NR	NR
Kopp, 2014[60]	PN (80)	Median: 35.1 Unit: months	26(32.5)	Mean: 58 SD: 12.4	W: 37(46.3) Others: 43(53.8)	Mean: 30.1 Median: 4.6 SD: 4.6	H: 59(73.8) DM: 23(28.8)	NR	NR	NR	NR	NR
Kyung, 2014[61]	Radical Nephrectomy (82)	Mean: 64.41 Unit: Months	27(32.9)	Mean: 74.83 SD: 3.4	NR	NR	H: 48(58.5) DM: 18(22) CVD: 7(8.5) CKD-3: 32(39)	Mean: 67.77 SD: 22.9 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 49(59.8) ≥2: 33(40.2)
Kyung, 2014[61]	Partial Nephrectomy (53)	Mean: 52.47 Unit: Months	8(15.1)	Mean: 73.4 SD: 2.1	NR	NR	H: 40(75.5) DM: 14(26.4) CVD: 8(15.1) CKD-3: 14(26.4)	Mean: 69.42 SD: 22.3 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 25(47.2) ≥2: 28(52.8)
Lane, 2010[62]	PN Limited ischemia (804)	NR	NR(40)	Median: 60 IQR: 51-69	W: 736(89) AA: 34(4) Others: 62(7)	NR	NR	Median: 82 IQR: 69-96 Unit: ml/min/1.73m2	Median: 0.9 IQR: 0.8-1.1 Unit: mg/dl	NR	NR	≥2: 62(13)
Lane, 2010[62]	PN Unknown ischemia	NR	NR(41)	Median: 60 IQR: 50-68	W: 516(83) AA:	NR	NR	Median: 84 IQR: 69-	Median: 0.9 IQR: 0.8-	NR	NR	≥2: 85(20)

	(546)				52(8) Others: 52(8)			97 Unit: ml/min/1.73m2	1.1 Unit: mg/dl			
Lane, 2010[62]	PN Extended ischemia (483)	NR	NR(35)	Median: 58 IQR: 51-67	W: 448(89) AA: 32(6) Others: 22(4)	NR	NR	Median: 84 IQR: 70-98 Unit: ml/min/1.73m2	Median: 0.9 IQR: 0.8-1.1 Unit: mg/dl	NR	NR	≥2: 54(15)
Lane, 2010[62]	RN (569)	NR	NR(41)	Median: 65 IQR: 55-73	W: 512(90) AA: 39(7) Others: 18(3)	NR	NR	Median: 83 IQR: 66-94 Unit: ml/min/1.73m2	Median: 0.9 IQR: 0.8-1.1 Unit: mg/dl	NR	NR	≥2: 117(25)
Lane, 2010[124]	Active surveillance (105)	Median: 3.7 Unit: years	47(45)	Median: 81 IQR: 78-86	W: 77(73) AA: 24(23) Others: 4(3.8)	NR	H: 65(62) CKD-3: 53(54) SK: 9(9)	Median: 54 IQR: 41-67 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 37(35) ≥2: 68(65)
Lane, 2010[124]	Radical Nephrectomy (146)	Median: 4.4 Unit: years	64(56)	Median: 79 IQR: 77-83	W: 134(92) AA: 6(4.1) Others: 6(4.1)	NR	H: 74(51) CKD-3: 57(39) SK: 4(3)	Median: 64 IQR: 55-76 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 99(68) ≥2: 47(32)
Li, 2007[63]	PN (35)	Mean: 5.6 Unit: years	10(28.6)	Mean: 65.8 Range: 42-82 SD: 10.5	NR	NR	SK: 33(NR)	NR	Mean: 1.3 Range: 0.8-4.2 SD: 0.6 Unit: mg/dl	NR	NR	NR
Li, 2007[63]	RN (128)	Mean: 6.9 Unit: years	39(30.5)	Mean: 61.1 Range: 30-83 SD: 11.3	NR	NR	NR	NR	Mean: 1.2 Range: 0.9-6.3 SD: 0.6 Unit: mg/dl	NR	NR	NR

Li, 2010[64]	mm-NSS (135)	Mean: 69 Median: 73 Unit: months	(21.5)	Mean: 57 Median: 56 Range: 41-73	NR	NR	NR	NR	NR	NR	NR	NR
Li, 2010[64]	1cm-NSS (98)	Mean: 82 Median: 82 Unit: months	(23.5)	Mean: 60 Median: 59 Range: 46-70	NR	NR	NR	NR	NR	NR	NR	NR
Li, 2010[64]	RN (156)	Mean: 82 Median: 78 Unit: months	(25)	Mean: 59 Median: 59 Range: 45-75	NR	NR	NR	NR	NR	NR	NR	NR
Lowrance, 2010[65]	PN (1061)	Mean: 90 Unit: days	393(37)	Median: 61 IQR: 52,70	NR	NR	NR	Median: 66 IQR: 58,76 Unit: mL/min	NR	NR	0: 0(0) 1: 53(5) 2: 601(57) 3: 405(38)	NR
Lowrance, 2010[65]	RN (651)	Mean: 90 Unit: days	256(39)	Median: 63 IQR: 54,72	NR	NR	NR	Median: 65 IQR: 56,75 Unit: mL/min	NR	NR	0: 0(0) 1: 19(3) 2: 357(55) 3: 269(41)	NR
Lucas, 2007[126]	RFA (86)	Median: 22 Unit: months	36(41.9)	Median: 61.5 IQR: 14	AA: 16(18.6)	NR	DM: 18(20.9) CKD-3: 23(26.8) SK: 0(0)	Mean: 73.4 Unit: ml/min/1.73m2	NR	NR	NR	NR

Lucas, 2007[126]	PN (85)	Median: 24 Unit: months	28(32.9)	Median: 56.2 IQR: 19	AA: 12(14.1)	NR	DM: 12(14.1) CKD-3: 23(27.1) SK: 0(0)	Mean: 70.9 Unit: ml/min/1.73m2	NR	NR	NR	0: 39(NR) 0-2: 76(NR)
Lucas, 2007[126]	RN (71)	Median: 45.5 Unit: months	31(43.7)	Median: 61.7 IQR: 21	AA: 8(11)	NR	DM: 13(18.3) CKD-3: 19(26.8) SK: 0(0)	Mean: 74.8 Unit: ml/min/1.73m2	NR	NR	NR	0: 30(NR) 0-2: 50(NR)
Mariusdottir, 2013[43]	Partial nephrectomy (44)	Median: 52 Unit: months	16(36)	Mean: 60 SD: 12	NR	Mean: 27 SD: 3.6	H: 22(51) DM: 4(9)	Mean: 69 Unit: ml/min	NR	NR	NR	NR
Mariusdottir, 2013[43]	Radical nephrectomy (44)	Median: 42 Unit: months	21(48)	Mean: 65 SD: 11	NR	Mean: 28 SD: 5.4	H: 27(61) DM: 4(9)	Mean: 65 Unit: ml/min	NR	NR	NR	NR
Matin, 2002[95]	Nephron sparing surgery (82)	Mean: 179 Median: 40 Unit: days	(39)	Mean: 56.2 Range: 53.6-58.7	NR	NR	NR	NR	Mean: 0.91 Range: 0.86-0.96 Unit: mg/dl	NR	1: (3.8) 2: (34.2) 3: (60.8) 4: (1.3)	NR
Matin, 2002[95]	Laparoscopic radical nephrectomy (35)	Mean: 191 Median: 20 Unit: days	(48.6)	Mean: 67.3 Range: 63-71.6	NR	NR	NR	NR	Mean: 0.97 Range: 0.89-1.0 Unit: mg/dl	NR	1: (2.9) 2: (32.4) 3: (50) 4: (14.7)	NR
McKiernan, 2002[66]	Partial nephrectomy (117)	Median: 16 Unit: months	NR	Mean: 57 Range: 31-82	NR	NR	H: (43) DM: (9)	NR	Mean: 0.98 Range: 0.6-1.5 Unit: mg/dl	Median: 2	NR	NR
McKiernan, 2002[66]	Radical nephrecto	Media	NR	Mean: 63 Range: 28-	NR	NR	H: (48) DM: (9)	NR	Mean: 1 Range:	Median: 2	NR	NR

	my (173)	n: 33 Unit: months		86					0.4-1.4 Unit: mg/dl			
Medina-Polo, 2011[67]	NSS (116)	Median: 63 Unit: months	(62)	Mean: 62 SD: 13	NR	NR	CS: (65) H: (52) DM: (21) CVD: (21)	Mean: 73.78 SD: 21.88 Unit: ml/min/1.73m^2	Mean: 1.02 SD: 0.27 Unit:	NR	1: (5) 2: (58) 3: (34) 4: NR	0: (3)
Medina-Polo, 2011[67]	Radical nephrectomy (174)	Median: 51 Unit: months	(63)	Mean: 63 SD: 12	NR	NR	CS: (67) H: (58) DM: (23) CVD: (20)	Mean: 76.05 Range: 22.74 Unit: ml/min/1.73m^2	Mean: 0.98 SD: 0.24 Unit:	NR	1: (5) 2: (47) 3: (45) 4: NR	0: (3)
Meskawi, 2013[68]	PN pre-propensity (1526)	Mean: 10 Median: 10 Unit: years	493(32.3)	Mean: 60.3 Median: 61 IQR: 52-69	W: 1249(81.8) AA: 194(12.7) Others: 74(4.8)	NR	NR	NR	NR	NR	NR	NR
Meskawi, 2013[68]	RN pre-propensity (14807)	Mean: 10 Median: 10 Unit: years	5877(39.7)	Mean: 61.9 Median: 62 IQR: 53-72	W: 12422(83.9) AA: 1432(9.7) Others: 869(5.9)	NR	NR	NR	NR	NR	NR	NR
Meskawi, 2013[68]	PN post-propensity (1525)	Mean: 10 Median: 10 Unit: years	493(32.3)	Mean: 60.3 Median: 67.7 IQR: 52-69	W: 1249(81.8) AA: 194(12.7) Others: 74(4.8)	NR	NR	NR	NR	NR	NR	NR
Meskawi, 2013[68]	RN post-propensity	Mean: 10	1966(32.2)	Mean: 60.6 Median:	W: 5102(83	NR	NR	NR	NR	NR	NR	NR

	(6104)	Median: 10 Unit: years		67.8 IQR: 52-70	.6) AA: 610(10) Others: 345(5.7)							
Milonas, 2013[44]	NSS (34)	Mean: 6.23 Unit: years	NR(44.1)	Mean: 62.2 SD: 10.3	NR	NR	SK: 0(0)	NR	NR	Range: 5.9 - 50	NR	NR
Milonas, 2013[44]	RN (317)	Mean: 6.46 Unit: years	NR(48.3)	Mean: 63.4 SD: 10.6	NR	NR	NR	NR	NR	Range: 6.6 - 46.4	NR	NR
Minervini, 2012[98]	RN (143)	Mean: 72 Unit: months	60(42)	Mean: 61.9 SD: 13.1	NR	NR	NR	NR	NR	NR	NR	NR
Minervini, 2012[98]	TE (332)	Mean: 58 Unit: months	115(34.6)	Mean: 62.7 SD: 13.2	NR	NR	NR	NR	NR	NR	NR	NR
Mitchell, 2006[69]	PN (33)	Median: 34 Unit: months	7(27.3)	Median: 68.9 IQR: 19.2	NR	NR	NR	NR	NR	NR	NR	NR
Mitchell, 2006[69]	RN (66)	Median: 48 Unit: months	22(33.4)	Median: 66.9 IQR: 19.4	NR	NR	NR	NR	NR	NR	NR	NR
Mitchell, 2011[118]	Ablation (50)	Mean: 3 Unit: months	17(34)	Median: 68.5 Range: 49-89	NR	NR	CS: 29(58) DM: 10(20) CKD-3: 34(68)	Mean: 53.4 Range: 25.5-80.9 Unit: ml/min/1.73m2	Mean: 1.3 Range: 0.8-2.6	NR	2: 12(24) 3: 38(76)	NR
Mitchell, 2011[118]	PN (62)	Mean: 3 Unit:	13(21)	Median: 62.5 Range: 27-	NR	NR	CS: 35(58) DM: 5(8) CKD-3:	Mean: 53.5 Range:	Mean: 1.5 Range: 0.7-3.3	NR	2: 23(37) 3:	NR

		months		83			45(72)	19.7-123.7 Unit: ml/min/1.73m2			37(60) 4: NR	
Miyamoto, 2012[70]	RN (152)	NR	47(30.9)	Mean: 62.2 SD: 11.8	NR	Mean: 23.7 SD: 3.6	H: 62(40.8) DM: 33(21.7) SK: 0(0)	Mean: 71.3 Range: 40.9 - 125.5 SD: 16 Unit: ml/min/1.73m2	Mean: 0.82 Range: 0.41 - 1.35 Unit: 0.18	Range: 1-3	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	22(37.3)	Mean: 63.2 SD: 11.7	NR	Mean: 23.9 SD: 3.8	H: 26(44.1) DM: 18(30.5) SK: 0(0)	Mean: 71.4 Range: 27.7 - 121.4 SD: 20.1 Unit: ml/min/1.73m2	Mean: 0.83 Range: 0.42 - 1.49 Unit: 0.22	Range: 1-3	NR	NR
Miyamoto, 2012[70]	RN (152)	NR	47(30.9)	Mean: 62.2 SD: 11.8	NR	Mean: 23.7 SD: 3.6	H: 62(40.8) DM: 33(21.7) SK: 0(0)	Mean: 71.3 SD: 16 Unit: ml/min/1.73m2	Mean: 0.82 SD: 0.18 Unit: mg/dl	NR	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	22(37.3)	Mean: 63.2 SD: 11.7	NR	Mean: 23.9 SD: 3.8	H: 26(44.1) DM: 18(30.5) SK: 0(0)	Mean: 71.4 SD: 20.1 Unit: ml/min/1.73m2	Mean: 0.83 SD: 0.22 Unit: mg/dl	NR	NR	NR
Mues, 2012[110]	Thermal Ablation (98)	Mean: 31 Unit: months	(NR)	Mean: 64 Range: 38-86	NR	NR	SK: 98(100)	Mean: 59 Unit: ml/min/1.73 m2	Mean: 1.4 Unit: mg/dL	NR	NR	NR
Mues, 2012[110]	Partial nephrecto	Mean: 24	(NR)	Mean: 64 Range: 35-	NR	NR	SK: 105(100)	Mean: 59	Mean: 1.4 Unit:	NR	NR	NR

	my (PN) (100)	Unit: months		92				Unit: ml/min/1.73 m2	mg/dL			
Olweny, 2012[115]	RFA (37)	Median: 6.5 Unit: years	13(NR)	Median: 63.8 IQR: 56.3-69.1	W: 27(72.9) AA: 6(16.2) Others: 4(10.8)	NR	NR	NR	NR	NR	1: 2(NR) 2: 21(NR) 3: 14(NR)	NR
Olweny, 2012[115]	PN (37)	Median: 6.1 Unit: years	17(NR)	Median: 54.8 IQR: 47.8-59.1	W: 29(80.6) AA: 2(5.4) Others: 5(13.5)	NR	NR	NR	NR	NR	1: 9(NR) 2: 21(NR) 3: 7(NR)	NR
Pascal, 2011[107]	LPN (48)	Mean: 42.7 Unit: months	23(47.9)	Mean: 60.6 SD: 13.7	NR	Mean: 30.1 SD: 6.2	H: 20(41.7) DM: 6(12.5) CVD: 6(12.5) CKD-3: 13(27.1) SK: 48(100)	Mean: 61.6 SD: 18.6 Unit: ml/min/1.73m2	Mean: 1.2 SD: 0.3 Unit: mg/dl	Mean: 2.7 SD: 0.5	NR	NR
Pascal, 2011[107]	Laparoscopic Renal cryoablation (30)	Mean: 60.2 Unit: months	8(26.7)	Mean: 60.9 SD: 11.4	NR	Mean: 31.5 SD: 5.8	H: 16(64) DM: 3(12) CVD: 3(12) CKD-3: 13(50) SK: 30(100)	Mean: 53.8 SD: 19 Unit: ml/min/1.73m2	Mean: 1.5 SD: 0.5 Unit: mg/dl	Mean: 2.7 SD: 0.8	NR	NR
Patard, 2004[71]	PN (379)	Mean: 50.7 Unit: month	NR(33.2)	Mean: 59.7 SD: 12.3	NR	NR	NR	NR	NR	NR	NR	NR
Patard, 2004[71]	RN (1075)	Mean: 66.6 Unit: month	NR(35.6)	Mean: 60 SD: 12.4	NR	NR	NR	NR	NR	NR	NR	NR
Patel, 2014[121]	DT(Deferred Treatmet) (754)	NR	355(47.1)	NR	W: 605(80.2) AA: 103(13.	NR	NR	NR	NR	NR	NR	0: 260(34.5) 1: 241(40

					7) Others: 46(6.1)							) 2: 132(17 .5)
Patel, 2014[121]	PN (1849)	NR	779(42. 1)	NR	W: 1554(84 .1) AA: 162(8.8) Others: 133(7.2)	NR	NR	NR	NR	NR	NR	0: 983(53 .2) 1: 514(27 .8) 2: 212(11 .5)
Patel, 2014[121]	RN (4574)	NR	2120(46 .4)	NR	W: 3933(86) AA: 357(7.7) Others: 289(6.3)	NR	NR	NR	NR	NR	NR	0: 2439(5 3.3) 1: 1267(2 7.7) 2: 497(10 .9)
Patel, 2014[120]	Non Surgical Manageme nt (754)	Mean: 44.7 Unit: month s	355(NR)	NR	W: 605(NR) AA: 103(NR) Others: 46(NR)	NR	NR	NR	NR	NR	NR	0: 260(N R) 1: 241(2 2: 132(N R) 3: 61(NR)
Patel, 2014[120]	PN (1849)	Mean: 61.5 Unit: month s	779(NR)	NR	W: 1554(N R) AA: 162(NR) Others: 133(NR)	NR	NR	NR	NR	NR	NR	0: 983(N R) 1: 514(N R) 2: 212(N R) 3: 78(NR)
Patel,	RN (4574)	Mean:	2120(N	NR	W:	NR	NR	NR	NR	NR	NR	0:

2014[120]		67.9 Unit: months	R)		3933(NR) AA: 352(NR) Others: 289(NR)							2439(NR) 1: 1267(NR) 2: 497(NR) 3: 177(NR)
Permpongkosol, 2007[127]	laproscopic radical nephrectomy (549)	Mean: 30 Unit: days	NR	Mean: 58 SD: 14	NR	NR	NR	NR	NR	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic partial nephrectomy (345)	Mean: 30 Unit: days	NR	Mean: 58 SD: 13	NR	NR	NR	NR	NR	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic tumor ablation (81)	Mean: 30 Unit: days	NR	Mean: 55 SD: 17	NR	NR	NR	NR	NR	NR	NR	NR
Roos, 2010[96]	Partial nephrectomy (NSS), for young (<55 years old) (36)	Median: 4.12 Unit: years	24(66.6)	Median: 42 Range: 23-55	NR	NR	CS: 18(50) H: 6(16.7) DM: 0(0) CVD: 7(19.4)	Mean: 81.28 Range: 58.3-164.23 Unit: ml/min/1.73m^2	NR	NR	3: 5(13.9)	3+: ASA data is combination of 3 and 4NR
Roos, 2010[96]	Radical nephrectomy (NSS), for young (<55 years old) (45)	Median: 7.2 Unit: years	18(39.6)	Median: 49 Range: 31-55	NR	NR	CS: 10(22.2) H: 13(28.9) DM: 1(2.2) CVD: 19(42.4)	Mean: 79.9 Range: 65.24-104.55 Unit: ml/min/1.73m^2	NR	NR	3: 16(35.6)	3+: ASA data is combination of 3 and 4NR
Roos, 2010[96]	Partial nephrectomy, for old (>65 years old) (33)	Median: 2.43 Unit: years	8(24.2)	Median: 71.77 Range: 65.37-83.69	NR	NR	CS: 7(21.2) H: 12(36.3) DM: 4(12.1) CVD: 18(54.5)	Mean: 81.87 Range: 49-255 Unit:	NR	NR	3: 22(66.7)	3+: ASA data is combination of

								ml/min/1.73m^2				3 and 4NR
Roos, 2010[96]	Radical nephrectomy, for old (>65 years old) (52)	Median: 6.49 Unit: years	12(42.3)	Median: 69.2 Range: 65.27-86.86	NR	NR	CS: 7(13.5) H: 26(58) DM: 10(19.2) CVD: 32(62.5)	Mean: 75.41 Range: 42.45-154.86 Unit: ml/min/1.73m^2	NR	NR	3: 37(71.2)	3+: ASA data is combination of 3 and 4NR
Roos, 2012[45]	NSS (101)	Median: 4.7 Unit: years	45(54.6)	Mean: 58 Range: 23 - 84	W: 481(89.9) Others: 54(10.1)	NR	CS: 33(32.6) H: 22(21.8) DM: 4(4) CVD: 35(34.6)	NR	NR	NR	NR	0: 290(54.2) 1: 134(25.1) 0-1: 42(41.6)
Roos, 2012[45]	RN (146)	Median: 6.61 Unit: years	194(48)	Mean: 62 Range: 31 - 84	W: 361(89.4) Others: 43(10.6)	NR	CS: 24(16.4) H: 63(43.2) DM: 12(8.2) CVD: 81(55.4)	NR	NR	NR	NR	0: 236(58.4) 1: 93(23) 0-1: 37(25.5)
Scosyrev, 2014[72]	RN (259)	Median: 6.7 Unit: years	88(34)	Mean: 60.4 Median: 62	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Scosyrev, 2014[72]	NSS (255)	Median: 6.7 Unit: years	83(32.5)	Mean: 60.9 Median: 62	NR	NR	SK: 0(0)	NR	NR	NR	NR	NR
Shinohara, 2001[46]	NSS (15)	Mean: 56 Unit: months	2(NR)	Mean: 61 Range: 38 - 78	NR	NR	H: 6(40)	NR	Mean: 0.7 SD: 0.1 Unit: mg/dl	NR	NR	NR
Shinohara, 2001[46]	RN (51)	Mean: 70 Unit: month	14(NR)	Mean: 59 Range: 28-81	NR	NR	H: 20(39)	NR	Mean: 0.7 SD: 0.3 Unit: mg/dl	NR	NR	NR

		s										
Smaldone, 2012[73]	Overall (5496)	Mean: 4.4 Unit: years	NR(54.1)	Mean: 74.2 SD: 5.6	NR	NR	NR	NR	NR	NR	NR	NR
Smaldone, 2012[73]	PN (1665)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Smaldone, 2012[73]	RN (3831)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Snow, 2008[92]	LPN (48)	Mean: 7 Unit: months	NR(42)	Mean: 59 Range: 35-80	AA: 4(8)	Mean: 30 Range: 20.9-46.3	H: 33(69) SK: 0(0)	Mean: 89.5 SD: 22.1 Unit: ml/min/1.73m2	Mean: 0.9 SD: 0.2 Unit: mg/dl	Mean: 2.4	NR	NR
Snow, 2008[92]	LRN (37)	Mean: 7.8 Unit: months	NR(43)	Mean: 67 Range: 37-85	AA: 4(11)	Mean: 29 Range: 21.8-55.9	H: 20(54) SK: 0(0)	Mean: 90 SD: 16.7 Unit: ml/min/1.73m2	Mean: 0.9 SD: 0.2 Unit: mg/dl	Mean: 2.4	NR	NR
Stern, 2007[111]	RFA (40)	Mean: 29.8 Unit: months	NR	Mean: 60.5 SD: 13.5	NR	NR	NR	NR	NR	NR	NR	NR
Stern, 2007[111]	PN (37)	Mean: 46.7 Unit: months	NR	Mean: 56.4 SD: 12.5	NR	NR	NR	NR	NR	NR	NR	NR
Sun, 2012[138]	Partial nephrectomy (PN) (924)	NR	394(43)	Mean: 74 Median: 74 IQR: 69-78	W: 782(85) AA: 81(9) Others: 61(7)	NR	NR	NR	NR	NR	NR	0: 128(14) 1: 18(2) 0-1: 146(16) 2: 166(18)

												≥2: 778(84) 0-2: 312(34) 3+: 612(66)
Sun, 2012[138]	Radical nephrectomy (6600)	NR	3172(48)	Mean: 76 Median: 76 IQR: 71-79	W: 5657(86) AA: 503(8) Others: 440(7)	NR	NR	NR	NR	NR	NR	0: 1348(20) 1: 226(3) 0-1: 1574(23) 2: 1037(16) ≥2: 5026(76) 0-2: 2611(39) 3+: 3989(60)
Sun, 2012[138]	post-propensity RN (924)	NR	394(43)	Mean: 73 Median: 73 IQR: 69-77	W: 765(83) AA: 98(11) Others: 61(7)	NR	NR	NR	NR	NR	NR	0: 126(14) 1: 29(3) 0-1: 155(17) 2: 150(16) ≥2: 769(83) 0-2: 304(33

												) 3+: 619(67)
Sun, 2012[74]	PN (840)	NR	352(42)	Mean: 72 Median: 71	W: 713(85) AA: 73(8) Others: 54(6)	NR	H: 7(1)	NR	NR	NR	NR	0: 331(39) 1: 152(18) 2: 131(16) 3+: 226(27)
Sun, 2012[74]	RN (840)	NR	329(39)	Mean: 72 Median: 71	W: 717(85) AA: 58(7) Others: 65(8)	NR	H: 7(1)	NR	NR	NR	NR	0: 299(36) 1: 159(19) 2: 153(18) 3+: 229(27)
Sun, 2013[122]	NSM (3271)	Mean: 96.6 Media n: 81 Unit: month s	1303(39 .8)	Mean: 75 Median: 74 IQR: 70-80	W: 2587(79) AA: 349(10. 7) Others: 335(10. 3)	NR	NR	NR	NR	NR	NR	1: 2318(7 0.9) 0-1: 163(5) 3: 790(24 .2)
Sun, 2013[122]	PN (1051)	Mean: 129.7 Media n: 127 Unit: month s	436(41. 5)	Mean: 73 Median: 72 IQR: 69-76	W: 888(84. 5) AA: 88(8.4) Others: 75(7.1)	NR	NR	NR	NR	NR	NR	1: 358(34 .1) 0-1: 145(13 .8) 3:

												548(52.1)
Sun, 2013[122]	RN (6273)	Mean: 115.4 Median: 105 Unit: months	2939(46.9)	Mean: 74 Median: 74 IQR: 70-78	W: 5315(84.7) AA: 489(7.8) Others: 469(7.5)	NR	NR	NR	NR	NR	NR	1: 2288(36.5) 0-1: 750(12) 3: 3235(51.6)
takagi, 2011[75]	PN-eGFR 45 - 59 (30)	Mean: 57.2 Median: 61 Unit: months	8(26.7)	Mean: 67.5 Median: 67 Range: 47-79 IQR: 7.48	NR	Mean: 23.8 Median: 22.9 Range: 18.1-33.3 SD: 3.59	H: 14(46.7) DM: 9(30) CKD-3: 30(100)	Mean: 23.8 Median: 53.4 Range: 45.4-58.8 SD: 4.48 Unit: ml/min/1.73m2	NR	NR	NR	NR
takagi, 2011[75]	RN-eGFR 45 - 59 (38)	Mean: 66.4 Median: 59 Unit: months	13(34.2)	Mean: 66.8 Median: 67 Range: 45-83 IQR: 10.2	NR	Mean: 24.7 Median: 25 Range: 18.8-38.3 SD: 3.93	H: 14(36.8) DM: 6(15.8) CKD-3: 38(100)	Mean: 24.7 Median: 53.4 Range: 45.5-59.8 SD: 4.16 Unit: ml/min/1.73m2	NR	NR	NR	NR
takagi, 2011[75]	PN-eGFR 30 - 44 (14)	Mean: 43.5 Median: 43 Unit: months	2(14.3)	Mean: 68.4 Median: 69 Range: 56-79 IQR: 6.54	NR	Mean: 26 Median: 26 Range: 19.3-37.8 SD: 5.05	H: 8(57.1) DM: 6(42.9) CKD-3: 14(100)	Mean: 40.6 Median: 40.6 Range: 34.1-44.7 SD: 3.87	NR	NR	NR	NR

								Unit: ml/min/1.73m2				
takagi, 2011[75]	RN-eGFR 30 - 44 (13)	Mean: 50.8 Median: 60 Unit: months	3(23.1)	Mean: 64.2 Median: 64 Range: 45-85 IQR: 13.7	NR	Mean: 25.2 Median: 25.8 Range: ;19.6-30.6 SD: 3.16	H: 8(61.5) DM: 3(23.1) CKD-3: 13(100)	Mean: 39.4 Median: 39.4 Range: 33.9-44.9 SD: 3.61 Unit: ml/min/1.73m2	NR	NR	NR	NR
Takaki, 2010[128]	RFA (51)	Mean: 34 Unit: months	15(29.4)	Mean: 69.4 SD: 9.6	NR	NR	DM: 10(19.6)	Median: 49.2 IQR: 39.3-63.6 Unit: ml/min/1.73m2	NR	NR	NR	NR
Takaki, 2010[128]	RN (54)	Mean: 40.9 Unit: months	15(27.8)	Mean: 57.6 SD: 11.7	NR	NR	DM: 7(13)	Median: 67.5 IQR: 52.2-78.5 Unit: ml/min/1.73m2	NR	NR	NR	NR
Takaki, 2010[128]	PN (10)	Mean: 26 Unit: months	2(20)	Mean: 64 SD: 9.6	NR	NR	DM: 2(20)	Median: 68.6 IQR: 57.2-79.6 Unit: ml/min/1.73m2	NR	NR	NR	NR
Takaki, 2014[123]	RFA (21)	Mean: 41.3 Unit: months	2(9.5)	Mean: 71.6 Range: 44-86 SD: 12.3	NR	NR	DM: 4(19) CVD: 14(67) CKD-3: 11(52) SK: 3(14)	Mean: 63.2 Range: 23.3-106.1	NR Unit: mg/dl	Mean: 2.6 Range: 1-3 SD: 0.7	NR	NR

								SD: 27.8 Unit: ml/min/1.73m2				
Takaki, 2014[123]	RN (39)	Mean: 48.6 Unit: months	11(28)	Mean: 61.8 Range: 39-86 SD: 12.9	NR	NR	DM: 7(18) CVD: 15(38) CKD-3: 4(10) SK: 0(0)	Mean: 88.4 Range: 37.4-128.0 SD: 22 Unit: ml/min/1.73m2	NR Unit: mg/dl	Mean: 1.6 Range: 1-3 SD: 0.7	NR	NR
Tan, 2012[76]	PN (1925)	NR	803(41.7)	NR	W: 1584(82.3) AA: 150(7.8) Others: 191(46.5)	NR	SK: 0(0)	NR	NR	NR	NR	0: 1108(57.6) 1: 468(24.3) ≥2: 349(18.1) 3+: NR
Tan, 2012[76]	RN (5213)	NR	2419(46.4)	NR	W: 4362(83.7) AA: 404(7.8) Others: 447(8.5)	NR	SK: 0(0)	NR	NR	NR	NR	0: 3017(57.9) 1: 1264(24.2) ≥2: 932(17.9) 3+: NR
Tanagho, 2013[116]	Cryoablation (267)	Mean: 39.8 Unit: Months	104(39)	Mean: 69.3 Median: 11 SD: 11	NR	Mean: 30.4 SD: 7.8	SK: 27(10.1)	Mean: 66.3 SD: 24.7 Unit: ml/min/1.73m2	Mean: 1.2 SD: 0.9 Unit: mg/dl	NR	NR	NR
Tanagho, 2013[116]	Robot assisted partial	Mean: 21.9 Unit:	106(45.5)	Mean: 57.4 Median: 11.9 SD:	NR	Mean: 30.1 SD: 6	SK: 3(1.3)	Mean: 84.5 SD:	Mean: 0.9 SD: 0.3 Unit:	NR	NR	NR

	nephrectomy (233)	Months		11.9				20.9 Unit: ml/min/1.73m2	mg/dl			
Thompson, 2008[77]	PN (358)	Median: 5.6 Unit: years	105(29.3)	Median: 64 Range: 26-94	NR	NR	DM: 28(9.2) SK: 0(0)	NR	Median: 1.1 Range: 0.6-1.6 Unit: mg/dl	NR	NR	NR
Thompson, 2008[77]	RN (290)	Median: 9.4 Unit: years	114(39.3)	Median: 65 Range: 24-85	NR	NR	DM: 13(5.2) SK: 0(0)	NR	Median: 1 Range: 0.5-1.6 Unit: mg/dl	NR	NR	NR
Thompson, 2008[77]	PN-<65years (187)	Median: 3.1 Unit: years	57(30.5)	Median: 54 Range: 26-64	NR	NR	DM: 15(9.1) SK: 0(0)	NR	Median: 1.1 Range: 0.6-1.6 Unit: mg/dl	NR	NR	NR
Thompson, 2008[77]	RN-<65years (140)	Median: 5.6 Unit: years	61(43.6)	Median: 56 Range: 24-64	NR	NR	DM: 5(3.9) SK: 0(0)	NR	Median: 1 Range: 0.5-1.6 Unit: mg/dl	NR	NR	NR
Thompson, 2014[112]	cT1a-Partial Nephrectomy (1057)	Median: 5 Unit: years	410(39)	Mean: 60.1 Median: 62 IQR: 52-69	NR	NR	NR	NR	Mean: 1.1 Median: 1 IQR: 0.9-1.2 Unit: mg/dl	NR	NR	NR
Thompson, 2014[112]	cT1a-Radiofrequency Ablation (180)	Median: 2.9 Unit: years	66(37)	Mean: 70.7 Median: 72 IQR: 64-78	NR	NR	NR	NR	Mean: 1.3 Median: 1.1 IQR: 1-1.4 Unit: mg/dl	NR	NR	NR
Thompson, 2014[112]	cT1a-Cryoablation (187)	Median: 1.4 Unit: years	64(34)	Mean: 71.6 Median: 72 IQR: 65-79	NR	NR	NR	NR	Mean: 1.1 Median: 1 IQR: 0..9-1.3 Unit: mg/dl	NR	NR	NR

Thompson, 2014[112]	cT1b-Partial Nephrectomy (326)	Median: 4.4 Unit: years	103(31)	Mean: 60.5 Median: 61 IQR: 52-70	NR	NR	NR	NR	Mean: 1.2 Median: 1 IQR: 0.9-1.3 Unit: mg/dl	NR	NR	NR
Thompson, 2014[112]	cT1b-Cryoablation (53)	Median: 1.9 Unit: years	14(26)	Mean: 74.9 Median: 77 IQR: 69-83	NR	NR	NR	NR	Mean: 1.2 Median: 1.2 IQR: 1-1.4 Unit: mg/dl	NR	NR	NR
Tomaszewski, 2014[78]	Overall (1092)	NR	NR(35.8)	Mean: 59.2 Range: 22-89 SD: 11.9	W: 939(86) Others: 153(14)	Mean: 30.3 SD: 7.2	SK: 60(5.5)	NR	NR	NR	NR	NR
Turna, 2009[113]	Laparoscopic partial nephrectomy (36)	Mean: 60 Unit: months	15(42)	Mean: 60.3 Range: 20-87 SD: 15.5	NR	Mean: 30.5 Range: 17.9-53.0 SD: 7.1	CKD-3: 23(63.9) SK: 0(0)	Mean: 65 Range: 25-108 SD: 23.5 Unit: ml/min/1.73m^2	Mean: 1.2 Range: 0.7-2.1 SD: 0.4 Unit: mg/dl	NR	3: 24(58)	NR
Turna, 2009[113]	Cryoablation (36)	Mean: 60 Unit: months	13(36)	Mean: 64.1 Range: 35-83 SD: 11.1	NR	Mean: 31.3 Range: 24.3-48.0 SD: 5.7	CKD-3: 26(55.6) SK: 6(16.7)	Mean: 52.3 Range:23.1-116.9 SD: 19.7 Unit: ml/min/1.73m^2	Mean: 1.4 Range: 0.8-2.9 SD: 0.5 Unit: mg/dl	NR	3: 28(77.7)	NR
Turna, 2009[113]	Radiofrequency ablation (29)	Mean: 60 Unit: months	11(38)	Mean: 60.7 Range:30-87 SD: 14.3	NR	Mean: 30 Range: 22.5-51.6 SD: 7.5	CKD-3: 17(58.6) SK: 10(34.5)	Mean: 53.2 Range: 22.7-86.6 SD: 16.2 Unit: ml/min/1	Mean: 1.4 Range: 0.6-3.3 SD: 0.5 Unit: mg/dl	NR	3: 30(69)	NR

								.73m^2				
Uchida, 2004[79]	PN (54)	Median: 44 Unit: months	18(NR)	Mean: 57.3 Range: 29-77	NR	NR	H: 20(37) DM: 9(16.7) CVD: NR SK: 3(5.6)	NR	Mean: 0.8 SD: 0.27 Unit: mg/dL	NR	NR	NR
Uchida, 2004[79]	RN (51)	Median: 54 Unit: months	14(NR)	Mean: 57.9 Range: 24-78	NR	NR	H: 16(31.3) DM: 8(15.9) CVD: NR	NR	Mean: 0.8 SD: 0.2 Unit: mg/dL	NR	NR	NR
Uzzo, 1999[80]	RN (28)	Median: 25 Unit: months	NR	Median: 67.1	NR	NR	NR	NR	NR	NR	NR	NR
Uzzo, 1999[80]	NSS (52)	Median: 31 Unit: months	NR	Median: 61.5	NR	NR	NR	NR	NR	NR	NR	NR
Van Poppel, 2011[81]	NSS (268)	Mean: 10 Unit: years	87(32.5)	Median: 62 Range: 29-82	NR	NR	CVD: 57(21.3)	NR	NR	NR	NR	NR
Van Poppel, 2011[81]	Radical nephrectomy (273)	Mean: 10 Unit: years	91(33.3)	Median: 62 Range: 23-84	NR	NR	CVD: 61(22.3)	NR	NR	NR	NR	NR
Weight, 2010[83]	RN-Upstaged Cohort (117)	Median: 50 Unit: months	42(36)	Mean: 67 Range: 58-76	NR	NR	NR	NR	NR	NR	NR	0-1: 69(64) ≥2: 39(36)
Weight, 2010[83]	PN-Upstaged Cohort (96)	Median: 61 Unit: months	23(24)	Mean: 63 Range: 56-71	NR	NR	NR	NR	NR	NR	NR	0-1: 80(87) ≥2: 12(13)
Weight, 2010[83]	RN-High Grade cohort (43)	Median: 41 Unit: months	17(40)	Mean: 65 Range: 56-69	NR	NR	NR	NR	NR	NR	NR	0-1: 69(51) ≥2: 19(48)

Weight, 2010[83]	PN-High Grade cohort (52)	Median: 56 Unit: months	22(42)	Mean: 60 Range: 50-71	NR	NR	NR	NR	NR	NR	NR	0-1: 33(65) ≥2: 18(35)
Weight, 2010[82]	RN (298)	Median: 41 Unit: months	NR(41)	Median: 63 IQR: 55-71	NR	NR	NR	Median: 86.3 IQR: 74.8-98.4 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 199(78) ≥2: 56(22)
Weight, 2010[82]	PN (212)	Median: 49 Unit: months	NR(34)	Median: 58 IQR: 48-66	NR	NR	NR	Median: 87.7 IQR: 73.9-102.2 Unit: ml/min/1.73m2	NR	NR	NR	0-1: 172(83) ≥2: 35(17)
Weight,2010[84]	RN (480)	Median: 46 Unit: months	185(39)	Mean: 65 IQR: 56-73	NR	NR	SK: 7(1.5)	NR	NR	NR	NR	NR
Weight,2010[84]	PN (524)	Median: 50 Unit: months	163(31)	Mean: 63 IQR: 53-71	NR	NR	SK: 130(24.8)	NR	NR	NR	NR	NR
Whitson, 2012[114]	NSS (7704)	Median: 2.8 Unit: years	2934(38)	Mean: 59 SD: 13	W: 5816(76) AA: 696(9) Asian: 386(5) Others: 730(10)	NR	NR	NR	NR	NR	NR	NR
Whitson, 2012[114]	ablation (1114)	Median: 1.6 Unit: years	427(38)	Mean: 68 SD: 12	W: 858(77) AA: 98(9)	NR	NR	NR	NR	NR	NR	NR

					Asian: 49(4) Others: 103(9)							
Woldu, 2014[85]	CKD 1 NSS (185)	NR	NR(49.7)	Mean: 51.6 SD: 11.3	W: NR(57.3) AA: NR(11.9) Asian: NR(5.4) Others: NR(25.4)	NR	CS: NR(15.7) H: NR(48.1) DM: NR(20) CVD: NR(13) (0)	Mean: 102.6 SD: 8.8 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Woldu, 2014[85]	CKD 1 RN (179)	NR	NR(46.9)	Mean: 52 SD: 11.9	W: NR(53.1) AA: NR(15.1) Asian: NR(6.2) Others: NR(25.1)	NR	CS: NR(16.8) H: NR(55.3) DM: NR(27.9) CVD: NR(20.1) (0)	Mean: 101.9 SD: 11.3 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Woldu, 2014[85]	CKD 2 NSS (261)	NR	NR(33.3)	Mean: 61.3 SD: 11.6	W: NR(75.1) AA: NR(6.1) Asian: NR(2.3) Others: NR(16.5)	NR	CS: NR(14.9) H: NR(60.9) DM: NR(19.9) CVD: NR(12.3) (0)	Mean: 76.4 SD: 8.5 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Woldu, 2014[85]	CKD 2 RN (419)	NR	NR(33.6)	Mean: 63.2 SD: 12.9	W: NR(66.8) AA: NR(7.9) Asian: NR(1.4) Others:	NR	CS: NR(12.2) H: NR(61.6) DM: NR(27.5) CVD: NR(24.8) (0)	Mean: 75.3 SD: 8.8 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR

					NR(23.8)							
Woldu, 2014[85]	CKD 3 NSS (94)	NR	NR(18.1)	Mean: 67.5 SD: 9.7	W: NR(80.9) AA: NR(4.3) Asian: NR(2.1) Others: NR(10.7)	NR	CS: NR(12.8) H: NR(81.9) DM: NR(31.9) CVD: NR(31.9) (100)	Mean: 48.4 SD: 8.7 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Woldu, 2014[85]	CKD 3 RN (168)	NR	NR(35.1)	Mean: 71 SD: 11.4	W: NR(65.5) AA: NR(8.9) Asian: NR(2.4) Others: NR(20.8)	NR	CS: NR(10.1) H: NR(72) DM: NR(38.7) CVD: NR(40.5) (100)	Mean: 50.3 SD: 7.7 Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Woldu, 2014[85]	NR (1306)	Median: 12 Unit: months	NR	Mean: 61 SD: 13.5	NR	NR	(20.06)	NR Unit: mL/min/ 1.73 m2	NR	NR	NR	NR
Xu, 2014[47]	LRN (88)	Mean: 30 Unit: days	33(NR)	Mean: 56.5 SD: 13.3	Asian: 88(100)	NR	NR	NR	NR	NR	NR	NR
Xu, 2014[47]	ORN (526)	Mean: 30 Unit: days	185(NR)	Mean: 57.32 SD: 12.4	W: NR Asian: 526(100)	NR	NR	NR	NR	NR	NR	NR
Xu, 2014[47]	LPN (42)	Mean: 30 Unit: days	23(NR)	Mean: 53.2 SD: 14	W: NR Asian: 42(100)	NR	NR	NR	NR	NR	NR	NR
Xu, 2014[47]	OPN (187)	Mean: 30 Unit: days	68(NR)	Mean: 51.5 SD: 13.2	W: NR Asian: 187(100)	NR	NR	NR	NR	NR	NR	NR
Yasuda,	NSS (97)	Media	26(26.8)	Median: 60	Asian:	Median:	NR	Median:	NR	NR	NR	NR

2012[86]		n: 22.1 Unit: months		IQR: 51-67	97(100)	23.1 IQR: 21.1-25.7		105.9 IQR: 96.8-117.6				
Yasuda, 2012[86]	RN (103)	Median: 30.9 Unit: months	31(30.1)	Median: 65 IQR: 58-75	Asian: 103(100)	Median: 23 IQR: 21.3-25.2	NR	Median: 103.7 IQR: 88.5-118.8	NR	NR	NR	NR
Youn, 2013[119]	Open PN (14)	Mean: 50 Unit: months	6(NR)	Mean: 53.92 SD: 16.14	NR	Mean: 25 SD: 4.73	NR	NR	Mean: 0.82 SD: 0.17 Unit: mg/dl	Range: 1-2	NR	NR
Youn, 2013[119]	Laparascopic RFA (41)	Mean: 51 Unit: months	19(NR)	Mean: 59.15 SD: 12.26	NR	Mean: 25 SD: 5.24	NR	NR	Mean: 0.83 SD: 0.22 Unit: mg/dl	Range: 1-2	NR	NR
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade) (2153)	Median: 35 Unit: months	822(38.2)	Mean: 59.8	NR	NR	NR	NR	NR	NR	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade)	Median: 46 Unit: months	2281(40.6)	Mean: 61.1	NR	NR	NR	NR	NR	NR	NR	NR

	(5616)											
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (1283)	Median: 35 Unit: months	485(37.8)	Mean: 59.6	NR	NR	NR	NR	NR	NR	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (3166)	Median: 46 Unit: months	1322(41.8)	Mean: 61.3	NR	NR	NR	NR	NR	NR	NR	NR
Zorn, 2007[93]	LPN (42)	Mean: 19.7 Unit: months	25(59)	Mean: 60.6 Range: 35-83	NR	Mean: 30.1	H: 13(31) DM: 5(12)	NR	Mean: 0.91 Range: 0.5-1.4 Unit: mg/dl	NR	NR	NR
Zorn, 2007[93]	LRN (55)	Mean: 16.7 Unit: months	23(42)	Mean: 62.3 Range: 37-82	NR	Mean: 28.7	H: 19(35) DM: 8(15)	NR	Mean: 0.91 Range: 0.6-1.4 Unit: mg/dl	NR	NR	NR
ACTIVE SURVEILLANCE (UNCONTROLLED STUDIES)												

Abouassaly, 2008[132]	Active Surveillance (110)	Median: 24 Unit: months	NR	Median: 81 Range: 76-79	NR	NR	SK: 9(8)	NR	Median: 1.2 Range: 0.5-5.0 Unit: mg/dl	Median: 1.2 Range: 0.5-5.0 Unit: mg/dl	NR	0: 16(15) 1: 20(18) 2: 33(30) ≥2: NR(63) 3: 19(17) 3+: 36(33)
Crispen, 2008[133]	Active Surveillance (109)	Median: 26 Unit: months	NR(28)	Mean: 69.8 Median: 73 Range: 35-87	NR	NR	NR	NR	NR	NR	NR	NR
Crispen, 2009[134]	Active Surveillance (173)	Mean: 31 Median: 24 Unit: months	43(28)	Mean: 69 Median: 71 Range: 35-88	NR	NR	NR	NR	NR	NR	NR	NR
Jewett, 2011[135]	Active Surveillance (178)	NR	NR	Median: 74 Range: 41-96	NR	NR	NR	NR	NR	NR	NR	NR
Kunkle, 2007[136]	Active Surveillance (89)	Median: 29 Unit: months	NR(27)	Median: 71.5 Range: 35-87	NR	NR	SK: 12(14)	NR	NR	NR	NR	NR
Leonard, 2013[36]	Active surveillance (133)	Mean: 27.86 Unit: months	NR	Mean: 70.6 SD: 10.94	NR	NR	NR	NR	NR	NR	NR	NR
Rosales, 2010[137]	Active Surveillance (212)	Mean: 35 Unit: months	95(0.45)	Median: 71 Range: 50-92	NR	NR	H: 179(84) SK: 2(1)	NR	NR	NR	NR	NR

AA: African American; CKD: Chronic Kidney Disease; CS: Current smoker; CVD: Cardiovascular Disease; DM: Diabetes Mellitus; GFR: Glomerular Filtration Rate; H: Hypertension; IQR: Interquartile range; LPN: Laparoscopic partial nephrectomy; LTA: Laparoscopic Thermal Ablation; NA: Not Applicable; NR: Not reported; NSM: Non surgical Management; NSS: Nephron-sparing surgery; OPN: Open partial nephrectomy; ORN: Open Radical Nephrectomy; PN: Partial Nephrectomy; RFA: Radio frequency ablation; RN Radical nephrectomy; SD: Standard deviation; SK: Solitary kidney; W: White

Table D10: Tumor Characteristics

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Antonelli, 2011[48]	RN-cT1a (919)	T1a: 919(100) T1b: 0(0)	NR	Mean: 3.3 SD: 0.7	NR	NR	NR	8(0.9)
Antonelli, 2011[48]	PN-cT1a (1068)	T1a: 1068(100) T1b: 0(0)	NR	Mean: 2.8 SD: 0.7	NR	NR	NR	18(1.7)
Antonelli, 2011[48]	RN-cT1b (1426)	T1a: 0(0) T1b: 1426(100)	NR	Mean: 5.7 SD: 0.8	NR	NR	NR	3(0.2)
Antonelli, 2011[48]	PN-cT1b (198)	T1a: 0(0) T1b: 198(100)	NR	Mean: 5.1 SD: 0.7	NR	NR	NR	5(2.5)
Antoniewicz, 2011[49]	RN (33)	T1: 19(NR) T1a: 2(NR) T1b: 17(NR) T2: 10(NR)	NR	NR	NR	NR	NR	NR
Antoniewicz, 2011[49]	PN (18)	T1 and T2: NR	NR	NR	NR	NR	NR	NR
Badalato, 2011[50]	PN pre-propensity (1047)	T1: 1047(100) T1a: 0(0) T1b: 1047(100) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 4.86 SD: 8.3	NR	NR	NR	NR
Badalato, 2011[50]	RN pre-propensity (10209)	T1: 10209(100) T1a: 0(0) T1b: 10209(100) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 5.27 SD: 9.5	NR	NR	NR	NR
Barbalias, 1999[39]	Partial nephrectomy (41)	T1: 10(24.4) T2:	NR	Mean: 3.5 Range: 1.2-4.5	BIL: 8(19.5)	Hilar: 13(31.7)	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		28(68.3)						
Barbalias, 1999[39]	Radical nephrectomy (48)	T1: 9(18.7) T2: 35(72.9)	NR	Mean: 3.8 Range: 1.6-4.8	BIL: 0(0)	Hilar: 17(35.4)	NR	NR
Becker, 2014[94]	PN (1251)	T1: 1251(100)	CC: 938(75) Others: 313(25)	Mean: 2.9 Range: 0.1-7 IQR: 2.0-3.5 SD: 2.5	NR	NR	NR	NR
Becker, 2014[94]	Overall (2277)	T1: 2277(100)	CC: 1721(75.6) Others: 556(24.4)	Mean: 3.3 Range: 0.1-7 IQR: 2.2-4.1 SD: 3	NR	NR	NR	NR
Becker, 2014[94]	LRN (1066)	T1: 1066(100)	CC: 783(76.3) Others: 243(23.7)	Mean: 3.8 Range: 0.1-7 IQR: 2.7-5.0 SD: 3.7	NR	NR	NR	NR
Bedke, 2008[51]	RN (398)	T1: 331(83.2) T2: 67(16.8) T1 and T2: 398(100)	CC: 318(82.4) Pap: 47(12.2) Chro: 21(5.4)	NR	NR	NR	NR	NR
Bedke, 2008[51]	PN (66)	NR	CC: 53(80.3) Pap: 9(13.6) Chro: 4(6.1)	NR	NR	NR	NR	NR
Bensalah, 2007[101]	LPN (50)	NR	NR	Mean: 2.6 SD: 0.9	NR	NR	NR	NR
Bensalah, 2007[101]	LRFA (38)	NR	NR	Mean: 2.3 SD: 0.7	NR	NR	NR	NR
Brewer, 2012[88]	MPN (45)	T1 and T2: 45(100)	CC: 29(64.4) Others: 16(35.5)	Mean: 5.3 SD: 1.3	RT: 21(46.7) BIL: 0(0)	NR	Mean: 23.6	2(4.4)
Brewer, 2012[88]	MRN (108)	T1 and T2: 108(100)	CC: 91(84.3) Others: 17(15.7)	Mean: 6.8 SD: 1.7	RT: 51(47.2) BIL: 0(0)	NR	NR	1(0.9)
Chang, 2014[108]	RFA (27)	T1a: 0(0) T1b: 27(100) T2: 0(0)	CC: 24(88.9) Pap: 1(3.7) Chro: 1(3.7) Others: 1(3.7)	NR	RT: 14(51.9) LT: 13(48.1)	NR	NR	NR
Chang, 2014[108]	PN (29)	T1a: 0(0) T1b: 29(100) T2: 0(0)	CC: 24(82.8) Pap: 2(6.9) Chro: 3(10.3) Others: 0(0)	NR	RT: 17(58.6) LT: 12(41.4)	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Choueiri, 2011[125]	TA (578)	T1: 578(100) T1a: 537(93.4) T1b: 38(6.6)	CC: 246(42.6) Pap: 76(13.2) Chro: 15(2.6) Others: 241(41.7)	NR	NR	NR	NR	NR
Choueiri, 2011[125]	PN (4402)	T1: 4402(100) T1a: 3763(85.9) T1b: 618(14.1)	CC: 2409(54.7) Pap: 789(17.9) Chro: 301(6.8) Others: 903(20.5)	NR	NR	NR	NR	NR
Choueiri, 2011[125]	RN (10165)	T1: 10165(100) T1a: 5453(53.8) T1b: 4693(46.3)	CC: 6322(62.2) Pap: 1050(10.3) Chro: 560(5.5) Others: 2233(22)	NR	NR	NR	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, and Year of Surgery (1564)	T1a: 1564(100)	CC: 1282(82) Pap: 192(12.3) Chro: 58(3.7) Others: 32(2)	Mean: 2.5 Median: 2.5	NR	NR	NR	NR
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, and Year of Surgery (3955)	T1a: 3955(100)	CC: 3273(87.8) Pap: 331(8.4) Chro: 106(2.7) Others: 45(1.1)	Mean: 2.8 Median: 2.8	NR	NR	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (961)	T1a: 961(100)	CC: 806(83.9) Pap: 107(11.1) Chro: 35(3.6) Others: 13(1.4)	Mean: 2.5 Median: 2.5	NR	NR	NR	NR
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (2341)	T1a: 2341(100)	CC: 2058(87.9) Pap: 210(9) Chro: 53(2.3) Others: 20(0.9)	Mean: 2.8 Median: 3	NR	NR	NR	NR
Crepel, 2010[53]	PN (275)	T1b: 275(100)	CC: 214(77.8) Pap: 46(16.7) Chro: 11(4)	Mean: 5.2 Median: 5	NR	NR	NR	NR
Crepel, 2010[53]	RN (1100)	T1b: 1100(100)	CC: 1001(91) Pap: 60(5.5) Chro: 24(2.2)	Mean: 5.2 Median: 5	NR	NR	NR	NR
Dash, 2006[54]	PN (45)	T1b:	CC: 45(100)	Mean: 4.85	NR	NR	NR	0(0)

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		45(100) T2: 0(0) T1 and T2: 0(0)		SD: 0.94				
Dash, 2006[54]	RN (151)	T1b: 151(100) T2: 0(0) T1 and T2: 0(0)	CC: 151(100)	Mean: 5.42 SD: 0.89	NR	NR	NR	NR
Daugherty, 2014[55]	Radical Nephrectomy (494)	T1a: 494(100)	CC: 211(42.7) Pap: 21(4.3) Chro: 13(2.6) Sac: 0(0) RC: 249(50.4) Others: 0(0)	NR	NR	NR	NR	NR
Daugherty, 2014[55]	Partial Nephrectomy (222)	T1a: 222(100)	CC: 95(42.8) Pap: 19(8.6) Chro: 5(2.3) Sac: 0(0) RC: 102(45) Others: 0(0)	NR	NR	NR	NR	NR
Deklaj, 2010[89]	Partial nephrectomy (33)	T1a: 8(NR) T1b: 12(NR) T2: 2(NR)	CC: 13(NR) Pap: 9(NR) Chro: 3(NR)	Mean: 4.8 Range: 4.1-7	NR	NR	Mean: 34 Range: IQR: 28.7-38.2	NR
Deklaj, 2010[89]	Radical nephrectomy (52)	T1a: 6(NR) T1b: 31(NR) T2: 1(NR)	CC: 35(NR) Pap: 9(NR) Chro: 3(NR)	Mean: 5.2 Range: 4.1-7	NR	NR	NR	NR
Deklaj,2010[129]	LRN (19)	T1a: 19(100)	NR	Mean: 3.3 SD: 0.6	RT: 13(68.4)	NR	NR	NR
Deklaj,2010[129]	LPN (28)	T1a: 28(100)	NR	Mean: 2.4 SD: 0.8	RT: 18(64.3)	NR	Mean: 28	0(0)
Deklaj,2010[129]	LAT (19)	T1a: 19(100)	NR	Mean: 2.7 SD: 0.9	RT: 11(57.9)	NR	NR	NR
Desai, 2005[102]	Laparascopic PN (153)	T1a: 153(100) T1b: 0(0)	CC: 0.7(64) Pap: 61(32) Chro: 31(NR) RC: NR(104) Others: 68(NR)	Mean: 2.25 Range: 0.7 - 3 SD: 0.67	RT: NR(93) LT: 61(NR)	Hilar: NR(0) Exophytic: 0(NR)	Mean: 30.2	8.5(1)
Desai,	Cryoablation (89)	T1a:	CC: 0(28)	Mean: 2.05	RT: NR(45)	Hilar: NR(0)	Mean: 0	NR(0)

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
2005[102]		89(100) T1b: 0(0)	Pap: 56(19) Chro: 38(NR) RC: NR(50) Others: 56(NR)	Range: 0.6 - 3 SD: 0.56	LT: 51(NR)	Exophytic: 0(NR)		
Emara, 2014[103]	Cryoablation (56)	NR	CC: 27(48.2) Pap: 7(12.5) Chro: 5(8.9) Sac: 0(0) RC: 39(69) Others: 17(30.4)	Mean: 2.56	RT: 21(NR) LT: 35(NR)	NR	NR	NR
Emara, 2014[103]	Robot assisted partial nephrectomy (47)	NR	CC: 19(40.4255319148936) Pap: 9(19.1489361702128) Chro: 3(6.38297872340426) Sac: 0(0) RC: 33(70.2127659574468) Others: 14(29.7872340425532)	Mean: 3.28	RT: 24(NR) LT: 23(NR)	NR	NR	NR
Faddegon, 2013[109]	PN (142)	NR	NR	Median: 2.31 SD: 0.78	NR	NR	NR	NR
Faddegon, 2013[109]	RFA (205)	NR	NR	Median: 3.1 SD: 2.8	NR	NR	NR	NR
Ficarra, 2003[40]	RN (88)	T1: 88(100)	NR	NR	NR	NR	NR	NR
Ficarra, 2003[40]	NSS (56)	T1: 56(100)	NR	NR	NR	NR	NR	NR
Foyil, 2008[130]	LPN-Non (55)	NR	NR	Mean: 2.4 Range: 0.7-9.0	NR	NR	NR	NR
Foyil, 2008[130]	LPN-Warm ischemia (37)	NR	NR	Mean: 3.1 Range: 1.4-7.0	NR	NR	Mean: 27	NR
Foyil, 2008[130]	LPN-Cold ischemia (6)	NR	NR	Mean: 2.9 Range: 2.0-3.6	NR	NR		NR
Foyil,	LRN (50)	NR	NR	Mean: 5.9	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
2008[130]				Range: 1.7-15.9				
Foyil, 2008[130]	Cryo (49)	NR	NR	Mean: 2.5 Range: 1.3-6.0	NR	NR	NR	NR
Gratzke, 2009[100]	Retroperitoneoscopic radical nephrectomy (36)	T1a: 15(NR) T1b: 21(NR) T2: 0(NR)	NR	NR	NR	NR	NR	NR
Gratzke, 2009[100]	Open radical nephrectomy (37)	T1a: 9(NR) T1b: 20(NR) T2: 8(NR)	NR	NR	NR	NR	NR	NR
Gratzke, 2009[100]	Nephron-sparing surgery (44)	T1a: 35(NR) T1b: 6(NR) T2: 1(NR)	NR	NR	NR	NR	NR	NR
Guillotreau, 2012[104]	RPN (210)	T1a: 210(100) T1b: 0(0)	NR	Mean: 2.4 SD: 0.8	RT: 108(51)	NR	Median: 17 IQR:100-300	3(1.9)
Guillotreau, 2012[104]	LCA (226)	T1a: 226(100) T1b: 0(0)	NR	Mean: 2.2 SD: 0.9	RT: 119(51)	NR	NR	NR
Haramis, 2012[105]	LCA (75)	T1a: 75(100)	CC: 33(NR) Pap: 16(NR) Chro: 2(NR)	Mean: 2 Range: 0.4-7.5	RT: 36(39.6) LT: 55(60.4)	Hilar: 5(5.5) Exophytic: 42(46.1) Endophytic: 16(17.6)	NR	0(NR)
Haramis, 2012[105]	LPN (92)	T1a: 92(100)	CC: 40(NR) Pap: 15(NR) Chro: 11(NR)	Mean: 1.9 Range: 0.3-4.5	RT: 46(48.4) LT: 49(51.6)	Hilar: 5(5.3) Exophytic: 48(50.5) Endophytic: 15(15.8)	Mean: 24.5 Range: 11-40	2(NR)
Houston, 2009[56]	RN (873)	T1b: 873(100)	CC: 629(72) Pap: 100(12) Chro: 50(6) Others: 94(11)	NR	NR	NR	NR	NR
Houston, 2009[56]	PN (286)	T1b: 286(100)	CC: 155(54) Pap: 60(21) Chro: 32(11) Others: 39(13.4)	NR	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Huang, 2006{#4335	GFR>60 radical (204)	NR	CC: 127(62) Chro: 16(8) Others: 61(29)	Median: 3 IQR: 2.5-3.5	NR	NR	NR	NR
Huang, 2006[57]	GFR>60 partial (287)	NR	CC: 160(56) Chro: 32(11) Others: 95(33)	Median: 2.4 IQR: 1.8-3	NR	NR	NR	NR
Huang, 2006[57]	GFR>45 partial (385)	NR	CC: 206(54) Chro: 44(11) Others: 135(35)	Median: 2.5 IQR: 1.8-3	NR	NR	NR	NR
Huang, 2006[57]	GFR>45 radical (262)	NR	CC: 161(61) Chro: 19(7) Others: 82(32)	Median: 3 IQR: 2.5-3.5	NR	NR	NR	NR
Huang, 2009[58]	PN (556)	T1a: 556(100)	NR	NR	NR	NR	NR	NR
Huang, 2009[58]	RN (2435)	T1a: 2435(100)	NR	NR	NR	NR	NR	NR
Iizuka, 2012[97]	T1b-Partial Nephrectomy (67)	T1a: 0(0) T1b: 67(100) T2: 0(0)	NR	Mean: 48.9 Median: 47 Range: 41-68	NR	NR	NR	NR
Iizuka, 2012[97]	T1b-Radical Nephrectomy (195)	T1a: 0(0) T1b: 195(100) T2: 0(0)	NR	Mean: 52.7 Median: 50 Range: 41-70	NR	NR	NR	NR
Iizuka, 2012[97]	T1a-Partial Nephrectomy (324)	T1a: 324(100) T1b: 0(0) T2: 0(0)	NR	Mean: 24.8 Median: 24 Range: 8-40	NR	NR	NR	NR
Indudhara,1997[41]	nephron sparing surgery (35)	T1 and T2: 35(100)	RC: 31(88.5714285714286) Others: 4(11.4285714285714)	NR	BIL: 3(8.57142857142857) MUL: 3(8.57142857142857)	NR	NR	NR
Indudhara,1997[41]	radical nephrectomy (72)	T1 and T2: 71(100)	RC: 68(95.7746478873239) Others: 3(4.22535211267606)	NR	BIL: 2(2.8169014084507) MUL: 3(4.22535211267606)	NR	NR	NR
Janetschek,	Partial nephrectomy (25)	T1: 18(NR)	NR	Mean: 1.9	RT: 10(NR)	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
2000[90]				Range: 1-5	LT: 15(NR)			
Janetschek, 2000[90]	Radical nephrectomy (73)	T1: 59(NR)	NR	Mean: 3.8 Range: 3-6	RT: 39(NR) LT: 34(NR)	NR	NR	NR
Jeon,2009[99]	PN (96)	NR	NR	Mean: 2.2 Median: 2.2 Range: 0.7-4.0 SD: 0.08	NR	NR	NR	NR
Jeon,2009[99]	RN (129)	NR	NR	Mean: 2.9 Median: 3 Range: 1.0-4.0 SD: 0.08	NR	NR	NR	NR
Kaowalczyk, 2013[131]	Ablation (211)	T1a: 211(100)	CC: 71(33.7) Others: 110(52.1)	NR	NR	NR	NR	NR
Kaowalczyk, 2013[131]	MIPN (160)	T1a: 160(100)	CC: 74(46.3) Pap: 32(20) Chro: 13(8.1) Others: 41(25.6)	NR	NR	NR	NR	NR
Kaowalczyk, 2013[131]	OPN (330)	T1a: 330(100)	CC: 156(47.3) Pap: 54(16.4) Chro: 29(8.8) Others: 91(27.6)	NR	NR	NR	NR	NR
Kaowalczyk, 2013[131]	MIRN (535)	T1a: 535(100)	CC: 311(58.1) Pap: 62(11.6) Chro: 31(5.8) Others: 131(24.5)	NR	NR	NR	NR	NR
Kaowalczyk, 2013[131]	ORN (404)	T1a: 404(100)	CC: 227(56.2) Pap: 51(12.6) Chro: 25(6.2) Others: 101(25)	NR	NR	NR	NR	NR
Kates, 2011[59]	PN (2301)	T1a: 2301(100)	NR	Mean: 1.57	NR	NR	NR	NR
Kates, 2011[59]	RN (1915)	T1a: 1915(100)	NR	Mean: 1.61	NR	NR	NR	NR
Kim, 2003[91]	Partial nephrectomy (79)	T1: 56(94.9) T2: 0(0)	CC: 44(74.6) Pap: 10(16.9) Chro: 3(5.1) RC: 59(NR) Others: 2(3.4)	Mean: 2.58 Median: Range: 1.1-4.5 IQR: SD: 0.9	BIL: 0(0) MUL: 0(0)	NR	Mean: 26.7 Range: 13-42	2(4.7)
Kim, 2003[91]	Radical nephrectomy (35)	T1:	CC: 21(72.4)	Mean: 2.78	BIL: 0(0)	NR	NR	0(0)

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		23(79.3) T2: 4(13.8)	Pap: 5(17.2) Chro: 2(6.9) RC: 29(NR) Others: 1(3.4)	Range: 0.9-4.5 SD: 1.2	MUL: 0(0)			
Kim, 2010[42]	PN (18)	T1a: 0(0) T1b: 18(100) T2: 0(0)	CC: 13(72.2) Pap: 3(16.7) Others: 2(11.1)	NR	NR	NR	NR	NR
Kim, 2010[42]	RN (52)	T1a: 0(0) T1b: 52(100) T2: 0(0)	CC: 43(82.7) Pap: 6(11.5) Others: 3(5.8)	NR	NR	NR	NR	NR
Kiriluk, 2011[106]	LPN (51)	T1: 51(100)	CC: 31(NR) Pap: 6(NR) Chro: 3(NR) RC: 40(NR) Others: 11(NR)	Mean: 2.27 Range: 0.80-5.10	RT: 24(47.1)	Hilar: 4(7.8) Exophytic: 39(76.5) Endophytic: 6(11)	Mean: 29.3 Range: 13-55	NR
Kiriluk, 2011[106]	LAT (51)	T1: 51(100)	CC: 11(NR) Pap: 10(NR) Chro: 2(NR) RC: 23(NR) Others: 28(NR)	Mean: 2.35 Range: 0.99-4.90	RT: 26(53)	Hilar: 2(4) Exophytic: 45(88.2) Endophytic: 0(0)	NR	NR
Klatte, 2011[117]	Cryoablation (41)	T1a: 41(100)	CC: 27(77) Pap: 3(9) Chro: 5(14)	Median: 2.5 Range: 1-4	NR	NR	NR	NR
Klatte, 2011[117]	PN (82)	T1a: 82(100)	CC: 50(72) Pap: 11(16) Chro: 8(12)	Median: 2.5 Range: 1-4	NR	NR	NR	NR
Kopp, 2014[60]	RN (122)	T1: 0(0) T2: 122(100)	CC: 94(79.7) Pap: 18(15.3) Chro: 6(5.1) Sac: 7(5.9)	Mean: 10.2 SD: 2.7	NR	NR	NR	NR
Kopp, 2014[60]	PN (80)	T1: 0(0) T2: 80(100)	CC: 57(82.6) Pap: 11(15.9) Chro: 1(1.4) Sac: 4(5.8)	Mean: 8.8 SD: 1.6	NR	NR	NR	NR
Kyung, 2014[61]	Radical Nephrectomy (82)	T1: 82(100) T1a: 33(40.2) T1b:	CC: 72(87.8) Pap: 4(4.9) Others: 6(7.3)	Mean: 4.44 SD: 1.3	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		49(59.8)						
Kyung, 2014[61]	Partial Nephrectomy (53)	T1: 53(100) T1a: 51(96.2) T1b: 2(3.8)	CC: 44(84.9) Pap: 6(9.4) Others: 3(4.7)	Mean: 2.42 SD: 0.89	NR	NR	NR	NR
Lane, 2010[62]	PN Limited ischemia (804)	T1: 804(NR) T1b: 154(19)	NR	Median: 2.8 IQR: 2-3.7	NR	NR	Range: 0-30	NR
Lane, 2010[62]	PN Unknown ischemia (546)	T1: 546(NR) T1b: 143(26)	NR	Median: 3 IQR: 2.2-4.2	NR	NR	NR	NR
Lane, 2010[62]	PN Extended ischemia (483)	T1: 483(NR) T1b: 72(15)	NR	Median: 2.9 IQR: 2.2-3.6	NR	NR	Range: >=30	NR
Lane, 2010[62]	RN (569)	T1: 569(NR) T1b: 362(64)	NR	Median: 4.7 IQR: 3.6-5.9	NR	NR	NR	NR
Lane, 2010[124]	Active surveillance (105)	T1: 105(100) T1a: 90(86) T1b: 15(14) T2: 0(0) T1 and T2: 105(100)	RC: 2(1.9) Others: 103(97.8)	Median: 2.3 IQR: 1.6-3.3	BIL: 5(5)	NR	NR	NR
Lane, 2010[124]	Radical Nephrectomy (146)	T1: 146(100) T1a: 60(41) T1b: 86(59) T2: 0(0) T1 and T2: 146(100)	RC: 88(60) Others: 58(39)	Median: 4.6 IQR: 3.5-5.8	BIL: 9(6)	NR	NR	NR
Li, 2007[63]	PN (35)	T1a:	CC: 28(79.5)	Mean: 3.8	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		16(NR) T1b: 17(NR) T2: 2(NR)	Pap: 3(8.8) Chro: 2(5.9) Others: 2(5.8)	Range: 1.5-7 SD: 1.3				
Li, 2007[63]	RN (128)	T1: 128(100)	CC: 109(85.1) Pap: 6(4.7) Chro: 10(7.8) Others: 3(2.4)	Mean: 4.5 Range: 1-6.5 SD: 1.4	NR	NR	NR	NR
Li, 2010[64]	mm-NSS (135)	T1a: 135(100)	CC: 105(77.8) Pap: 18(13.3) Chro: 9(6.7) Others: 3(2.2)	Mean: 3.3 Median: 3.5 Range: 1-4	BIL: 0(0) MUL: 0(0)	NR	Mean: 16	0(0)
Li, 2010[64]	1cm-NSS (98)	T1a: 98(100)	CC: 78(79.6) Pap: 15(15.3) Chro: 4(4.1) Others: 1(1)	Mean: 2.9 Median: 3.2 Range: 1-4	BIL: 0(0) MUL: 0(0)	NR	NR	0(0)
Li, 2010[64]	RN (156)	T1a: 156(100)	CC: 125(80.1) Pap: 23(14.7) Chro: 8(5.1)	Mean: 3 Median: 3.3 Range: 1.5-4	BIL: 0(0) MUL: 0(0)	NR	NR	NR
Lowrance, 2010[65]	PN (61)	NR	NR	Median: 2.8 IQR: 2.0,3.8	NR	NR	NR	NR
Lowrance, 2010[65]	RN (63)	NR	NR	Median: 5.7 IQR: 4.0,7.5	NR	NR	NR	NR
Lucas, 2007[126]	RFA (86)	T1a: 86(100) T1b: 0(0) T2: 0(0)	CC: 36(73.5) Pap: 6(12.2) Chro: 7(14.3) Others: 0(0)	Mean: 2.34	BIL: 0(0)	NR	NR	NR
Lucas, 2007[126]	PN (85)	T1a: 85(100) T1b: 0(0) T2: 0(0)	CC: 44(68.8) Pap: 12(18.8) Chro: 4(6.3) Others: 4(6.3)	Mean: 2.63	BIL: 0(0)	NR	NR	7(8.2)
Lucas, 2007[126]	RN (71)	T1a: 71(100) T1b: 0(0) T2: 0(0)	CC: 48(77.3) Pap: 6(9.7) Chro: 4(6.5) Others: 4(6.5)	Mean: 3.16	BIL: 0(0)	NR	NR	NR
Mariusdottir, 2013[43]	Partial nephrectomy (44)	T1: 39(87) T2: 2(4)	CC: 37(84) Pap: 5(11) Chro: 2(5)	Mean: 3 Range: 0.8-7.0	NR	NR	NR	NR
Mariusdottir, 2013[43]	Radical nephrectomy (44)	T1: 41(93) T2: 0(0)	CC: 37(84) Pap: 4(9) Chro: 3(7)	Mean: 3.3 Range: 1.8-5.0	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Matin, 2002[95]	Nephron sparing surgery (82)	T1a: 82(100)	NR	Mean: 2.6	RT: (52.5) LT: (47.5)	NR	NR	NR
Matin, 2002[95]	Laparoscopic radical nephrectomy (35)	T1a: 35(100)	CC: NR Pap: NR Chro: NR Sac: NR RC: NR Others: NR	Mean: 3.1	RT: (62.9) LT: (37.1)	NR	NR	NR
McKiernan, 2002[66]	Partial nephrectomy (117)	T1a: 117(100)	CC: 72(0.615384615384615) Pap: 21(0.179487179487179) Chro: 14(0.11965811965812) Others: 10(0.0854700854700855)	Mean: 2.3 Range: 0.9-4.0	NR	NR	NR	NR
McKiernan, 2002[66]	Radical nephrectomy (173)	T1a: 173(100)	CC: 106(0.61271676300578) Pap: 27(0.15606936416185) Chro: 10(0.0578034682080925) Others: 30(0.173410404624277)	Mean: 2.9 Range: 1.1-4.0	NR	NR	NR	NR
Medina-Polo, 2011[67]	NSS (116)	T1a: (59) T1b: (41)	CC: (53) Pap: (8) Chro: (10) Others: (29)	Mean: 36.8 SD: 18.3	NR	NR	NR	(3.4)
Medina-Polo, 2011[67]	Radical nephrectomy (174)	T1a: (51) T1b: (49)	CC: (56) Pap: (14) Chro: (9) Others: (21)	Mean: 42.9 SD: 14.2	NR	NR	Mean: 19.7	NR
Meskawi,	PN pre-propensity (1526)	T1:	NR	Mean: 5.14	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
2013[68]		1526(100) T1a: 0(0) T1b: 1526(100) T2: 0(0) T1 and T2: 0(0)		Median: 5 IQR: 4.5-5.5				
Meskawi, 2013[68]	RN pre-propensity (14807)	T1: 14807(100) T1a: 0(0) T1b: 14807(100) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 5.48 Median: 5.5 IQR: 4.8-6	NR	NR	NR	NR
Meskawi, 2013[68]	PN post-propensity (1525)	T1: 1525(100) T1a: 0(0) T1b: 1525(100) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 5.14 Median: 5 IQR: 4.5-5.5	NR	NR	NR	NR
Meskawi, 2013[68]	RN post-propensity (6104)	T1: 6104(100) T1a: 0(0) T1b: 6104(100) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 5.15 Median: 5 IQR: 4.5-5.5	NR	NR	NR	NR
Milonas, 2013[44]	NSS (34)	T1: 34(100) T1b: 34(100)	CC: NR(85.3) Pap: NR(11.8) Chro: NR(2.9)	Mean: 4.67 SD: 0.72	BIL: 0(0) MUL: 0(0)	NR	NR	NR
Milonas, 2013[44]	RN (317)	T1: 317(100) T1b: 317(100)	CC: NR(86.8) Pap: NR(4.7) Chro: NR(1.3) Others: NR(7.3)	Mean: 5.25 SD: 0.95	BIL: 0(0) MUL: 0(0)	NR	NR	NR
Minervini, 2012[98]	RN (143)	T1: 143(100)	CC: 124(86.7) Pap: 7(4.9)	Mean: 4.9 SD: 1.4	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
			Chro: 11(7.7) Others: 1(0.7)					
Minervini, 2012[98]	TE (332)	T1: 332(100) NR	CC: 261(78.6) Pap: 39(11.8) Chro: 27(8.1) Others: 5(1.5)	Mean: 3.2 SD: 1.1	NR	NR	NR	NR
Mitchell, 2006[69]	PN (33)	NR	CC: 24(72.7) Pap: 6(18.2) Chro: 3(9.1)	Mean: 5.2 Range: 4.0-15 SD: 2.2	NR	NR	NR	2(6.1)
Mitchell, 2006[69]	RN (66)	NR	CC: 58(87.8) Pap: 4(6.1) Chro: 4(6.1)	Mean: 5.2 Range: 4.0-15 SD: 2.2	NR	NR	NR	5(7.6)
Mitchell, 2011[118]	Ablation (50)	NR	NR	Median: 3.5 Range: 0.7-13	NR	NR	NR	NR
Mitchell, 2011[118]	PN (62)	NR	NR	Median: 2.5 Range: 1.2-7.3	NR	NR	Mean: 18 Range: 13-22	NR
Miyamoto, 2012[70]	RN (152)	NR	NR	Mean: 4.56 SD: 2.29	BIL: NR(0) MUL: 0(NR)	NR	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	NR	Mean: 2.22 SD: 0.59	BIL: NR(0) MUL: 0(NR)	NR	NR	NR
Miyamoto, 2012[70]	RN (152)	NR	NR	Mean: 4.56 SD: 2.29	NR	NR	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	NR	Mean: 2.22 SD: 0.59	NR	NR	NR	NR
Mues, 2012[110]	Thermal Ablation (98)	NR	CC: 51(48.6) Pap: 5(4.8) Chro: 0(0) RC: 56(53.3) Others: 49(46.7)	Mean: 2.5 Range: 1-4.4	RT: 50(48) LT: 48(46) BIL: 0(0)	NR	NR	NR
Mues, 2012[110]	Partial nephrectomy (PN) (100)	NR	CC: 70(70) Pap: 18(18) Chro: 3(3) RC: 94(94) Others: 6(6)	Mean: 3.9 Range: 1.0-10.0	RT: 56(56) LT: 42(42) BIL: 0(0)	NR	Mean: 28.5 Range: 0-91	9(18)
Olweny, 2012[115]	RFA (37)	T1a: 37(100)	CC: 25(67.6) Pap: 9(24.3) Chro: 1(2.7) Others: 2(5.6)	Median: 2.1 IQR: 1.8-2.8	NR	NR	NR	NR
Olweny, 2012[115]	PN (37)	T1a: 37(100)	CC: 28(77.8) Pap: 3(8.3)	Median: 2.5 IQR: 1.7-3.1	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
			Chro: 3(8.3) Others: 2(5.6)					
Pascal, 2011[107]	LPN (48)	T1: 47(98) T1a: 38(79) T1b: 9(19) T2: 1(2) T1 and T2: 48(100)	CC: 30(62.5) Pap: 4(8.3) Chro: 2(4.2) Sac: 0(0) RC: 36(75) Others: 12(25)	Mean: 3.2 SD: 1.33	RT: 26(54.2) LT: 22(45.8) BIL: 0(0) MUL: 0(0)	Hilar: 5(10.7)	Mean: 24	2(4.2)
Pascal, 2011[107]	Laparoscopic Renal cryoablation (30)	T1: 30(100) T1a: 24(80) T1b: 6(20) T2: 0(0) T1 and T2: 30(100)	CC: 20(66.7) Pap: 2(6.7) Chro: 0(0) Sac: 0(0) RC: 25(83.3) Others: 5(16.7)	Mean: 2.6 SD: 1.08	RT: 14(46.7) LT: 16(53.3) BIL: 0(0) MUL: 5(16.7)	Hilar: 2(6.7)	Mean: 0	0(0)
Patard, 2004[71]	PN (379)	T1: 379(100) T2: 0(0) T1 and T2: 0(0)	CC: 310(82.7) Pap: 46(12.3) Chro: 19(5) RC: 379(100) Others: 0(0)	NR	NR	NR	NR	NR
Patard, 2004[71]	RN (1075)	T1: 1075(100) T2: 0(0) T1 and T2: 0(0)	CC: 909(85.8) Pap: 123(11.6) Chro: 27(2.6) RC: 1075(100) Others: 0(0)	NR	NR	NR	NR	NR
Patard, 2004[71]	PN-T1a (314)	T1: NR T1a: 314(21.6) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 2.5 SD: 0.8	NR	NR	NR	NR
Patard, 2004[71]	RN T1a (499)	T1a: 499(78.4) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 3.2 SD: 0.8	NR	NR	NR	NR
Patard,	PN-T1b (65)	T1a: 0(0)	NR	Mean: 5.3	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
2004[71]		T1b: 65(10.1) T2: 0(0) T1 and T2: 0(0)		SD: 0.8				
Patard, 2004[71]	RN T1b (576)	T1a: 0(0) T1b: 576(89.9) T2: 0(0) T1 and T2: 0(0)	NR	Mean: 5.6 SD: 0.8	NR	NR	NR	NR
Patel, 2014[121]	DT(Deferred Treatmet) (754)	T1a: 754(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Patel, 2014[121]	PN (1849)	T1a: 1849(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Patel, 2014[121]	RN (4574)	T1a: 4574(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Patel, 2014[120]	Non Surgical Management (754)	T1a: 754(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Patel, 2014[120]	PN (1849)	T1a: 1849(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Patel, 2014[120]	RN (4574)	T1a: 4574(100)	NR	NR	BIL: 0(0)	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic radical nephrectomy (549)	NR	NR	NR	NR	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic partial nephrectomy (345)	NR	NR	NR	NR	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic tumor ablation (81)	NR	NR	NR	NR	NR	NR	NR
Roos, 2010[96]	Partial nephrectomy (NSS), for young (<55 years old) (36)	NR	NR	Median: 5.7 Range: 4.2-11.0	NR	NR	Median: 20 IQR: 10-28	NR
Roos, 2010[96]	Radical nephrectomy (NSS), for young (<55 years old) (45)	NR	NR	Median: 6 Range: 4.3-140	NR	NR	NR	NR
Roos, 2010[96]	Partial nephrectomy, for old (>65 years old) (33)	NR	NR	Median: 4.8 Range: 4.2-16.0	NR	NR	Median: 14	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Roos, 2010[96]	Radical nephrectomy, for old (>65 years old) (52)	NR	NR	Median: 5 Range: 4.3-11.0	NR	NR	NR	NR
Roos, 2012[45]	NSS (101)	T1b: 85(NR) T2: 16(NR) T1 and T2: 101(100)	NR	Mean: 5.7 Median: 5 Range: 4.2 - 16	NR	NR	NR	NR
Roos, 2012[45]	RN (146)	T1b: 118(NR) T2: 28(NR) T1 and T2: 146(100)	NR	Mean: 6.1 Median: 5.5 Range: 4.3 - 14	NR	NR	NR	NR
Scosyrev, 2014[72]	RN (259)	T1: 259(100)	NR	NR	NR	NR	NR	NR
Scosyrev, 2014[72]	NSS (255)	T1: 255(100)	NR	NR	NR	NR	NR	NR
Shinohara, 2001[46]	NSS (15)	T1: 15(100)	NR	NR	NR	NR	NR	NR
Shinohara, 2001[46]	RN (51)	T1: 51(100)	NR	NR	NR	NR	NR	NR
Smaldone, 2012[73]	Overall (5496)	T1a: 5496(100)	CC: NR(83)	Median: 2.8 SD: 0.9	NR	NR	NR	NR
Smaldone, 2012[73]	PN (1665)	T1a: 1665(100)	NR	NR	NR	NR	NR	NR
Smaldone, 2012[73]	RN (3831)	T1a: 3831(100)	NR	NR	NR	NR	NR	NR
Snow, 2008[92]	LPN (48)	T1a: 48(100) T1b: 0(0) T2: 0(0)	NR	Mean: 2.8 SD: 0.8	NR	NR	Mean: 26	NR
Snow, 2008[92]	LRN (37)	T1a: 37(100) T1b: 0(0) T2: 0(0)	NR	Mean: 2 SD: 1	NR	NR	Mean: 26	NR
Stern, 2007[111]	RFA (40)	T1a: 40(100)	CC: 24(NR) Pap: 5(NR) Chro: 1(NR) Others: 10(NR)	Mean: 2.41 SD: 0.7	NR	NR	NR	NR
Stern, 2007[111]	PN (37)	T1a: 37(100)	CC: 23(NR) Pap: 3(NR) Chro: 4(NR)	Mean: 2.43 SD: 0.8	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
			Others: 7(NR)					
Sun, 2012[138]	PN (924)	T1: 924(100) T1a: 784(85) T1b: 140(15) T2: 0(0) T1 and T2: 924(100)	RC: 924(100) Others: 0(0)	Mean: 2.9 Median: 2.7 IQR: 2.0-3.5	NR	NR	NR	NR
Sun, 2012[138]	RN (6600)	T1: 6600(100) T1a: 3752(57) T1b: 2848(43) T2: 0(0) T1 and T2: 6600(100)	RC: 6600(100) Others: 0(0)	Mean: 4 Median: 4 IQR: 3.0-5.0	NR	NR	NR	NR
Sun, 2012[138]	post-propensity RN (924)	T1: 924(100) T1a: 775(84) T1b: 149(16) T2: 0(0) T1 and T2: 924(100)	RC: 924(100) Others: 0(0)	Mean: 2.9 Median: 2.8 IQR: 2.0-3.6	NR	NR	NR	NR
Sun, 2012[74]	PN (840)	NR	NR	Mean: 2.4 Median: 2.5 IQR: 1.8-3	NR	NR	NR	NR
Sun, 2012[74]	RN (840)	NR	NR	Mean: 2.5 Median: 2.5 IQR: 2-3	NR	NR	NR	NR
Sun, 2013[122]	NSM (3271)	T1: 3271(100)	CC: 1033(31.6) Pap: 179(5.5) Chro: 98(3) Others: 77(2.4)	Mean: 3.8 Median: 3.5 IQR: 2.6-5	NR	NR	NR	NR
Sun, 2013[122]	PN (1051)	T1: 1051(100)	CC: 394(37.5) Pap: 154(14.7) Chro: 68(6.5)	Mean: 2.9 Median: 2.7 IQR: 2-3.5	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
			Others: 42(4)					
Sun, 2013[122]	RN (6273)	T1: 6273(100)	CC: 2289(36.5) Pap: 372(5.9) Chro: 189(3) Others: 202(3.2)	Mean: 4.1 Median: 4 IQR: 3-5	NR	NR	NR	NR
takagi, 2011[75]	PN-eGFR 45 - 59 (30)	T1 and T2: 30(100)	NR	Mean: 2.88 Median: 2.5 Range: 10-60 SD: 1.2	BIL: 0(0)	NR	NR	NR
takagi, 2011[75]	RN-eGFR 45 - 59 (38)	T1 and T2: 38(100)	NR	Mean: 6.12 Median: 6 Range: 20-224 SD: 3.55	BIL: 0(0)	NR	NR	NR
takagi, 2011[75]	PN-eGFR 30 - 44 (14)	T1 and T2: 14(100)	NR	Mean: 3.04 Median: 2.9 Range: 17-44 SD: 0.87	BIL: 0(0)	NR	NR	NR
takagi, 2011[75]	RN-eGFR 30 - 44 (13)	T1 and T2: 13(100)	NR	Mean: 5.84 Median: 5.7 Range: 36-110 SD: 2.42	BIL: 0(0)	NR	NR	NR
Takaki, 2010[128]	RFA (51)	T1a: 51(100)	NR	Mean: 2.4 SD: 0.7	RT: 31(60.8) LT: 20(39.2)	NR	NR	NR
Takaki, 2010[128]	RN (54)	T1a: 54(100)	NR	Mean: 2.8 SD: 0.7	RT: 20(37) LT: 34(63)	NR	NR	NR
Takaki, 2010[128]	PN (10)	T1a: 10(100)	NR	Mean: 1.9 SD: 0.7	RT: 7(70) LT: 3(30)	NR	NR	NR
Takaki, 2014[123]	RFA (21)	T1b: 25(100)	NR	Mean: 4.6 Range: 4.1 - 6.5 SD: 0.5	RT: 8(38) LT: 13(62) BIL: 0(0) MUL: 0(0)	Hilar: 19(90)	NR	NR
Takaki, 2014[123]	RN (39)	T1b: 39(100)	NR	Mean: 5.2 Range: 4.1 - 7 SD: 0.9	RT: 23(59) LT: 16(41) BIL: 0(0) MUL: 0(0)	Hilar: 33(85)	NR	NR
Tan, 2012[76]	PN (1925)	T1a: 1925(100) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	CC: 1421(73.8) Pap: 282(14.7) Chro: 126(6.5) Others: 96(5)	NR	BIL: 0(0) MUL: 0(0)	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Tan, 2012[76]	RN (5213)	T1a: 5213(100) T1b: 0(0) T2: 0(0) T1 and T2: 0(0)	CC: 4391(84.2) Pap: 404(7.7) Chro: 192(3.7) Others: 226(4.4)	NR	BIL: 0(0) MUL: 0(0)	NR	NR	NR
Tanagho, 2013[116]	Cryoablation (267)	NR	NR	Mean: 2.5 SD: 1	RT: 138(51.7) LT: 127(47.6) BIL: 2(0.7) MUL: 23(8.6)	Hilar: 36(13.5) Exophytic: 133(49.8) Endophytic: 41(267)	NR	NR
Tanagho, 2013[116]	Robot assisted partial nephrectomy (233)	NR	NR	Mean: 2.9 SD: 1.5	RT: 116(48.3) LT: 116(51.7) BIL: 0(0) MUL: 4(1.7)	Hilar: 26(13.3) Exophytic: 80(36) Endophytic: 142(64)	NR	NR
Thompson, 2008[77]	PN (358)	T1a: 358(100)	CC: 186(52) Pap: 75(21) Chro: 16(4.5) Others: 81(22.4)	Median: 2.5 Range: 0.2-4	NR	NR	NR	NR
Thompson, 2008[77]	RN (290)	T1a: 290(100)	CC: 191(65.9) Pap: 41(14.1) Chro: 10(3.5) Others: 48(16.5)	Median: 3 Range: 0.2-4	NR	NR	NR	NR
Thompson, 2008[77]	PN-<65years (187)	T1a: 187(100)	CC: 111(59.4) Pap: 30(16) Chro: 11(5.9) Others: 35(18.1)	Median: 2.5 Range: 0.6-4	NR	NR	NR	NR
Thompson, 2008[77]	RN-<65years (140)	T1a: 140(100)	CC: 102(72.9) Pap: 19(13.6) Chro: 4(2.9) Others: 15(10.7)	Median: 3 Range: 0.2-4	NR	NR	NR	NR
Thompson, 2014[112]	cT1a-Partial Nephrectomy (1057)	T1a: 1057(100) T1b: 0(0) T2: 0(0)	NR	Mean: 2.5 Median: 2.4 IQR: 1.8-3.1	NR	NR	NR	NR
Thompson, 2014[112]	cT1a-Radiofrequency Ablation (180)	T1a: 180(100) T1b: 0(0)	NR	Mean: 2.1 Median: 1.9 IQR: 1.5-2.5	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		T2: 0(0)						
Thompson, 2014[112]	cT1a-Cryoablation (187)	T1a: 187(100) T1b: 0(0) T2: 0(0)	NR	Mean: 2.9 Median: 2.8 IQR: 2.4-3.4	NR	NR	NR	NR
Thompson, 2014[112]	cT1b-Partial Nephrectomy (326)	T1a: 0(0) T1b: 326(100) T2: 0(0)	NR	Mean: 5.1 Median: 5 IQR: 4.5-5.5	NR	NR	NR	NR
Thompson, 2014[112]	cT1b-Cryoablation (53)	T1a: 0(0) T1b: 53(100) T2: 0(0)	NR	Mean: 5 Median: 4.8 IQR: 4.4-5.4	NR	NR	NR	NR
Tomaszewski, 2014[78]	Overall (1092)	T1: 967(88.6) T2: 125(11.5)	NR	Mean: 4.2 SD: 2.9	BIL: 126(11.5)	Hilar: 149(13.6)	NR	NR
Turna, 2009[113]	Laparoscopic partial nephrectomy (36)	T1a: 36(100)	CC: (19) Pap: (4)	Mean: 3.7 Range: 1.4-10.7 SD: 1.9	NR	NR	Mean: 31.3 Range: 14-55	2(5.5)
Turna, 2009[113]	Cryoablation (36)	T1a: 36(100)	NR	Mean: 2.5 Range: 1.1-5.0 SD: 1.1	NR	NR	Mean: 17.5 Median: Range: 9-45	NR
Turna, 2009[113]	Radiofrequency ablation (29)	NR	NR	Mean: 2.6 Median: Range: 0.9-42 SD: 1	RT: 20NR LT: 12(NR)	NR	Mean: 33.5 Median: Range: 8-67	NR
Uchida, 2004[79]	PN (54)	T1a: 54(NR) T1b: 0(NR) T2: 0(0)	NR	NR	BIL: 8(14.8)	NR	NR	NR
Uchida, 2004[79]	RN (51)	T1a: 51(NR) T1b: 0(NR) T2: 0(0)	NR	NR	NR	NR	NR	NR
Uzzo, 1999[80]	RN (28)	T1: NR T1a:	NR	Median: 3.1 Range: 1.5 - 3.8	BIL: NR(0) MUL: 0(0)	Hilar: 0(NR)	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
		28(100)						
Uzzo, 1999[80]	NSS (52)	T1a: 52(100)	NR	Median: 2.4 Range: 0.6 - 3.8	BIL: NR(0) MUL: 0(0)	Hilar: 0(NR)	NR	NR
Van Poppel, 2011[81]	NSS (268)	T1: 127(47.4) T2: 137(51.1)	CC: 177(66) RC: 50(18.7) Others: 37(13.8)	Median: 3 Range: 1-9	NR	NR	Median: 20	NR
Van Poppel, 2011[81]	Radical nephrectomy (273)	T1: 139(50.9) T2: 130(47.6)	CC: 163(59.7) RC: 69(25.3) Others: 34(12.5)	Median: 3 Range: 0.8-7.5	NR	NR	NR	NR
Weight, 2010{#2282	PN-High Grade cohort (52)	T1: 52(100)	NR	Mean: 3.5 Range: 2.9-4.7	RT: 27(52) LT: 25(48)	NR	NR	NR
Weight, 2010[83]	RN-Upstaged Cohort (117)	T1: 117(100)	NR	Mean: 6 Range: 5-6	RT: 58(50) LT: 59(50)	NR	NR	NR
Weight, 2010[83]	PN-Upstaged Cohort (96)	T1: 96(100)	NR	Mean: 4 Range: 2.6-5.2	RT: 50(52) LT: 46(48)	NR	NR	NR
Weight, 2010[83]	RN-High Grade cohort (43)	T1: 43(100)	NR	Mean: 5.8 Range: 5-6	RT: 22(51) LT: 21(49)	NR	NR	NR
Weight, 2010[82]	RN (298)	T1b: 298(100)	CC: 211(79) Pap: 32(12) Chro: 14(5.2) Others: 11(4.1)	Median: 5.6 IQR: 4.8-6.3	NR	NR	NR	NR
Weight, 2010[82]	PN (212)	T1b: 212(100)	CC: 126(75) Pap: 28(17) Chro: 14(8.2) Others: 1(0.1)	Median: 4.8 IQR: 4.4-5.5	NR	NR	NR	NR
Weight,2010[84]	RN (480)	T1b: 480(100)	CC: 340(79.2) Pap: 53(12.4) Chro: 17(4) Others: 19(4.4)	Mean: 5.6 IQR: 5.0-6.4	NR	NR	NR	NR
Weight,2010[84]	PN (524)	T1b: 524(100)	CC: 327(74.5) Pap: 77(17.6) Chro: 24(5.4) Others: 10(3.1)	Mean: 5 IQR: 4.5-5.6	NR	NR	NR	NR
Whitson, 2012[114]	NSS (7704)	T1: 7704(100) T2: 0(0) T1 and T2: 7704(100)	CC: 3794(71) Pap: 1141(21) Chro: 419(8) Sac: 25(0.5) RC: 7704(100) Others: 0(0)	Mean: 2.4 SD: 0.8	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
Whitson, 2012[114]	Ablation (1114)	T1: 1114(100) T2: 0(0) T1 and T2: 1114(100)	CC: 421(72) Pap: 124(21) Chro: 36(6) Sac: 1(0.2) RC: 1114(100) Others: 0(0)	Mean: 2.6 SD: 0.8	NR	NR	NR	NR
Woldu, 2014[85]	CKD 1 NSS (185)	T1: NR(84.5) T2: NR(1.6)	NR	Mean: 2.7 SD: 1.6	NR	NR	Mean: 23.1	NR
Woldu, 2014[85]	CKD 1 RN (179)	T1: NR(41.5) T2: NR(13.1)	NR	Mean: 6.8 SD: 4	NR	NR	NR	NR
Woldu, 2014[85]	CKD 2 NSS (261)	T1: NR(82.9) T2: NR(0.5)	NR	Mean: 2.9 SD: 1.6	NR	NR	Mean: 21	NR
Woldu, 2014[85]	CKD 2 RN (419)	T1: NR(44.5) T2: NR(15.8)	NR	Mean: 6.2 SD: 3.9	NR	NR	NR	NR
Woldu, 2014[85]	CKD 3 NSS (94)	T1: NR(80) T2: NR(3.8)	NR	Mean: 3.8 SD: 2.2	NR	NR	Mean: 24.1	NR
Woldu, 2014[85]	CKD 3 RN (168)	T1: NR(37.9) T2: NR(14.5)	NR	Mean: 6.7 SD: 4.2	NR	NR	NR	NR
Woldu, 2014[85]	Cohort (1306)	NR	NR	NR	NR	NR	NR	NR
Xu, 2014[47]	LRN (88)	NR	CC: 67(76.14) Pap: 5(5.68) Chro: 4(4.55) Sac: 0(0) RC: 5(5.68) Others: see table 2(see table 2)	Mean: 4.6 SD: 1.9	RT: 49(NR) LT: 39(NR)	NR	NR	NR
Xu, 2014[47]	ORN (526)	NR	CC: 399(75.86) Pap: 19(3.61)	Mean: 5.3 SD: 2.3	RT: 263(NR) LT: 263(NR)	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
			Chro: 13(2.47) Sac: 1(0.19) RC: 33(6.27) Others: see table 2(see table 2)					
Xu, 2014[47]	LPN (42)	NR	CC: 21(50) Pap: 3(7.14) Chro: 0(0) Sac: 0(0) RC: 0(0) Others: see table 2(see table 2)	Mean: 3.3 SD: 2.2	RT: 21(NR) LT: 21(NR)	NR	NR	NR
Xu, 2014[47]	OPN (187)	NR	CC: 110(58.82) Pap: 8(8) Chro: 5(2.67) Sac: 1(0.53) RC: 6(3.21) Others: see table 2(see table 2)	Mean: 3.6 Median: NR SD: 1.4	RT: 89(NR) LT: 98(NR)	NR	NR	NR
Yasuda, 2012[86]	NSS (97)	T1: 97(100)	NR	Median: 2.5 IQR: 1.8-3.2 SD: NR	NR	Endophytic: 7(NR)	NR	NR
Yasuda, 2012[86]	RN (103)	T1: 103(100)	NR	Median: 4.4 IQR: 3.5-5.3	NR	Endophytic: 18(NR)	NR	NR
Youn, 2013[119]	Open PN (14)	NR	RC: 12(85.71) Others: 2(14.29)	Mean: 2.3 IQR: 1.27	RT: 10(NR) LT: 4(NR) BIL: 0(0) MUL: 0(0)	Hilar: 10(NR) Exophytic: 14(100)	NR	NR
Youn, 2013[119]	Laparascopic RFA (41)	NR	RC: 13(75.61) Others: 10(24.39)	Mean: 2.4 IQR: 0.79	RT: 27(NR) LT: 14(NR) BIL: 0(0) MUL: 0(0)	Hilar: 26(NR) Exophytic: 41(100)	NR	NR
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade) (2153)	T1a: 2153(100)	CC: 1719(79.8) Pap: 199(9.2) Others: 235(10.9)	Mean: 2.4	NR	NR	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor	T1a: 5616(100)	CC: 4749(84.6) Pap: 295(5.3)	Mean: 2.7	NR	NR	NR	NR

Author, year	Arm (n)	Clinical stage: n(%)	Tumor type:n(%)	Tumor size	Tumor side:N(%)	Tumor location	Warm Ischemia time	Positive margins
	size, year of surgery, not by Furhman grade) (5616)		Others: 572(10.2)					
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (1283)	T1a: 1283(100)	CC: 1047(81.6) Pap: 104(8.1) Others: 132(10.3)	Mean: 2.5	NR	NR	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (3166)	T1a: 3166(100)	CC: 2699(85.2) Pap: 152(4.8) Others: 315(9.9)	Mean: 2.8	NR	NR	NR	NR
Zorn, 2007[93]	LPN (42)	T1: 42(100)	RC: 30(71)	Mean: 2.4 Range: 1-6	RT: 20(48) LT: 22(52)	NR	Mean: 37 Range: 15-43	NR
Zorn, 2007[93]	LRN (55)	T1: 55(100)	RC: 55(83)	Mean: 5.4 Range: 3.2-9	RT: 28(51) LT: 27(49)	NR	NR	NR
ACTIVE SURVEILLANCE (UNCONTROLLED STUDIES)								
Abouassaly, 2008[132]	Active Surveillance (110)	NR	NR	Median: 2.5 Range: 0.9-11.2	MUL: 22(20)	NR	NR	NR
Crispen, 2008[133]	Active Surveillance (109)	NR	CC: 24(NR) Pap: 9(NR) Chro: 1(NR)	Mean: 2.61 Median: 2 Range: 0.4-12	NR	NR	NR	NR
Crispen, 2009[134]	Active Surveillance (173)	NR	CC: 39(68) Pap: 15(26) Chro: 2(4)	Mean: 2.45 Median: 2 Range: 0.4-12	NR	NR	NR	NR
Jewett, 2011[135]	Active Surveillance (178)	T1a: 179(100)	NR	Mean: 2.1 Median: 2.1 Range: 0.4-4	NR	NR	NR	NR
Kunkle, 2007[136]	Active Surveillance (89)	NR	NR	Median: 2 Range: 0.0-12	MUL: 11(12)	NR	NR	NR
Leonard, 2013[36]	Active surveillance (133)	T1a: 133(100)	NR	Mean: 2.36 Range: 0.6-4 SD: 1.19	NR	NR	NR	NR
Rosales, 2010[137]	Active Surveillance (212)	NR	Pap: 4(NR) Chro: 1(NR) RC: 32(NR)	Median: 2.8 Range: 0.5-13.1	RT: 137(59) BIL: 5(2)	NR	NR	NR

IQR= Interquartile range; LPN= Laparoscopic partial nephrectomy; LTA= Laparoscopic Thermal Ablation; NA= Not Applicable; NR= Not reported; NSM= Non surgical Management; NSS= Nephron-sparing surgery; OPN= Open partial nephrectomy; ORN= Open Radical Nephrectomy; PN= Partial Nephrectomy; RFA= Radio frequency ablation; RN Radical nephrectomy; SD= Standard deviation; RT=Right; LT= Left; BIL= Bilateral; MUL= Multiple; RC= Renal Cell; Sac= Sarcomatoid; Chro= Chromophobe; CC=Clear Cell

Table D11: Tumor Scores

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
Antonelli, 2011[48]	RN-cT1a (919)	1-2: 392(77.8) 3-4: 199(22.2)	NR	NR
Antonelli, 2011[48]	PN-cT1a (1068)	1-2: 877(85) 3-4: 154(15)	NR	NR
Antonelli, 2011[48]	RN-cT1b (1426)	1-2: 920(65.7) 3-4: 478(34.2)	NR	NR
Antonelli, 2011[48]	PN-cT1b (198)	1-2: 148(80) 3-4: 37(20)	NR	NR
Antoniewicz, 2011[49]	RN (33)	NR	NR	NR
Antoniewicz, 2011[49]	PN (18)	NR	NR	NR
Badalato, 2011[50]	PN pre-propensity (1047)	NR	NR	NR
Badalato, 2011[50]	RN pre-propensity (10209)	NR	NR	NR
Barbalias, 1999[39]	Partial nephrectomy (41)	NR	NR	NR
Barbalias, 1999[39]	Radical nephrectomy (48)	NR	NR	NR
Becker, 2014[94]	PN (1251)	1-2: 713(57) 3-4: 170(13.6)	NR	NR
Becker, 2014[94]	Overall (2277)	1-2: 1305(57.3) 3-4: 341(15)	NR	NR
Becker, 2014[94]	LRN (1066)	1-2: 592(57.7) 3-4: 171(16.7)	NR	NR
Bedke, 2008[51]	RN (398)	1-2: 375(94.9) 3-4: 20(5.1)	NR	NR
Bedke, 2008[51]	PN (66)	1-2: 64(97) 3-4: 2(3)	NR	NR
Bensalah, 2007[101]	LPN (50)	1-2: 37(90) 3-4: 4(10)	NR	NR
Bensalah, 2007[101]	LRFA (38)	1-2: 20(95) 3-4: 1(5)	NR	NR
Brewer, 2012[88]	MIPN (45)	3-4: 16(42.1)	Mean: 9.3 SD: 1.4	NR
Brewer, 2012[88]	MIRN (108)	3-4: 47(46.1)	Mean: 9.7 SD: 1.2	NR
Chang, 2014[108]	RFA (27)	NR	Mean: 8.5 Range: 6-11 SD: 1.1	NR
Chang, 2014[108]	PN (29)	NR	Mean: 7.8 Range: 5-11 SD: 1.2	NR
Choueiri, 2011[125]	TA (578)	1-2: 257(44.5) 3-4: 31(5.4)	NR	NR
Choueiri, 2011[125]	PN (4402)	1-2: 3159(71.8) 3-4: 697(15.8)	NR	NR
Choueiri, 2011[125]	RN (10165)	1-2: 6736(66.3) 3-4: 2196(21.6)	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, and Year of Surgery (1564)	1-2: 842(53.8) 3-4: 150(9.6)	NR	NR
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, and Year of Surgery (3955)	1-2: 1931(48.8) 3-4: 341(8.7)	NR	NR
Crepel, 2010[52]	PN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (961)	1-2: 813(84.6) 3-4: 148(15.4)	NR	NR
Crepel, 2010[52]	RN-Matched for Age,Tumor Size, Year of Surgery,and Furhman Grade (2341)	1-2: 2002(85.5) 3-4: 339(14.5)	NR	NR
Crepel, 2010[53]	PN (275)	1-2: 124(45.1)	NR	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
		3-4: 39(14.2)		
Crepel, 2010[53]	RN (1100)	1-2: 517(47) 3-4: 165(15)	NR	NR
Dash, 2006[54]	PN (45)	1-2: 35(78) 3-4: 9(20)	NR	NR
Dash, 2006[54]	RN (151)	1-2: 107(71) 3-4: 43(28)	NR	NR
Daugherty, 2014[55]	Radical Nephrectomy (494)	NR	NR	NR
Daugherty, 2014[55]	Partial Nephrectomy (222)	NR	NR	NR
Deklaj, 2010[89]	Partial nephrectomy (33)	1-2: 12 3-4: 9	NR	NR
Deklaj, 2010[89]	Radical nephrectomy (52)	1-2: 36 3-4: 11	NR	NR
Deklaj,2010[129]	LRN (19)	NR	NR	NR
Deklaj,2010[129]	LPN (28)	NR	NR	NR
Deklaj,2010[129]	LTA (19)	NR	NR	NR
Desai, 2005[102]	Laparascopic PN (153)	NR	NR	NR
Desai, 2005[102]	Cryoablation (89)	NR	NR	NR
Emara, 2014[103]	Cryoablation (56)	NR	Mean: 5.75	NR
Emara, 2014[103]	Robot assisted partial nephrectomy (47)	NR	Mean: 5.77	NR
Faddegon, 2013[109]	PN (142)	NR	NR	NR
Faddegon, 2013[109]	RFA (205)	NR	NR	NR
Ficarra, 2003[40]	RN (88)	NR	NR	NR
Ficarra, 2003[40]	NSS (56)	NR	NR	NR
Foyil, 2008[130]	LPN-Non (55)	NR	NR	NR
Foyil, 2008[130]	LPN-Warm ischemia (37)	NR	NR	NR
Foyil, 2008[130]	LPN-Cold ischemia (6)	NR	NR	NR
Foyil, 2008[130]	LRN (50)	NR	NR	NR
Foyil, 2008[130]	Cryo (49)	NR	NR	NR
Gratzke, 2009[100]	Retroperitoneoscopic radical nephrectomy (36)	NR	NR	NR
Gratzke, 2009[100]	Open radical nephrectomy (37)	NR	NR	NR
Gratzke, 2009[100]	Nephron-sparing surgery (44)	NR	NR	NR
Guillotreau, 2012[104]	RPN (210)	NR	NR	NR
Guillotreau, 2012[104]	LCA (226)	NR	NR	NR
Haramis, 2012[105]	LCA (75)	NR	NR	NR
Haramis, 2012[105]	LPN (92)	NR	NR	NR
Houston, 2009[56]	RN (873)	NR	NR	NR
Houston, 2009[56]	PN (286)	NR	NR	NR
Huang, 2006{#4335	GFR>60 radical (204)	NR	NR	NR
Huang, 2006[57]	GFR>60 partial (287)	NR	NR	NR
Huang, 2006[57]	GFR>45 partial (385)	NR	NR	NR
Huang, 2006[57]	GFR>45 radical (262)	NR	NR	NR
Huang, 2009[58]	PN (556)	NR	NR	NR
Huang, 2009[58]	RN (2435)	NR	NR	NR
Iizuka, 2012[97]	T1b-Partial Nephrectomy (67)	NR	Mean: 8.9 Median: 9 Range: 5-11	NR
Iizuka, 2012[97]	T1b-Radical Nephrectomy (195)	NR	Mean: 8.8 Median: 9 Range: 6-11	NR
Iizuka, 2012[97]	T1a-Partial Nephrectomy (324)	NR	Mean: 7.3 Median: 7 Range: 4-10	NR
Indudhara,1997[41]	nephron sparing surgery (35)	NR	NR	NR
Indudhara,1997[41]	radical nephrectomy (72)	NR	NR	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
Janetschek, 2000[90]	Partial nephrectomy (25)	NR	NR	NR
Janetschek, 2000[90]	Radical nephrectomy (73)	NR	NR	NR
Jeon,2009[99]	PN (96)	NR	NR	NR
Jeon,2009[99]	RN (129)	NR	NR	NR
Kaowalczyk, 2013[131]	Ablation (211)	NR	NR	NR
Kaowalczyk, 2013[131]	MIPN (160)	NR	NR	NR
Kaowalczyk, 2013[131]	OPN (330)	NR	NR	NR
Kaowalczyk, 2013[131]	MIRN (535)	NR	NR	NR
Kaowalczyk, 2013[131]	ORN (404)	NR	NR	NR
Kates, 2011[59]	PN (2301)	NR	NR	NR
Kates, 2011[59]	RN (1915)	NR	NR	NR
Kim, 2003[91]	Partial nephrectomy (79)	NR	NR	NR
Kim, 2003[91]	Radical nephrectomy (35)	NR	NR	NR
Kim, 2010[42]	PN (18)	1-2: 11(61.1) 3-4: 7(38.9)	NR	NR
Kim, 2010[42]	RN (52)	1-2: 25(48.1) 3-4: 27(51.9)	NR	NR
Kiriluk, 2011[106]	LPN (51)	NR	NR	NR
Kiriluk, 2011[106]	LAT (51)	NR	NR	NR
Klatte, 2011[117]	Cryoablation (41)	1-2: 30(85)	NR	Median: 7 Range: 0-10
Klatte, 2011[117]	PN (82)	1-2: 61(88)	NR	Median: 7 Range: 0-10
Kopp, 2014[60]	RN (122)	1-2: 83(70.3) 3-4: 35(29.7)	Mean: 9.9 SD: 1.3	NR
Kopp, 2014[60]	PN (80)	1-2: 49(70.9) 3-4: 20(29)	Mean: 9.7 SD: 1.3	NR
Kyung, 2014[61]	Radical Nephrectomy (82)	1-2: 42(51.2) 3-4: 40(48.8)	NR	NR
Kyung, 2014[61]	Partial Nephrectomy (53)	1-2: 35(66) 3-4: 18(34)	NR	NR
Lane, 2010[62]	PN Limited ischemia (804)	3-4: 157(27)	NR	NR
Lane, 2010[62]	PN Unknown ischemia (546)	1-2: NR 3-4: 129(33)	NR	NR
Lane, 2010[62]	PN Extended ischemia (483)	3-4: 109(30)	NR	NR
Lane, 2010[62]	RN (569)	3-4: 221(48)	NR	NR
Lane, 2010[124]	Active surveillance (105)	NR	NR	NR
Lane, 2010[124]	Radical Nephrectomy (146)	NR	NR	NR
Li, 2007[63]	PN (35)	NR	NR	NR
Li, 2007[63]	RN (128)	NR	NR	NR
Li, 2010[64]	mm-NSS (135)	1-2: 130(96.3) 3-4: 5(4.3)	NR	NR
Li, 2010[64]	1cm-NSS (98)	1-2: 96(98) 3-4: 3(3.1)	NR	NR
Li, 2010[64]	RN (156)	1-2: 151(96.8) 3-4: 5(4.3)	NR	NR
Lowrance, 2010[65]	PN (61)	NR	NR	NR
Lowrance, 2010[65]	RN (63)	NR	NR	NR
Lucas, 2007[126]	RFA (86)	NR	NR	NR
Lucas, 2007[126]	PN (85)	NR	NR	NR
Lucas, 2007[126]	RN (71)	NR	NR	NR
Mariusdottir, 2013[43]	Partial nephrectomy (44)	NR	NR	NR
Mariusdottir, 2013[43]	Radical nephrectomy (44)	NR	NR	NR
Matin, 2002[95]	Nephron sparing surgery (82)	1-2: (71.7) 3-4: (28.3)	NR	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
Matin, 2002[95]	Laparoscopic radical nephrectomy (35)	1-2: (75) 3-4: (25)	NR	NR
McKiernan, 2002[66]	Partial nephrectomy (117)	NR	NR	NR
McKiernan, 2002[66]	Radical nephrectomy (173)	NR	NR	NR
Medina-Polo, 2011[67]	NSS (116)	1-2: (80) 3-4: (20)	NR	NR
Medina-Polo, 2011[67]	Radical nephrectomy (174)	1-2: (74) 3-4: (26)	NR	NR
Meskawi, 2013[68]	PN pre-propensity (1526)	1-2: 876(57.4) 3-4: 352(23)	NR	NR
Meskawi, 2013[68]	RN pre-propensity (14807)	1-2: 8186(55.3) 3-4: 2910(19.7)	NR	NR
Meskawi, 2013[68]	PN post-propensity (1525)	1-2: 876(57.4) 3-4: 351(23)	NR	NR
Meskawi, 2013[68]	RN post-propensity (6104)	1-2: 3506(57.4) 3-4: 1393(22.8)	NR	NR
Milonas, 2013[44]	NSS (34)	1-2: NR(85.3) 3-4: NR(11.8)	NR	NR
Milonas, 2013[44]	RN (317)	1-2: NR(75.4) 3-4: NR(17.3)	NR	NR
Minervini, 2012[98]	RN (143)	1-2: 104(73.3) 3-4: 38(26.7)	NR	NR
Minervini, 2012[98]	TE (332)	1-2: 283(87.6) 3-4: 40(12.4)	NR	NR
Mitchell, 2006[69]	PN (33)	1-2: 25(75.8) 3-4: 7(21.2)	NR	NR
Mitchell, 2006[69]	RN (66)	1-2: 39(59.1) 3-4: 19(28.8)	NR	NR
Mitchell, 2011[118]	Ablation (50)	NR	Median: 7 Range: 4-11	NR
Mitchell, 2011[118]	PN (62)	NR	Median: 9 Range: 4-11	NR
Miyamoto, 2012[70]	RN (152)	NR	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	NR	NR
Miyamoto, 2012[70]	RN (152)	NR	NR	NR
Miyamoto, 2012[70]	PN (59)	NR	NR	NR
Mues, 2012[110]	Thermal Ablation (98)	NR	NR	NR
Mues, 2012[110]	Partial nephrectomy (PN) (100)	NR	NR	NR
Olweny, 2012[115]	RFA (37)	NR	NR	NR
Olweny, 2012[115]	PN (37)	NR	NR	NR
Pascal, 2011[107]	LPN (48)	NR	NR	NR
Pascal, 2011[107]	Laparoscopic Renal cryoablation (30)	NR	NR	NR
Patard, 2004[71]	PN (379)	1-2: 287(91.7) 3-4: 26(8.3)	NR	NR
Patard, 2004[71]	RN (1075)	1-2: 439(88) 3-4: 60(12)	NR	NR
Patard, 2004[71]	PN-T1a (314)	1-2: 287(91.7) 3-4: 26(8.3)	NR	NR
Patard, 2004[71]	RN T1a (499)	1-2: 439(88) 3-4: 60(12)	NR	NR
Patard, 2004[71]	PN-T1b (65)	1-2: 57(89.1) 3-4: 7(10.9)	NR	NR
Patard, 2004[71]	RN T1b (576)	1-2: 470(81.9) 3-4: 104(18.1)	NR	NR
Patel, 2014[121]	DT(Deferred Treatmet) (754)	NR	NR	NR
Patel, 2014[121]	PN (1849)	NR	NR	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
Patel, 2014[121]	RN (4574)	NR	NR	NR
Patel, 2014[120]	Non Surgical Management (754)	NR	NR	NR
Patel, 2014[120]	PN (1849)	NR	NR	NR
Patel, 2014[120]	RN (4574)	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic radical nephrectomy (549)	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic partial nephrectomy (345)	NR	NR	NR
Permpongkosol, 2007[127]	laproscopic tumor ablation (81)	NR	NR	NR
Roos, 2010[96]	Partial nephrectomy (NSS), for young (<55 years old) (36)	3-4: 4(11.1)	NR	NR
Roos, 2010[96]	Radical nephrectomy (NSS), for young (<55 years old) (45)	3-4: 6(13.3)	NR	NR
Roos, 2010[96]	Partial nephrectomy, for old (>65 years old) (33)	3-4: 3(9.1)	NR	NR
Roos, 2010[96]	Radical nephrectomy, for old (>65 years old) (52)	3-4: 13(23.6)	NR	NR
Roos, 2012[45]	NSS (101)	NR	NR	NR
Roos, 2012[45]	RN (146)	NR	NR	NR
Scosyrev, 2014[72]	RN (259)	NR	NR	NR
Scosyrev, 2014[72]	NSS (255)	NR	NR	NR
Shinohara, 2001[46]	NSS (15)	NR	NR	NR
Shinohara, 2001[46]	RN (51)	NR	NR	NR
Smaldone, 2012[73]	Overall (5496)	1-2: NR(82) 3-4: NR	NR	NR
Smaldone, 2012[73]	PN (1665)	NR	NR	NR
Smaldone, 2012[73]	RN (3831)	NR	NR	NR
Snow, 2008[92]	LPN (48)	NR	NR	NR
Snow, 2008[92]	LRN (37)	NR	NR	NR
Stern, 2007[111]	RFA (40)	NR	NR	NR
Stern, 2007[111]	PN (37)	NR	NR	NR
Sun, 2012[138]	PN (924)	NR	NR	NR
Sun, 2012[138]	RN (6600)	NR	NR	NR
Sun, 2012[138]	post-propensity RN (924)	NR	NR	NR
Sun, 2012[74]	PN (840)	NR	NR	NR
Sun, 2012[74]	RN (840)	NR	NR	NR
Sun, 2013[122]	NSM (3271)	1-2: 1354(41.4) 3-4: 1578(10.4)	NR	NR
Sun, 2013[122]	PN (1051)	1-2: 611(58.1) 3-4: 306(12.7)	NR	NR
Sun, 2013[122]	RN (6273)	1-2: 3241(51.7) 3-4: 2256(12.4)	NR	NR
takagi, 2011[75]	PN-eGFR 45 - 59 (30)	NR	NR	NR
takagi, 2011[75]	RN-eGFR 45 - 59 (38)	NR	NR	NR
takagi, 2011[75]	PN-eGFR 30 - 44 (14)	NR	NR	NR
takagi, 2011[75]	RN-eGFR 30 - 44 (13)	NR	NR	NR
Takaki, 2010[128]	RFA (51)	NR	NR	NR
Takaki, 2010[128]	RN (54)	NR	NR	NR
Takaki, 2010[128]	PN (10)	NR	NR	NR
Takaki, 2014[123]	RFA (21)	NR	NR	NR
Takaki, 2014[123]	RN (39)	NR	NR	NR
Tan, 2012[76]	PN (1925)	1-2: 1067(60.6) 3-4: 245(12.7)	NR	NR
Tan, 2012[76]	RN (5213)	1-2: 2948(56.6) 3-4: 647(12.4)	NR	NR
Tanagho, 2013[116]	Cryoablation (267)	NR	Mean: 6.4	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
			SD: 1.7	
Tanagho, 2013[116]	Robot assisted partial nephrectomy (233)	NR	Mean: 7.3 SD: 1.9	NR
Thompson, 2008[77]	PN (358)	NR	NR	NR
Thompson, 2008[77]	RN (290)	NR	NR	NR
Thompson, 2008[77]	PN-<65years (187)	NR	NR	NR
Thompson, 2008[77]	RN-<65years (140)	NR	NR	NR
Thompson, 2014[112]	cT1a-Partial Nephrectomy (1057)	NR	NR	NR
Thompson, 2014[112]	cT1a-Radiofrequency Ablation (180)	NR	NR	NR
Thompson, 2014[112]	cT1a-Cryoablation (187)	NR	NR	NR
Thompson, 2014[112]	cT1b-Partial Nephrectomy (326)	NR	NR	NR
Thompson, 2014[112]	cT1b-Cryoablation (53)	NR	NR	NR
Tomaszewski, 2014[78]	Overall (1092)	NR	Mean: 7.8 SD: 2	NR
Turna, 2009[113]	Laparoscopic partial nephrectomy (36)	NR	NR	NR
Turna, 2009[113]	Cryoablation (36)	NR	NR	NR
Turna, 2009[113]	Radiofrequency ablation (29)	NR	NR	NR
Uchida, 2004[79]	PN (54)	1-2: 52(NR) 3-4: 2(NR)	NR	NR
Uchida, 2004[79]	RN (51)	1-2: 49(NR) 3-4: 2(NR)	NR	NR
Uzzo, 1999[80]	RN (28)	NR	NR	NR
Uzzo, 1999[80]	NSS (52)	NR	NR	NR
Van Poppel, 2011[81]	NSS (268)	1-2: 197(77.5) 3-4: 19(7.1)	NR	NR
Van Poppel, 2011[81]	Radical nephrectomy (273)	1-2: 194(71) 3-4: 30(11)	NR	NR
Weight, 2010{#2282	PN-High Grade cohort (52)	NR	NR	NR
Weight, 2010[83]	RN-Upstaged Cohort (117)	NR	NR	NR
Weight, 2010[83]	PN-Upstaged Cohort (96)	NR	NR	NR
Weight, 2010[83]	RN-High Grade cohort (43)	NR	NR	NR
Weight, 2010[82]	RN (298)	1-2: 122(48) 3-4: 131(52)	NR	NR
Weight, 2010[82]	PN (212)	1-2: 112(67) 3-4: 54(33)	NR	NR
Weight,2010[84]	RN (480)	3-4: 213(52.5)	NR	NR
Weight,2010[84]	PN (524)	3-4: 170(40.2)	NR	NR
Whitson, 2012[114]	NSS (7704)	1-2: 5108(83) 3-4: 989(16)	NR	NR
Whitson, 2012[114]	Ablation (1114)	1-2: 463(90) 3-4: 47(9)	NR	NR
Woldu, 2014[85]	CKD 1 NSS (185)	NR	NR	NR
Woldu, 2014[85]	CKD 1 RN (179)	NR	NR	NR
Woldu, 2014[85]	CKD 2 NSS (261)	NR	NR	NR
Woldu, 2014[85]	CKD 2 RN (419)	NR	NR	NR
Woldu, 2014[85]	CKD 3 NSS (94)	NR	NR	NR
Woldu, 2014[85]	CKD 3 RN (168)	NR	NR	NR
Woldu, 2014[85]	Cohort (1306)	NR	NR	NR
Xu, 2014[47]	LRN (88)	NR	NR	NR
Xu, 2014[47]	ORN (526)	NR	NR	NR
Xu, 2014[47]	LPN (42)	NR	NR	NR
Xu, 2014[47]	OPN (187)	NR	NR	NR
Yasuda, 2012[86]	NSS (97)	NR	Median: 5 Range: 4.0-	NR

Author, year	Arm (n)	Fuhrman Grade	Nephrometry (R.E.N.A.L.) score	PADUA score
			10.0	
Yasuda, 2012[86]	RN (103)	NR	Median: 8 Range: 4.0-11.0	NR
Youn, 2013[119]	Open PN (14)	NR	NR	NR
Youn, 2013[119]	Laparascopic RFA (41)	NR	NR	NR
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade) (2153)	1-2: 1137(52.8) 3-4: 205(9.5)	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade) (5616)	1-2: 2662(47.4) 3-4: 488(8.7)	NR	NR
Zini, 2009[87]	Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (1283)	1-2: 1087(84.7) 3-4: 196(15.2)	NR	NR
Zini, 2009[87]	Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade) (3166)	1-2: 2722(86) 3-4: 444(14)	NR	NR
Zorn, 2007[93]	LPN (42)	NR	NR	NR
Zorn, 2007[93]	LRN (55)	NR	NR	NR
ACTIVE SURVEILLANCE (UNCONTROLLED STUDIES)				
Abouassaly, 2008[132]	Active Surveillance (110)	NR	NR	NR
Crispen, 2008[133]	Active Surveillance (109)	NR	NR	NR
Crispen, 2009[134]	Active Surveillance (173)	NR	NR	NR
Jewett, 2011[135]	Active Surveillance (178)	NR	NR	NR
Kunkle, 2007[136]	Active Surveillance (89)	NR	NR	NR
Leonard, 2013[36]	Active surveillance (133)	NR	NR	NR
Rosales, 2010[137]	Active Surveillance (212)	NR	NR	NR

CKD: Chronic Kidney Disease; DT: Deferred Treatment; GFR: Glomerular Filtration Rate; LCA: Laparoscopic Cryoablation LPN: Laparoscopic partial nephrectomy; LRFA: Laparoscopic Radio Frequency Ablation; LTA: Laparoscopic Thermal Ablation; MIPN: Minimally Invasive Partial Nephrectomy; MIRN: Minimally Invasive Radical Nephrectomy; NA: Not Applicable; NR: Not reported; NSM: Non surgical Management; NSS: Nephron-sparing surgery; OPN: Open partial nephrectomy; ORN: Open Radical Nephrectomy; PN: Partial Nephrectomy; RFA: Radio frequency ablation; RN: Radical nephrectomy; SD: Standard deviation; TE: Tumor Enucleation

Table D12: Outcomes Table

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Oncologic efficacy								
Antonelli, 2011[48]	Arm 1(RN-cT1a)	Local recurrence-free survival: n(%)	NA	NR	919	914(99.5)	NA	NR
Antonelli, 2011[48]	Arm 2(PN-cT1a)	Local recurrence-free survival: n(%)	NA	NR	1068	1063(99.5)	NA	NR
Antonelli, 2011[48]	Arm 3(RN-cT1b)	Local recurrence-free survival: n(%)	NA	NR	1426	1419(99.5)	NA	NR
Antonelli, 2011[48]	Arm 4(PN-cT1b)	Local recurrence-free survival: n(%)	NA	NR	198	196(99)	NA	NR
Antonelli, 2011[48]	Arm 1(RN-cT1a)	Cancer-specific survival: n(%)	NA	5years	919	NR(94.7)	NA	NR
Antonelli, 2011[48]	Arm 2(PN-cT1a)	Cancer-specific survival: n(%)	NA	5years	1068	NR(96.1)	NA	NR
Antonelli, 2011[48]	Arm 3(RN-cT1b)	Cancer-specific survival: n(%)	NA	5years	1426	NR(92.6)	NA	NR
Antonelli, 2011[48]	Arm 4(PN-cT1b)	Cancer-specific survival: n(%)	NA	5years	198	NR(90)	NA	NR
Antonelli, 2011[48]	Arm 1(RN-cT1a)	Cancer-specific survival: n(%)	NA	10years	919	NR(90.4)	NA	NR
Antonelli, 2011[48]	Arm 2(PN-cT1a)	Cancer-specific survival: n(%)	NA	10years	1068	NR(94.9)	NA	NR
Antonelli, 2011[48]	Arm 3(RN-cT1b)	Cancer-specific survival: n(%)	NA	10years	1426	NR(87)	NA	NR
Antonelli, 2011[48]	Arm 4(PN-cT1b)	Cancer-specific survival: n(%)	NA	10years	198	NR(90)	NA	NR
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN 95%CI: 0.65-1.27
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN 95%CI: 0.49-1.41
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN 95%CI: 0.60-1.85
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								95%CI: 0.44-1.70
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN 95%CI: 0.42-1.43
Badalato, 1997[50]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NANA	11256		NA	Comp. Arm: RN 95%CI: 0.66-1.48
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Cancer-specific survival: n(%)	NA	5	41	(97.5)	NA	NR>0.1
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5	48	(98.4)	NA	NR>0.1
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	5	41	38(92.7)	NA	NR
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	5	48	48(100)	NA	NR
Bedke, 2008[51]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	NR	398	361(90.7)	NA	NR
Bedke, 2008[51]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	NR	66	64(97)	NA	NR
Bedke, 2008[51]	Overall(7cm or less)	Cancer-specific survival: n(%)	NA	5years	464	(94.1)	NA	NR
Bedke, 2008[51]	Overall(7cm or less)	Cancer-specific survival: n(%)	NA	10years	464	(88.7)	NA	NR
Bedke, 2008[51]	Overall(7cm or more)	Cancer-specific survival: n(%)	NA	5years	464	(78.4)	NA	NR
Bensalah, 2007[101]	Arm 1(LPN)	Local recurrence-free survival: n(%)	NA	15months	50	50(100)	NA	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Local recurrence-free survival: n(%)	NA	25.2months	38	37(97.4)	NA	NR
Bensalah, 2007[101]	Arm 1(LPN)	Local recurrence-free survival: n(%)	NA	15months	50	50(100)	NA	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Local recurrence-free survival: n(%)	NA	25.2months	38	37(97.4)	NA	NR
Brewer, 2012[88]	Arm 1(MPN)	Incidence of chronic kidney disease : NR	NA	NR	45	NR(58)	NR	Comp. Arm: Arm 2 P: 0.591
Brewer, 2012[88]	Arm 2(MRN)	Incidence of chronic	NA	NR	108	NR(31)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		kidney disease : NR						
Chang, 2014[108]	Arm 1(RFA)	Cancer-specific survival: n(%)	NA	5	27	NR(92.6)	NA	Comp. Arm: Arm 2 P: 0.493
Chang, 2014[108]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5	29	NR(96.6)	NA	NR
Choueiri, 2011[125]	Arm 1(TA)	Cancer-specific survival: n(%)	NA	1years	578	NR(99.4)	NA	NR
Choueiri, 2011[125]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	1years	4402	NR(99.6)	NA	NR
Choueiri, 2011[125]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	1years	10165	NR(98.9)	NA	NR
Choueiri, 2011[125]	Arm 1(TA)	Cancer-specific survival: n(%)	NA	2years	578	NR(98)	NA	NR
Choueiri, 2011[125]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	2years	4402	NR(99.3)	NA	NR
Choueiri, 2011[125]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	2years	10165	NR(98)	NA	NR
Choueiri, 2011[125]	Arm 1(TA)	Cancer-specific survival: n(%)	NA	2years	578	NR	NA	Comp. Arm: PN HR: 0.6 95%CI: 0.28 - 1.28 P: 0.2
Crepel, 2010[53]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	5years	275	NR(91.4)	NA	Comp. Arm: Arm 2 P: 0.3
Crepel, 2010[53]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	5years	1100	NR(95.3)	NA	NR
Daugherty, 2014[55]	(Radical Nephrectomy)	Cancer-specific survival: n(%)	NA	5	494	NR(99.6)	NA	Comp. Arm: Arm 2 HR: 0.23 95%CI: 0.012-4.66 P: 0.34
Daugherty, 2014[55]	(Partial Nephrectomy)	Cancer-specific survival: n(%)	NA	5	222	NR(100)	NA	NR
Daugherty, 2014[55]	(Radical Nephrectomy)	Cancer-specific survival: n(%)	NA	10	494	NR(98.3)	NA	Comp. Arm: Arm 2 HR: 0.25 95%CI:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								0.047-1.32 P: 0.1
Daugherty, 2014[55]	(Partial Nephrectomy)	Cancer-specific survival: n(%)	NA	10	222	NR(100)	NA	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	33	33(100)	NA	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	52	52(100)	NA	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Metastasis-free survival: n(%)	NA	NR	33	33(NR)	NA	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Metastasis-free survival: n(%)	NA	NR	52	51(NR)	NA	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Incidence of chronic kidney disease : eGFR <60 ml/min	NA	15months	33	(30.3)	NR	NR0.04
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : eGFR <60 ml/min	NA	21months	52	(55.7)	NR	NR0.04
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Incidence of end-stage renal disease: end stage renal disease requiring dialysis	NA	15months	33	0	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Incidence of end-stage renal disease: end stage renal disease requiring dialysis	NA	21months	52	1	NR	NR
Deklaj, 2010[129]	Arm 1(LRN)	Creatinine measure: final eCrCl <60	NA	16.1months	11	NR(100)	NR	Comp. Arm: Arm 2 and 3 P: <0.0005
Deklaj, 2010[129]	Arm 2(LPN)	Creatinine measure: final eCrCl <60	NA	28.9months	17	NR(25)	NR	P: <0.0005
Deklaj, 2010[129]	Arm 3(LAT)	Creatinine measure: final eCrCl <60	NA	19.3months	11	NR(18.2)	NR	P: <0.0005
Desai, 2005[102]	Arm 1(Laparascopic PN)	Local recurrence-free survival: n(%)	NA	NR	153	152(99.4)	NA	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Local recurrence-free survival: n(%)	NA	NR	89	87(97)	NA	NR
Emara, 2014[103]	(Cryoablation)	Local recurrence-free	NA	mean	56	54(96)	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		survival: n(%)		31.3m				
Emara, 2014[103]	(Robot assisted partial nephrectomy)	Local recurrence-free survival: n(%)	NA	mean 16.5m	47	47(100)	NA	NR
Emara, 2014[103]	(Cryoablation)	Incidence of chronic kidney disease : GFR<60	NA	6 weeks	56	10(21.3)	NR	NR
Emara, 2014[103]	(Robot assisted partial nephrectomy)	Incidence of chronic kidney disease : GFR<60	NA	6 weeks	47	25(44.6)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Cancer-specific survival: n(%)	NA	Mean followup: 22months	36	35(97)	NA	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Cancer-specific survival: n(%)	NA	Mean followup: 22months	37	36(97)	NA	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Cancer-specific survival: n(%)	NA	Mean followup: 22months	44	43(98)	NA	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Metastasis-free survival: n(%)	NA	Mean followup: 22months	36	36(100)	NA	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Metastasis-free survival: n(%)	NA	Mean followup: 22months	37	34(92)	NA	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Metastasis-free survival: n(%)	NA	Mean followup: 22months	44	43(98)	NA	NR
Guillotreau, 2012[104]	Arm 1(RPN)	Local recurrence-free survival: n(%)	NA	NR	210	210(100)	NA	Comp. Arm: Arm 2 P: <0.0001
Guillotreau, 2012[104]	Arm 2(LCA)	Local recurrence-free survival: n(%)	NA	NR	226	201(88.9)	NA	NR
Guillotreau, 2012[104]	Arm 1(RPN)	Metastasis-free survival: n(%)	NA	NR	210	209(99.5)	NA	Comp. Arm: Arm 2 P: 0.0021
Guillotreau, 2012[104]	Arm 2(LCA)	Metastasis-free survival: n(%)	NA	NR	226	213(94.2)	NA	NR
Guillotreau,	Arm 1(RPN)	Incidence of chronic	NA	Last	210	26(12.2)	NR	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2012[104]		kidney disease : NR		follow upNR				Arm 2 P: 0.0002
Guillotreau, 2012[104]	Arm 2(LCA)	Incidence of chronic kidney disease : NR	NA	Last follow upNR	226	38(16.2)	NR	NR
Guillotreau, 2012[104]	Arm 1(RPN)	Incidence of end-stage renal disease: NR	NA	Last follow upNR	210	0(0)	NR	Comp. Arm: Arm 2 P: 0.0009
Guillotreau, 2012[104]	Arm 2(LCA)	Incidence of end-stage renal disease: NR	NA	Last follow upNR	226	11(4.7)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Local recurrence-free survival: n(%)	NA	NR	75	74(98.7)	NA	NR
Haramis, 2012[105]	Arm 2(LPN)	Local recurrence-free survival: n(%)	NA	NR	92	90(97.8)	NA	NR
Houston, 2009[56]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	NR	873	583(66.8)	NA	NR
Houston, 2009[56]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	NR	286	231(80.8)	NA	NR
Huang, 2006[57]	Arm 1(GFR>60 partial)	Incidence of chronic kidney disease : freedom from new onset	NA	3year	287	NR(80)	95%CI: 73-85 P: NR	NR
Huang, 2006[57]	Arm 1(GFR>60 partial)	Incidence of chronic kidney disease : freedom from new onset	NA	5year	287	NR(67)	95%CI: 57-75 P: NR	NR
Huang, 2006[57]	Arm 2(GFR>60 radical)	Incidence of chronic kidney disease : freedom from new onset	NA	3year	204	NR(35)	95%CI: 28-43 P: NR	NR
Huang, 2006[57]	Arm 2(GFR>60 radical)	Incidence of chronic kidney disease : freedom from new onset	NA	5year	204	NR(23)	95%CI: 16-30 P: NR	Comp. Arm: Arm 1 HR: 3.82 95%CI: 2.75-5.32 P: <0.0001
Huang, 2006[57]	Arm 3(GFR>45 partial)	Incidence of chronic kidney disease : freedom from new	NA	3year	385	NR(95)	95%CI: 91-98 P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		onset						
Huang, 2006[57]	Arm 3(GFR>45 partial)	Incidence of chronic kidney disease : freedom from new onset	NA	5year	385	NR(93)	95%CI: 87-96 P: NR	NR
Huang, 2006[57]	Arm 4(GFR>45 radical)	Incidence of chronic kidney disease : freedom from new onset	NA	3year	262	NR(64)	95%CI: 56-70 P: NR	NR
Huang, 2006[57]	Arm 4(GFR>45 radical)	Incidence of chronic kidney disease : freedom from new onset	NA	5year	262	NR(57)	95%CI: 50-64 P: NR	Comp. Arm: Arm 3 HR: 11.8 95%CI: 6.24-22.4 P: <0.0001
Huang, 2009[58]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NR	556	548(98.6)	NA	NR
Huang, 2009[58]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	NR	2435	2336(96)	NA	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	67	NR(95)	NA	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	195	NR(100)	NA	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	324	NR(99)	NA	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Metastasis-free survival: n(%)	NA	NR	67	NR(93)	NA	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Metastasis-free survival: n(%)	NA	NR	195	NR(86)	NA	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Metastasis-free survival: n(%)	NA	NR	324	NR(98)	NA	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Cancer-specific survival: n(%)	NA	NR	67	NR(99)	NA	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Cancer-specific survival: n(%)	NA	NR	195	NR(92)	NA	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Cancer-specific survival: n(%)	NA	NR	324	NR(99)	NA	NR
Indudhara, 1997[41]	Arm 1(nephron sparing surgery)	Metastasis-free survival: n(%)	NA	3.1	35	34	NA	Comp. Arm: NA RR: NA HR: NA

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara, 1997[41]	Arm 2(radical nephrectomy)	Metastasis-free survival: n(%)	NA	3.9	71	71(1)	NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara, 1997[41]	Arm 1(nephron sparing surgery)	Cancer-specific survival: n(%)	NA	3.1	35	35(1)	NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara, 1997[41]	Arm 2(radical nephrectomy)	Cancer-specific survival: n(%)	NA	3.9	71	71(1)	NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara, 1997[41]	Arm 1(nephron sparing surgery)	Local recurrence-free survival: n(%)	NA	3.1	35	34(0.971428571428571)	NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								SD: NA P: NA
Indudhara, 1997[41]	Arm 2(radical nephrectomy)	Local recurrence-free survival: n(%)	NA	3.9	71	71(1)	NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Janetschek, 2000[90]	Arm 1(Wedge-resection)	Local recurrence-free survival: n(%)	NA	1	25	0(0)	NA	NR
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	Local recurrence-free survival: n(%)	NA	1	73	0(0)	NA	NR
Jeon, 2009[99]	Arm 1(PN)	Incidence of chronic kidney disease : CKD	NA	35months	96	11(11.5)	NR	Comp. Arm: Arm 2 HR: 0.11 95%CI: 0.06-0.22 P: <0.001
Jeon, 2009[99]	Arm 2(RN)	Incidence of chronic kidney disease : CKD	NA	35months	129	86(66.7)	NR	NR
Jeon, 2009[99]	Arm 1(PN)	Incidence of chronic kidney disease : freedom from CKD	NA	2years	96	NR(95.7)	NR	Comp. Arm: Arm 2 P: <0.01
Jeon, 2009[99]	Arm 2(RN)	Incidence of chronic kidney disease : freedom from CKD	NA	2years	129	NR(58.3)	NR	Comp. Arm: Arm 1 P: <0.01
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Incidence of chronic kidney disease : NR	NA	NR	211	40(19)	NR	Comp. Arm: Arms 2 - 5 P: <0.001
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Incidence of chronic kidney disease : NR	NA	NR	160	28(17.5)	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Incidence of chronic kidney disease : NR	NA	NR	330	74(23)	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Incidence of chronic kidney disease : NR	NA	NR	535	191(35.6)	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Incidence of chronic kidney disease : NR	NA	NR	404	138(33.9)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	59	59(100)	NA	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	59	59(100)	NA	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Metastasis-free survival: n(%)	NA	NR	59	59(100)	NA	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Metastasis-free survival: n(%)	NA	NR	59	59(100)	NA	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Local recurrence-free survival: n(%)	NA	NR	NR	NR(83)	NA	Comp. Arm: Arm 2 P: 0.015
Klatte, 2011[117]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	NR	NR	NR(100)	NA	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Metastasis-free survival: n(%)	NA	NR	NR	0(100)	NA	NR
Klatte, 2011[117]	Arm 2(PN)	Metastasis-free survival: n(%)	NA	NR	NR	0(100)	NA	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Cancer-specific survival: n(%)	NA	NR	NR	0(100)	NA	NR
Klatte, 2011[117]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	NR	NR	0(100)	NA	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Incidence of chronic kidney disease : NR	NA	3months	41	4(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Incidence of chronic kidney disease : NR	NA	3months	82	2(NR)	NR	NR
Kopp, 2014[60]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	5	122	NR(82.5)	NA	Comp. Arm: Arm 2 P: 0.407
Kopp, 2014[60]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5	80	NR(86.7)	NA	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Cancer-specific survival: n(%)	NA		82	3(3.7)	NA	NR0.279
Kyung, 2014[61]	(Partial Nephrectomy)	Cancer-specific survival: n(%)	NA		53	0(0)	NA	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Metastasis-free survival: n(%)	NA		82	5(6.1)	NA	NR0.403
Kyung, 2014[61]	(Partial Nephrectomy)	Metastasis-free survival: n(%)	NA		53	1(1.9)	NA	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Incidence of chronic kidney disease :	NA	NR	82	23(28.3)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Newly diagnosed CKD after surgery						
Kyung, 2014[61]	(Partial Nephrectomy)	Incidence of chronic kidney disease : Newly diagnosed CKD after surgery	NA	NR	53	10(18.4)	NR	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Incidence of chronic kidney disease : CKD>3	NA	NR	82	58(70.7)	NR	NR
Kyung, 2014[61]	(Partial Nephrectomy)	Incidence of chronic kidney disease : CKD>3	NA	NR	53	23(43.4)	NR	NR
Lane, 2010[62]	Arm 1(PN Limited ischemia)	Cancer-specific survival: n(%)	NA	5years	804	NR(98.7)	NA	NR
Lane, 2010[62]	Arm 2(PN Unknown ischemia)	Cancer-specific survival: n(%)	NA	5years	546	NR(99)	NA	NR
Lane, 2010[62]	Arm 3(PN Extended ischemia)	Cancer-specific survival: n(%)	NA	5years	483	NR(99.1)	NA	NR
Lane, 2010[62]	Arm 4(RN)	Cancer-specific survival: n(%)	NA	5years	569	NR(93.8)	NA	Comp. Arm: all PN P: <0.001
Lane, 2010[62]	Arm 1(PN Limited ischemia)	Incidence of end-stage renal disease: eGFR<15ml/min/1.73 m2	NA	last follow upNA	804	NR(0.3)	NR	NR
Lane, 2010[62]	Arm 2(PN Unknown ischemia)	Incidence of end-stage renal disease: eGFR<15ml/min/1.73 m2	NA	last follow upNA	546	NR(0.9)	NR	NR
Lane, 2010[62]	Arm 3(PN Extended ischemia)	Incidence of end-stage renal disease: eGFR<15ml/min/1.73 m2	NA	last follow upNA	483	NR(1.1)	NR	NR
Lane, 2010[62]	Arm 4(RN)	Incidence of end-stage renal disease: eGFR<15ml/min/1.73 m2	NA	last follow upNA	569	NR(1.8)	NR	NR
Lane, 2010[62]	Arm 1(PN Limited ischemia)	Incidence of chronic kidney disease : <45	NA	last follow up	804	(11)	NR	NR
Lane, 2010[62]	Arm 2(PN Unknown	Incidence of chronic	NA	last follow	546	(15)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	ischemia)	kidney disease : <45		up				
Lane, 2010[62]	Arm 3(PN Extended ischemia)	Incidence of chronic kidney disease : <45	NA	last follow up	483	(19)	NR	NR
Lane, 2010[62]	Arm 4(RN)	Incidence of chronic kidney disease : <45	NA	last follow up	569	(35)	NR	NR
Lane, 2010[124]	Arm 1(Active surveillance)	Cancer-specific survival: n(%)	NA	5years	105	NR(94.2)	NA	Comp. Arm: Arm 2 P: 0.33
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Cancer-specific survival: n(%)	NA	5years	146	NR(90.7)	NA	NR
Lane, 2010[124]	Arm 1(Active surveillance)	Local recurrence-free survival: n(%)	NA	NRyears	105	64(61)	NA	NR
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Local recurrence-free survival: n(%)	NA	NRyears	146	105(72)	NA	NR
Lane, 2010[124]	Arm 1(Active surveillance)	Metastasis-free survival: n(%)	NA	NRyears	105	64(61)	NA	NR
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Metastasis-free survival: n(%)	NA	NRyears	146	104(71.3)	NA	NR
Lane, 2010[124]	Arm 1(Active surveillance)	Incidence of chronic kidney disease : CKD stage >/=3	NA	NR	52	3(5.8)	NR	NR
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Incidence of chronic kidney disease : CKD stage >/=3	NA	NR	89	68(76.4)	NR	NR
Li, 2007[63]	Arm 1(PN)	Local recurrence-free survival: n(%)	NA	NR	35	35(100)	NA	NR
Li, 2007[63]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	NR	128	NR	NA	NR
Li, 2007[63]	Arm 1(PN)	Metastasis-free survival: n(%)	NA	NR	35	35(100)	NA	NR
Li, 2007[63]	Arm 2(RN)	Metastasis-free survival: n(%)	NA	NR	128	NR	NA	NR
Li, 2007[63]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NR	35	35(100)	NA	NR
Li, 2007[63]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	NR	128	115(89.8)	NA	NR
Lucas, 2007[126]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	40months	86	80	NA	NR
Lucas, 2007[126]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	44months	85	83	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Lucas, 2007[126]	Arm 3(RN)	Local recurrence-free survival: n(%)	NA	26months	71	71	NA	NR
Lucas, 2007[126]	Arm 1(RFA)	Metastasis-free survival: n(%)	NA	40months	86	86	NA	NR
Lucas, 2007[126]	Arm 2(PN)	Metastasis-free survival: n(%)	NA	44months	85	85	NA	NR
Lucas, 2007[126]	Arm 3(RN)	Metastasis-free survival: n(%)	NA	26months	71	69	NA	NR
Lucas, 2007[126]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	40months	86	80	NA	NR
Lucas, 2007[126]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	44months	85	83	NA	NR
Lucas, 2007[126]	Arm 3(RN)	Local recurrence-free survival: n(%)	NA	26months	71	71	NA	NR
Lucas, 2007[126]	Arm 1(RFA)	Metastasis-free survival: n(%)	NA	40months	86	86	NA	NR
Lucas, 2007[126]	Arm 2(PN)	Metastasis-free survival: n(%)	NA	44months	85	85	NA	NR
Lucas, 2007[126]	Arm 3(RN)	Metastasis-free survival: n(%)	NA	26months	71	69	NA	NR
Lucas, 2007[126]	Arm 1(RFA)	Incidence of chronic kidney disease : CKD-3	NA	22months	36	18(NR)	NR	Comp. Arm: 2 and 3 P: <0.001
Lucas, 2007[126]	Arm 2(PN)	Incidence of chronic kidney disease : CKD-3	NA	24months	48	9(NR)	NR	NR
Lucas, 2007[126]	Arm 3(RN)	Incidence of chronic kidney disease : CKD-3	NA	45.5months	50	1(NR)	NR	NR
Lucas, 2007[126]	Arm 1(RFA)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	86	1(NR)	NR	NR
Lucas, 2007[126]	Arm 2(PN)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	85	1(NR)	NR	NR
Lucas, 2007[126]	Arm 3(RN)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	71	2(NR)	NR	NR
Lucas, 2007[126]	Arm 1(RFA)	Incidence of chronic kidney disease :	NA	22months	36	18(NR)	NR	Comp. Arm: 2 and 3 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		CKD-3						<0.001
Lucas, 2007[126]	Arm 2(PN)	Incidence of chronic kidney disease : CKD-3	NA	24months	48	9(NR)	NR	NR
Lucas, 2007[126]	Arm 3(RN)	Incidence of chronic kidney disease : CKD-3	NA	45.5months	50	1(NR)	NR	NR
Lucas, 2007[126]	Arm 1(RFA)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	86	1(NR)	NR	NR
Lucas, 2007[126]	Arm 2(PN)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	85	1(NR)	NR	NR
Lucas, 2007[126]	Arm 3(RN)	Incidence of end-stage renal disease: Need for dialysis	NA	NR	71	2(NR)	NR	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Metastasis-free survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Metastasis-free survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Cancer-specific survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	NR	44	44(100)	NA	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Incidence of chronic kidney disease : Development of new-onset CKD	NA	6 months	44	9(20)	NR	NR
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : Development of new-onset CKD	NA	6 months	44	20(43)	NR	NR
McKiernan, 2002[66]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	5	117	1(96.4)	NA	NR>0.05
McKiernan, 2002[66]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	5	173	2(98.6)	NA	NR>0.05

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
McKiernan, 2002[66]	Arm 1(Partial nephrectomy)	Incidence of chronic kidney disease : Renal Failure	NA	3 years	117	NR(0)	NR	NR
McKiernan, 2002[66]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : Renal Failure	NA	3 years	173	NR(0.1)	NR	NR
McKiernan, 2002[66]	Arm 1(Partial nephrectomy)	Incidence of chronic kidney disease : Renal Failure	NA	5 years	117	0(0)	NR	NR
McKiernan, 2002[66]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : Renal Failure	NA	5 years	173	16(0.15)	NR	NR
Medina-Polo, 2011[67]	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	48months	174	120	NA	NR
Medina-Polo, 2011[67]	Overall(Overall)	Local recurrence-free survival: n(%)	NA	48months	245	239	NA	NR
Medina-Polo, 2011[67]	Overall(Overall)	Metastasis-free survival: n(%)	NA	48months	245	224	NA	NR
Medina-Polo, 2011[67]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	48months	116	98	NA	NR
Medina-Polo, 2011[67]	Arm 1(NSS)	Incidence of chronic kidney disease : mild renal failure (<60 ml/min/1.73m^2)	NA	4years	86	28(32.6)	NR	NR0.002
Medina-Polo, 2011[67]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : mild renal failure (<60 ml/min/1.73m^2)	NA	4years	132	75(56.8)	NR	NR0.002
Medina-Polo, 2011[67]	Arm 1(NSS)	Incidence of chronic kidney disease : moderate renal failure (<40 ml/min/1.73m^2)	NA	4years	86	3(14.4)	NR	NR
Medina-Polo, 2011[67]	Arm 2(Radical nephrectomy)	Incidence of chronic kidney disease : moderate renal failure (<40 ml/min/1.73m^2)	NA	4years	132	19(3.4)	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS)	Incidence of chronic kidney disease : periodical dialysis	NA	4years	86	1(NR)	NR	NR
Medina-Polo,	Arm 2(Radical	Incidence of chronic	NA	4years	132	4(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2011[67]	nephrectomy)	kidney disease : periodical dialysis						
Meskawi, 2014[68]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	5year	6104	(4.4)	NA	NR
Meskawi, 2014[68]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	10year	6104	(6.1)	NA	NR0.03
Meskawi, 2014[68]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5year	1526	(6)	NA	NR
Meskawi, 2014[68]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	10year	1526	(10.4)	NA	Comp. Arm: PN 95%CI: 0.65-1.26 P: 0.6
Milonas, 2013[44]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	5	34	NR(97.1)	NA	NR
Milonas, 2013[44]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	5	317	NR(80.9)	NA	NR
Milonas, 2013[44]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	7	34	NR(80.6)	NA	NR
Milonas, 2013[44]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	7	317	NR(76.4)	NA	NR
Milonas, 2013[44]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	12	34	NR(80.6)	NA	Comp. Arm: Arm 2 P: 0.198
Milonas, 2013[44]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	12	317	NR(69.6)	NA	NR
Minervini, 2012[98]	Arm 1(RN)	Local recurrence-free survival: n(%)	NA	NR	143	143(100)	NA	NR
Minervini, 2012[98]	Arm 2(TE)	Local recurrence-free survival: n(%)	NA	NR	332	329(99.1)	NA	NR
Minervini, 2012[98]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	5years	143	NR(92.1)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE)	Cancer-specific survival: n(%)	NA	5years	332	NR(94.4)	NA	NR
Minervini, 2012[98]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	10years	143	NR(89.4)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE)	Cancer-specific survival: n(%)	NA	10years	332	NR(94.4)	NA	NR
Minervini, 2012[98]	Arm 1(RN-Fuhrman	Cancer-specific	NA	6years	NR	NR(98.5)	NA	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	Grade 1-2)	survival: n(%)						Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE-Fuhrman Grade 1-2)	Cancer-specific survival: n(%)	NA	6years	NR	NR(96.8)	NA	NR
Minervini, 2012[98]	Arm 1(RN-Fuhrman Grade 3)	Cancer-specific survival: n(%)	NA	6years	NR	NR(84.8)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE-Fuhrman Grade 3)	Cancer-specific survival: n(%)	NA	6years	NR	NR(83.1)	NA	NR
Minervini, 2012[98]	Arm 1(RN-Fuhrman Grade 4)	Cancer-specific survival: n(%)	NA	6years	NR	NR(20.8)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE-Fuhrman Grade 4)	Cancer-specific survival: n(%)	NA	6years	NR	NR(0)	NA	NR
Minervini, 2012[98]	Arm 1(RN-pT1a)	Cancer-specific survival: n(%)	NA	10years	NR	NR(92.2)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE-pT1a)	Cancer-specific survival: n(%)	NA	10years	NR	NR(95.1)	NA	NR
Minervini, 2012[98]	Arm 1(RN-pT1b)	Cancer-specific survival: n(%)	NA	10years	NR	NR(87.6)	NA	Comp. Arm: Arm 2 P: NS
Minervini, 2012[98]	Arm 2(TE-pT1a)	Cancer-specific survival: n(%)	NA	10years	NR	NR(90.5)	NA	NR
Mitchell, 2005[69]	Arm 1(PN)	Local recurrence-free survival: n(%)	NA	5year	33	NR(93.5)	NA	P: 0.471
Mitchell, 2005[69]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	5year	66	NR(83.3)	NA	NR
Mitchell, 2005[69]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	5year	33	NR(96.2)	NA	P: 0.893
Mitchell, 2005[69]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	5year	66	NR(97.8)	NA	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Incidence of chronic kidney disease : Stage 1	NA	3months	50	1(2)	NR	NR
Mitchell, 2011[118]	Arm 2(PN)	Incidence of chronic kidney disease : Stage 1	NA	3months	62	1(2)	NR	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Incidence of chronic kidney disease :	NA	3months	50	10(20)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Stage 2						
Mitchell, 2011[118]	Arm 2(PN)	Incidence of chronic kidney disease : Stage 2	NA	3months	62	14(23)	NR	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Incidence of chronic kidney disease : Stage 2	NA	3months	50	36(72)	NR	NR
Mitchell, 2011[118]	Arm 2(PN)	Incidence of chronic kidney disease : Stage 3	NA	3months	62	40(65)	NR	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Incidence of chronic kidney disease : Stage 4	NA	3months	50	3(6)	NR	NR
Mitchell, 2011[118]	Arm 2(PN)	Incidence of chronic kidney disease : Stage 4	NA	3months	62	7(11)	NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Incidence of end-stage renal disease: Chronic renal failure	NA	60 months	152	1(0.00657894736842105)	NR	NR
Miyamoto, 2012[70]	Arm 2(PN)	Incidence of end-stage renal disease: Chronic renal failure	NA	60 months	59	0(0)	NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Glomerular filtration rate decline: GFR<60	NA	NR	152	117(77)	NR	Comp. Arm: PN 0.068 RD: 95%CI: 0.029-0.158 <0.001
Miyamoto, 2012[70]	Arm 2(PN)	Glomerular filtration rate decline: GFR<60	NA	NR	59	35(23)	NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Local recurrence-free survival: n(%)	NA	31months	98	3(3.1)	NA	Comp. Arm: Partial Nephrectomy P: 0.25
Mues, 2012[110]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	24months	100	0(0)	NA	NR
Mues, 2012[110]	Arm 1(Ablation)	Local recurrence-free survival: n(%)	NA	31months	98	7(7.1)	NA	Comp. Arm: Partial Nephrectomy P: 0.04

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Mues, 2012[110]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	24months	100	3(3)	NA	NR
Mues, 2012[110]	Arm 1(Ablation)	Local recurrence-free survival: n(%)	NA	31months	98	10(10.2)	NA	NR
Mues, 2012[110]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	24months	100	3(3)	NA	NR
Mues, 2012[110]	Arm 1(Ablation)	Metastasis-free survival: n(%)	NA	31months	98	2(2)	NA	P: 0.33
Mues, 2012[110]	Arm 2(PN)	Metastasis-free survival: n(%)	NA	24months	100	1(1)	NA	NR
Mues, 2012[110]	Overall(Ablation + PN)	Incidence of chronic kidney disease : eGFR<60 ml/min/1.73 m2	NA	3months	84	19(23)	NR	NR
Mues, 2012[110]	Overall(Ablation + PN)	Incidence of end-stage renal disease: eGFR<15 ml/min/1.73 m2	NA	NR	84	1(1.2)	NR	NR
Mues, 2012[110]	Overall(Ablation + PN)	Incidence of chronic kidney disease : eGFR<60 ml/min/1.73 m2	NA	12months	84	15(18)	NR	NR
Olweny, 2012[115]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	5years	37	NR(91.7)	NA	NR
Olweny, 2012[115]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	5years	37	NR(94.6)	NA	NR
Olweny, 2012[115]	Arm 1(RFA)	Metastasis-free survival: n(%)	NA	5years	37	NR(97.2)	NA	NR
Olweny, 2012[115]	Arm 2(PN)	Metastasis-free survival: n(%)	NA	5years	37	NR(91.8)	NA	NR
Olweny, 2012[115]	Arm 1(RFA)	Cancer-specific survival: n(%)	NA	5years	37	NR(97.2)	NA	NR
Olweny, 2012[115]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5years	37	NR(100)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Cancer-specific survival: n(%)	NA	3years	48	48(100)	NA	Comp. Arm: Arm 2 P: <0.05
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Cancer-specific survival: n(%)	NA	3years	30	NR(93)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Cancer-specific	NA	5years	48	48(100)	NA	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		survival: n(%)						Arm 2 P: <0.05
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Cancer-specific survival: n(%)	NA	5years	30	NR(88)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Local recurrence-free survival: n(%)	NA	3years	48	48(100)	NA	Comp. Arm: Arm 2 P: <0.05
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Local recurrence-free survival: n(%)	NA	3years	30	NR(92)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Local recurrence-free survival: n(%)	NA	5years	48	48(100)	NA	Comp. Arm: Arm 2 P: <0.05
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Local recurrence-free survival: n(%)	NA	5years	30	NR(86)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Metastasis-free survival: n(%)	NA	NRyears	48	47(97.9)	NA	Comp. Arm: Arm 2 P: 0.05
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Metastasis-free survival: n(%)	NA	NRyears	30	26(96.7)	NA	NR
Pascal, 2011[107]	Arm 1(LPN)	Incidence of end-stage renal disease: Permanent dialysis	NA	NR	48	2(4.2)	NR	Comp. Arm: Arm 2 P: 0.263
Pascal, 2011[107]	Arm 2(Laparoscopic cryoablation)	Incidence of end-stage renal disease: Permanent dialysis	NA	NR	30	0(0)	NR	NR
Pascal, 2011[107]	Arm 1(LPN)	Incidence of chronic kidney disease : CKD Stage Increase	NA	NR	48	19(39.5)	NR	Comp. Arm: Arm 2 P: 0.01
Pascal, 2011[107]	Arm 2(Laparoscopic cryoablation)	Incidence of chronic kidney disease : CKD Stage Increase	NA	NR	30	4(13.3)	NR	NR
Patard, 2004[71]	Arm 1(PN-T1a)	Local recurrence-free survival: n(%)	NA	42months	544	NR(99.2)	NA	Comp. Arm: PNT1b P: 0.2
Patard, 2004[71]	Arm 2(RN T1a)	Local recurrence-free survival: n(%)	NA	42months	544	NR(99.4)	NA	Comp. Arm: RNT1b P: 0.001
Patard, 2004[71]	Arm 3(PN-T1b)	Local recurrence-free survival: n(%)	NA	42months	544	NR(96.4)	NA	NR
Patard, 2004[71]	Arm 4(RN T1b)	Local recurrence-free	NA	42months	544	NR(97.7)	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		survival: n(%)						
Patard, 2004[71]	Arm 1(PN-T1a)	Cancer-specific survival: n(%)	NA	51months	314	307(97.8)	NA	Comp. Arm: All T1a: PN v RN P: 0.7
Patard, 2004[71]	Arm 2(RN T1a)	Cancer-specific survival: n(%)	NA	51months	499	486(97.4)	NA	NR
Patard, 2004[71]	Arm 3(PN-T1b)	Cancer-specific survival: n(%)	NA	51months	65	61(93.8)	NA	Comp. Arm: All T1b: PN v RN P: 0.8
Patard, 2004[71]	Arm 4(RN T1b)	Cancer-specific survival: n(%)	NA	51months	576	524(91)	NA	NR
Patel, 2014[120]	Arm 1(Non Surgical Management)	Cancer-specific survival: n(%)	NA	1	754	NR(95.9)	NA	NR
Patel, 2014[120]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	1	1849	NR(99.6)	NA	NR
Patel, 2014[120]	Arm 1(Non Surgical Management <75 years)	Cancer-specific survival: n(%)	NA	5	754	NR	NA	Comp. Arm: Arm 2 HR: 0.64 95%CI: 0.28 to -1.46 P: 0.29
Patel, 2014[120]	Arm 2(PN<75 years)	Cancer-specific survival: n(%)	NA	5	1849	NR	NA	Comp. Arm: Arm 3 HR: 0.75 95%CI: 0.45 - 1.26 P: 0.28
Patel, 2014[120]	Arm 1(Non Surgical Management 75-<80years)	Cancer-specific survival: n(%)	NA	5	754	NR	NA	Comp. Arm: Arm 2 HR: 0.27 95%CI: 0.12 to -0.58 P: <0.01
Patel, 2014[120]	Arm 3(RN>/=80years)	Cancer-specific survival: n(%)	NA	5	4574	NR	NA	Comp. Arm: Arm 1 HR: 0.68 95%CI: 0.45 - 1.04 P: 0.08
Patel, 2014	Arm 1(DT(Deferred	Cancer-specific	NA	100	754	NR(78)	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
[121]	Treatmet)-Low Cardiovascular risk)	survival: n(%)		months				
Patel, 2014 [121]	Arm 3(RN-Low Cardiovascular risk)	Cancer-specific survival: n(%)	NA	100 months	4574	NR(91)	NA	Comp. Arm: Arm 2 HR: 0.55 95%CI: 0.39 - 0.79 P: <0.01
Patel, 2014, [121]	Arm 2(PN-High Cardiovascular risk)	Cancer-specific survival: n(%)	NA	100 months	1849	NR(87)	NA	Comp. Arm: Arm 1 HR: 0.59 95%CI: 0.25 - 1.41 P: 0.23
Patel, 2014[121]	Arm 2(PN-Low Cardiovascular risk)	Cancer-specific survival: n(%)	NA	100 months	1849	NR(94)	NA	Comp. Arm: Arm 1 HR: 0.33 95%CI: 0.2 - 0.53 P: <0.01
Patel, 2014[121]	Arm 1(DT(Deferred Treatmet)-High Cardiovascular risk)	Cancer-specific survival: n(%)	NA	100 months	754	NR(78)	NA	NR
Patel, 2014[121]	Arm 3(RN-High Cardiovascular risk)	Cancer-specific survival: n(%)	NA	100 months	4574	NR(78)	NA	Comp. Arm: Arm 2 HR: 0.42 95%CI: 0.46 - 1.43 P: 0.47
Patel, 2014[120]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	1	4574	NR(99.2)	NA	NR
Patel, 2014[120]	Arm 1(Non Surgical Management)	Cancer-specific survival: n(%)	NA	3	754	NR(89.4)	NA	NR
Patel, 2014[120]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	3	1849	NR(98.1)	NA	NR
Patel, 2014[120]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	3	4574	NR(96.5)	NA	NR
Patel, 2014[120]	Arm 1(Non Surgical Management)	Cancer-specific survival: n(%)	NA	5	754	NR(82.5)	NA	Comp. Arm: Arm 2 HR: 0.42

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								95%CI: 0.27 - 0.64 P: <0.01
Patel, 2014[120]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5	1849	NR(96.7)	NA	Comp. Arm: Arm 3 HR: 0.67 95%CI: 0.47 - 0.95 P: 0.03
Patel, 2014[120]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	5	4574	NR(93.5)	NA	Comp. Arm: Arm 1 HR: 0.62 95%CI: 0.46 - 0.85 P: <0.01
Patel, 2014[120]	Arm 3(RN<75 years)	Cancer-specific survival: n(%)	NA	5	4574	NR	NA	Comp. Arm: Arm 1 HR: 0.86 95%CI: 0.42 - 1.74 P: 0.67
Patel, 2014[120]	Arm 2(PN75-<80years)	Cancer-specific survival: n(%)	NA	5	1849	NR	NA	Comp. Arm: Arm 3 HR: 0.66 95%CI: 0.34 - 1.30 P: 0.23
Patel, 2014[120]	Arm 3(RN75-<80years)	Cancer-specific survival: n(%)	NA	5	4574	NR	NA	Comp. Arm: Arm 1 HR: 0.4 95%CI: 0.22 - 0.73 P: <0.01
Patel, 2014[120]	Arm 1(Non Surgical Management>/=80years)	Cancer-specific survival: n(%)	NA	5	754	NR	NA	Comp. Arm: Arm 2 HR: 0.41 95%CI: 0.19 to -0.91 P: 0.03
Patel, 2014[120]	Arm 2(PN>/=80years)	Cancer-specific	NA	5	1849	NR	NA	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		survival: n(%)						Arm 3 HR: 0.6 95%CI: 0.29 - 1.26 P: 0.18
Renal Functional Outcomes Categorical								
Roos, 2010 [96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Cancer-specific survival: n(%)	NA	Median 4.18Years	32	31	NA	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Cancer-specific survival: n(%)	NA	Median 4.8 yearsYears	36	34	NA	NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Cancer-specific survival: n(%)	NA	Median 7.81Years	37	35	NA	NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Cancer-specific survival: n(%)	NA	NRYears	39	38	NA	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Incidence of chronic kidney disease : eGFR <60 ml/min/1.73m^2	NA	>30 days	36	2(5.6)	NR	Between arm1 and arm2, p=0.009, between young and old, p=NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Incidence of chronic kidney disease : eGFR <60 ml/min/1.73m^2	NA	>30 days	45	14(31.1)	NR	Between arm1 and arm2, p=0.009, between young and old, p=NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Incidence of chronic kidney disease : eGFR <60	NA	>30 days	33	8(24.2)	NR	Between arm3 and arm4,

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		ml/min/1.73m^2						p<0.001, between young and old, p=NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Incidence of chronic kidney disease : eGFR <60 ml/min/1.73m^2	NA	>30 days	55	28(50.9)	NR	Between arm3 and arm4, p<0.001, between young and old, p=NR
Roos, 2012[45]	Arm 1(NSS)	Local recurrence-free survival: n(%)	NA	NR	101	99(98)	NA	NR
Roos, 2012[45]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	NR	146	145(99.3)	NA	NR
Roos, 2012[45]	Arm 1(NSS)	Metastasis-free survival: n(%)	NA	NR	101	94(93.1)	NA	NR
Roos, 2012[45]	Arm 2(RN)	Metastasis-free survival: n(%)	NA	NR	146	136(93.8)	NA	NR
Roos, 2012[45]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	5years	101	NR(94)	NA	NR
Roos, 2012[45]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	5years	146	NR(97)	NA	NR
Roos, 2012[45]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	10years	101	NR(91)	NA	NR
Roos, 2012[45]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	10years	146	NR(95)	NA	NR
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Cancer-specific survival: n(%)	NA	4.7years	16	16(100)	NA	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Cancer-specific survival: n(%)	NA	2.3years	28	2(92.9)	NA	NR
Roos, 2012[45]	Arm 1(NSS)	Incidence of chronic kidney disease : stage 3 ckd	NA	4.86 years	101	14(13.8)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Incidence of chronic kidney disease : stage 3 ckd	NA	6.48 years	146	62(42.5)	NR	NR
Scosyrev, 2014[72]	Arm 1(RN)	Incidence of chronic kidney disease : eGFR<60	NA	6.7years	259	222(85.7)	NR	Comp. Arm: NSS RD: 21

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								95%CI: 13.8-28.3 P: <0.001
Scosyrev, 2014[72]	Arm 2(NSS)	Incidence of chronic kidney disease : eGFR<60	NA	6.7years	255	165(64.7)	NR	NR
Scosyrev, 2014[72]	Arm 1(RN)	Incidence of chronic kidney disease : eGFR<45	NA	6.7years	259	127(49)	NR	Comp. Arm: RD: 21.9 95%CI: 13.8-30.2
Scosyrev, 2014[72]	Arm 2(NSS)	Incidence of chronic kidney disease : eGFR<45	NA	6.7years	255	69(27.1)	NR	NR
Scosyrev, 2014[72]	Arm 1(RN)	Incidence of chronic kidney disease : eGFR<30	NA	6.7years	259	26(10)	NR	Comp. Arm: RD: 3.7 95%CI: (-1.0-8.5)
Scosyrev, 2014[72]	Arm 2(NSS)	Incidence of chronic kidney disease : eGFR<30	NA	6.7years	255	16(6.3)	NR	NR
Scosyrev, 2014[72]	Arm 1(RN)	Incidence of chronic kidney disease : eGFR<15	NA	6.7years	259	4(1.5)	NR	Comp. Arm: RD: -0.1 95%CI: (-2.2-2.1)
Scosyrev, 2014[72]	Arm 2(NSS)	Incidence of chronic kidney disease : eGFR<15	NA	6.7years	255	4(1.6)	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Metastasis-free survival: n(%)	NA	NR	15	15(NR)	NA	NR
Shinohara, 2001[46]	Arm 2(RN)	Metastasis-free survival: n(%)	NA	1.16, 1.25, and 3.58	51	48(NR)	NA	NR
Shinohara, 2001[46]	Arm 1(NSS)	Local recurrence-free survival: n(%)	NA	NR	15	15(NR)	NA	NR
Shinohara, 2001[46]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	1.16, 1.25, and 3.58	51	48(NR)	NA	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	170	(92.4)	NA	NR0.647
Shulyak,	Arm 2(Radical	Cancer-specific	NA	5years	248	(94.4)	NA	NR0.647

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2011{#2402}	nephrectomy)	survival: n(%)						
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	75	(96)	NA	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5years	110	(96.4)	NA	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	95	(89.5)	NA	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5years	138	(92.8)	NA	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	26	(99.4)	NA	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5years	40	(99.2)	NA	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	88	(98.2)	NA	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5years	122	(98.8)	NA	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Cancer-specific survival: n(%)	NA	5years	56	(94.7)	NA	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Cancer-specific survival: n(%)	NA	5years	86	(96.4)	NA	NR
Stern, 2007[111]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	1years	40	NR(97.4)	NA	Comp. Arm: Arm 2 P: NR
Stern, 2007[111]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	1years	37	NR(100)	NA	NR
Stern, 2007[111]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	3years	40	NR(93.4)	NA	Comp. Arm: Arm 2 P: 0.67
Stern, 2007[111]	Arm 2(PN)	Local recurrence-free survival: n(%)	NA	3years	37	NR(95.8)	NA	NR
Stern, 2007[111]	Arm 1(RFA)	Cancer-specific survival: n(%)	NA	NR	40	NR(100)	NA	NR
Stern, 2007[111]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	NR	37	NR(100)	NA	NR
Sun, 2012[74]	Arm 1(PN)	Incidence of chronic kidney disease : stage >/=3	NA	NR	840	96(11.4)	NR	Comp. Arm: Arm 2 HR: 1.9 95%CI: 1.48-2.45

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								P: <0.001
Sun, 2012[74]	Arm 2(RN)	Incidence of chronic kidney disease : stage >/=3	NA	NR	840	169(20.1)	NR	NR
Sun, 2012[74]	Arm 1(PN)	Incidence of end-stage renal disease: NR	NA	NR	840	18(2.1)	NR	Comp. Arm: Arm 2 HR: 1.83 95%CI: 1.03-3.27 P: 0.04
Sun, 2012[74]	Arm 2(RN)	Incidence of end-stage renal disease: NR	NA	NR	840	32(3.8)	NR	NR
Sun, 2013[122]	Arm 1(NSM)	Cancer-specific survival: n(%)	NA	5years	3271	NR(89.8)	NA	NR
Sun, 2013[122]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5years	1051	NR(96.9)	NA	NR
Sun, 2013[122]	Arm 3(RN)	Cancer-specific survival: n(%)	NA	5years	6273	NR(93.3)	NA	NR
Sun, 2013[122]	Arm 1(NSM-cT1a)	Cancer-specific survival: n(%)	NA	5years	3271	NR(92.6)	NA	NR
Sun, 2013[122]	Arm 2(PN-cT1a)	Cancer-specific survival: n(%)	NA	5years	1051	NR(95.3)	NA	NR
Sun, 2013[122]	Arm 3(RN-cT1a)	Cancer-specific survival: n(%)	NA	5years	6273	NR(95.5)	NA	NR
Sun, 2013[122]	Arm 1(NSM->/=75years)	Cancer-specific survival: n(%)	NA	5years	3271	NR(85.3)	NA	NR
Sun, 2013[122]	Arm 2(PN->/=75years)	Cancer-specific survival: n(%)	NA	5years	1051	NR(95.7)	NA	NR
Sun, 2013[122]	Arm 3(RN->/=75years)	Cancer-specific survival: n(%)	NA	5years	6273	NR(91.9)	NA	NR
Sun, 2013[122]	Arm 1(NSM->/=75years-cT1a)	Cancer-specific survival: n(%)	NA	5years	3271	NR(89.4)	NA	NR
Sun, 2013[122]	Arm 2(PN->/=75years-cT1a)	Cancer-specific survival: n(%)	NA	5years	1051	NR(95.6)	NA	NR
Sun, 2013[122]	Arm 3(RN->/=75years-cT1a)	Cancer-specific survival: n(%)	NA	5years	6273	NR(94.1)	NA	NR
Takagi, 2011[75]	Arm 1(PN-eGFR 45 - 59)	Incidence of end-stage renal disease: NR	NA	100months	30	1(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Takagi, 2011[75]	Arm 2(RN-eGFR 45 - 59)	Incidence of end-stage renal disease: NR	NA	100months	38	0(NR)	NR	NR
Takagi, 2011[75]	Arm 3(PN-eGFR 30 - 44)	Incidence of end-stage renal disease: NR	NA	48months	14	2(NR)	NR	NR
Takagi, 2011[75]	Arm 4(RN-eGFR 30 - 44)	Incidence of end-stage renal disease: NR	NA	72months	13	1(NR)	NR	NR
Takaki, 2014[123]	Arm 1(RFA)	Cancer-specific survival: n(%)	NA	5	21	NR(94)	NA	NR
Takaki, 2014[123]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	5	39	NR(100)	NA	NR
Takaki, 2014[123]	Arm 1(RFA)	Cancer-specific survival: n(%)	NA	10	21	NR(94)	NA	NR
Takaki, 2014[123]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	10	39	NR(100)	NA	NR
Takaki, 2014[123]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	1week	21	14(NR)	NA	NR
Takaki, 2014[123]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	1week	39	39(NR)	NA	NR
Takaki, 2014[123]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	5 years	21	88(NR)	NA	NR
Takaki, 2014[123]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	5 years	39	88(NR)	NA	NR
Takaki, 2014[123]	Arm 1(RFA)	Local recurrence-free survival: n(%)	NA	10 years	21	84(NR)	NA	Comp. Arm: Arm 2 P: 0.99
Takaki, 2014[123]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	10 years	39	84(NR)	NA	NR
Tan, 2012[76]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	NR	1925	1888(98.1)	NA	NR
Tan, 2012[76]	Arm 2(RN)	Metastasis-free survival: n(%)	NA	NR	5213	4991(95.7)	NA	NR
Tanagho, 2013[116]	(Cryoablation)	Cancer-specific survival: n(%)	NA	5	267	NR(96.4)	NA	NR
Tanagho, 2013[116]	(Robot assisted partial nephrectomy)	Cancer-specific survival: n(%)	NA	5	233	NR(100)	NA	NR
Tanagho, 2013[116]	(Cryoablation)	Metastasis-free survival: n(%)	NA		267	10(12.7)	NA	Comp. Arm: Arm 2 HR:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								11.41 OR: RD: 95%CI: 1.90-68.67 0.01
Tanagho, 2013[116]	(Robot assisted partial nephrectomy)	Metastasis-free survival: n(%)	NA		233	0(0)	NA	NR
Thompson, 2014[112]	Arm 1(cT1a-Partial Nephrectomy)	Local recurrence-free survival: n(%)	NA	3	1057	NR(98)	NA	Comp. Arm: Arm2 and 3 P: 0.49
Thompson, 2014[112]	Arm 2(cT1a-Radiofrequency Ablation)	Local recurrence-free survival: n(%)	NA	3	166	NR(98)	NA	NR
Thompson, 2014[112]	Arm 3(cT1a-Cryoablation)	Local recurrence-free survival: n(%)	NA	3	174	NR(98)	NA	Comp. Arm: Arm 5 P: 0.81
Thompson, 2014[112]	Arm 4(cT1b-Partial Nephrectomy)	Local recurrence-free survival: n(%)	NA	3	326	NR(96)	NA	NR
Thompson, 2014[112]	Arm 5(cT1b-Cryoablation)	Local recurrence-free survival: n(%)	NA	3	48	NR(97)	NA	NR
Thompson, 2014[112]	Arm 1(cT1a-Partial Nephrectomy)	Metastasis-free survival: n(%)	NA	3	836	NR(99)	NA	Comp. Arm: Arm 3 P: 0.31
Thompson, 2014[112]	Arm 2(cT1a-Radiofrequency Ablation)	Metastasis-free survival: n(%)	NA	3	73	NR(93)	NA	NR
Thompson, 2014[112]	Arm 3(cT1a-Cryoablation)	Metastasis-free survival: n(%)	NA	3	108	NR(100)	NA	NR
Thompson, 2014[112]	Arm 4(cT1b-Partial Nephrectomy)	Metastasis-free survival: n(%)	NA	3	274	NR(96)	NA	Comp. Arm: Arm 5 P: 0.45
Thompson, 2014[112]	Arm 5(cT1b-Cryoablation)	Metastasis-free survival: n(%)	NA	3	36	NR(92)	NA	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Cancer-specific survival: n(%)	NA	2years	36	(100)	NA	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Cancer-specific survival: n(%)	NA	2years	36	(88.5)	NA	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Cancer-specific survival: n(%)	NA	2years	29	(83.9)	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Turna, 2009 [113]	Arm 1(Laparoscopic partial nephrectomy)	Local recurrence-free survival: n(%)	NA	Mean followup: 42.5months	36	36	NA	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Local recurrence-free survival: n(%)	NA	Mean followup: 24months	36	30	NA	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Local recurrence-free survival: n(%)	NA	Mean followup: 14months	29	16	NA	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	36	32(89)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	36	26(72.2)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	29	16(55.2)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	36	2(5.5)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	36	7(19.5)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	29	7(24.1)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had decrease in serum creatinine	NA	PostopNR	36	2(5.5)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had decrease in serum creatinine	NA	PostopNR	36	3(8.3)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had decrease in serum creatinine	NA	PostopNR	29	6(20.7)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	36	2(5.5)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	36	7(19.5)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had no change in serum creatinine	NA	PostopNR	29	7(24.1)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	36	32(89)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	36	26(72.2)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had increase in serum creatinine	NA	PostopNR	29	16(55.2)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had increase in GFR	NA	PostopNR	36	2(5.5)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had increase in GFR	NA	PostopNR	36	4(11.1)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had increase in GFR	NA	PostopNR	29	4(13.8)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had no change in GFR	NA	PostopNR	36	3(8.3)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had no change in GFR	NA	PostopNR	36	5(13.9)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had no change in GFR	NA	PostopNR	29	5(17.3)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: Had decrease in GFR	NA	PostopNR	36	31(86.2)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: Had decrease in GFR	NA	PostopNR	36	27(75)	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: Had decrease in GFR	NA	PostopNR	29	20(68.9)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Incidence of end-stage renal disease: permanent dialysis	NA	PostopNR	36	2(5.6)	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Incidence of end-	NA	PostopNR	36	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		stage renal disease: permanent dialysis						
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Incidence of end-stage renal disease: permanent dialysis	NA	PostopNR	29	0(0)	NR	NR
Uchida, 2004[79]	Arm 1(PN)	Cancer-specific survival: n(%)	NA	44months	54	44(100)	NA	NR
Uchida, 2004[79]	Arm 2(RN)	Cancer-specific survival: n(%)	NA	54months	51	54(100)	NA	NR
Uchida, 2004[79]	Arm 1(PN)	Metastasis-free survival: n(%)	NA	44months	54	52(96.3)	NA	NR
Uchida, 2004[79]	Arm 2(RN)	Metastasis-free survival: n(%)	NA	54months	51	51(100)	NA	NR
Uchida, 2004[79]	Arm 1(PN)	Local recurrence-free survival: n(%)	NA	44months	54	54(100)	NA	NR
Uchida, 2004[79]	Arm 2(RN)	Local recurrence-free survival: n(%)	NA	54months	51	50(98)	NA	NR
Uzzo, 1999[80]	Arm 1(RN)	Local recurrence-free survival: n(%)	NA	NR	28	26(93)	NA	NR
Uzzo, 1999[80]	Arm 2(NSS)	Local recurrence-free survival: n(%)	NA	NR	52	49(94.2)	NA	NR
Uzzo, 1999[80]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	NR	28	NR(96.5)	NA	NR
Uzzo, 1999[80]	Arm 2(NSS)	Cancer-specific survival: n(%)	NA	NR	52	NR(100)	NA	NR
Van Poppel, 2011[81]	Arm 1(NSS)	Local recurrence-free survival: n(%)	NA	10years	268	262	NA	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	10years	273	272	NA	NR
Van Poppel, 2011[81]	Arm 1(NSS)	Metastasis-free survival: n(%)	NA	10years	268	261	NA	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Metastasis-free survival: n(%)	NA	10years	273	263	NA	NR
Weight, 2010[83]	Arm 1(RN-Upstaged Cohort)	Cancer-specific survival: n(%)	NA	5years	117	NR(73)	NA	NR
Weight, 2010[83]	Arm 2(PN-Upstaged Cohort)	Cancer-specific survival: n(%)	NA	5years	96	NR(94)	NA	Comp. Arm: Arm 1 P: 0.01
Weight, 2010[83]	Arm 3(RN-High Grade cohort)	Cancer-specific survival: n(%)	NA	5years	43	NR(37)	NA	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Weight, 2010[83]	Arm 4(PN-High Grade cohort)	Cancer-specific survival: n(%)	NA	5years	52	NR(88)	NA	Comp. Arm: Arm 1 P: <0.01
Weight,2010[84]	Arm 1(RN)	Cancer-specific survival: n(%)	NA	5years	480	NR(94.3)	NA	Comp. Arm: Arm 2 P: NR
Weight,2010[84]	Arm 2(PN)	Cancer-specific survival: n(%)	NA	5years	524	NR(89.2)	NA	HR: 0.77 95%CI: 0.41-1.42 P: 0.4
Whitson, 2012[114]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	5years	7560	NR	NA	NR
Whitson, 2012[114]	Arm 2(Ablation)	Cancer-specific survival: n(%)	NA	5years	1076	NR	NA	NR
Whitson, 2012[114]	Arm 1(NSS)	Cancer-specific survival: n(%)	NA	10years	7560	NR	NA	NR
Whitson, 2012[114]	Arm 2(Ablation)	Cancer-specific survival: n(%)	NA	10years	1076	NR	NA	NR
Whitson, 2012[114]	Overall(NR)	Cancer-specific survival: n(%)	NA	NR	NR	NR	NA	HR: 2.6 95%CI: 1.6-4.2 P: <0.001
Whitson, 2012[114]	Overall(NR)	Cancer-specific survival: n(%)	NA	NR	NR	NR	NA	Comp. Arm: NSS HR: 1.9 95%CI: 1.1-3.3 P: 0.02
Whitson, 2012[114]	Overall(NR)	Cancer-specific survival: n(%)	NA	NR	NR	NR	NA	0.93
Woldu, 2014[85]	Arm 1(NSS)	Glomerular filtration rate decline: new-onset GFR <30	NA	60	539	19(3.5)	Comp. Arm: 93 P: NR	NR
Woldu, 2014[85]	Arm 2(RN)	Glomerular filtration rate decline: new-onset GFR <30	NA	60	767	46(6)	Comp. Arm: 93 P: NR	NR
Woldu, 2014[85]	Overall(Cohort)	Glomerular filtration rate decline: new-onset GFR <30	NA	60	1306	65(5)	P: 0.395	NR
Woldu, 2014[85]	Arm 1(NSS)	Glomerular filtration	NA	60	506	35(6.9)	Comp. Arm: 87	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		rate decline: new onset GFR <45					P: NR	
Woldu, 2014[85]	Arm 2(RN)	Glomerular filtration rate decline: new onset GFR <45	NA	60	726	150(20.7)	Comp. Arm: 74 P: NR	NR
Woldu, 2014[85]	Overall(Cohort)	Glomerular filtration rate decline: new onset GFR <45	NA	60	1232	185(15)	HR: 2.3 95%CI: 1.6-3.3 P: 0.001	HR: 2.3 95%CI: 1.6-3.3 P: <0.001
Woldu, 2014[85]	Arm 1(NSS)	Glomerular filtration rate decline: annual rate of decline	NA	60	539	NR	Comp. Arm: -1.17 95%CI:	NR
Woldu, 2014[85]	Arm 2(RN)	Glomerular filtration rate decline: annual rate of decline	NA	60	767	NR	Comp. Arm: -1.89 95%CI:	NR
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Local recurrence-free survival: n(%)	NA	Median 37 month Months	75	75	NA	NR
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Local recurrence-free survival: n(%)	NA	Median 45 month Months	341	297	NA	NR
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Metastasis-free survival: n(%)	NA	Median 37 month Months	75	74	NA	NR
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Metastasis-free survival: n(%)	NA	Median 45 month Months	341	341	NA	NR
Yokoyama, 2011[139]	Overall	: n(%)	NA				NA	NR
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Glomerular filtration rate decline: Freedom from new onset eGFR < 60 ml/min/1.73m^2	NA	3years	75	(89)	NR	NR<0.001
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Glomerular filtration rate decline: Freedom from new onset eGFR < 60 ml/min/1.73m^2	NA	3years	341	(63)	NR	NR<0.001
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Glomerular filtration rate decline: Freedom from new onset eGFR	NA	3years	75	(95)	NR	NR0.247

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		< 45 ml/min/1.73m^2						
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Glomerular filtration rate decline: Freedom from new onset eGFR < 45 ml/min/1.73m^2	NA	3years	341	(89)	NR	NR0.247
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Incidence of end-stage renal disease: Incidence of end-stage renal disease requiring dialysis	NA	NR	75	0	NR	NR
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Incidence of end-stage renal disease: Incidence of end-stage renal disease requiring dialysis	NA	NR	341	2	NR	NR
Youn, 2013 [119]	Arm 1(Open PN)	Local recurrence-free survival: n(%)	NA	50	14	14(NR)	NA	NR
Youn, 2013 [119]	Arm 2(Laparascopic RFA)	Local recurrence-free survival: n(%)	NA	50	41	40(NR)	NA	NR
Youn, 2013, [119]	Arm 2(Laparascopic RFA)	Metastasis-free survival: n(%)	NA	50	41	41(NR)	NA	NR
Youn, 2013[119]	Arm 1(Open PN)	Metastasis-free survival: n(%)	NA	50	14	14(NR)	NA	NR
Zorn, 2007[93]	Arm 1(LPN)	Creatinine measure: >1.5	NA	6months	42	0	NR	NR
Zorn, 2007[93]	Arm 2(LRN)	Creatinine measure: >1.5	NA	6months	55	24(36.4)	NR	NR
Zorn, 2007[93]	Arm 2(LRN)	Creatinine measure: >2	NA	6months	55	3(5.5)	NR	NR
Renal Functional Outcomes Continuous								
Antoniewicz, 2012[49]	Arm 1(RN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.8 SD: 18.4	3 months	33	Mean: 47.1 SD: 9.5	NR	NR
Antoniewicz, 2012[49]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 74 SD: 21.1	3 months	18	Mean: 69.6 SD: 18.4	NR	Comp. Arm: Arm 1 P: <0.01
Antoniewicz, 2012[49]	Arm 1(RN)	Glomerular filtration rate decline:	Mean: 70.8	12 months	33	Mean: 48.1 SD: 10.2	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		ml/min/1.73m2	SD: 18.4					
Antoniewicz, 2012[49]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 74 SD: 21.1	12 months	18	Mean: 70.5 SD: 22.8	NR	Comp. Arm: Arm 1 P: <0.01
Antoniewicz, 2012[49]	Arm 1(RN)	Creatinine measure: mmol/l	Mean: 90.5 SD: 19.5	3 months	33	Mean: 128.1 SD: 25	NR	NR
Antoniewicz, 2012[49]	Arm 2(PN)	Creatinine measure: mmol/l	Mean: 89.4 SD: 23.3	3 months	18	Mean: 94.9 SD: 27.3	NR	Comp. Arm: Arm 1 P: <0.01
Antoniewicz, 2012[49]	Arm 1(RN)	Creatinine measure: mmol/l	Mean: 90.5 SD: 19.5	12 months	33	Mean: 126.4 SD: 24.7	NR	NR
Antoniewicz, 2012[49]	Arm 2(PN)	Creatinine measure: mmol/l	Mean: 89.4 SD: 23.3	12 months	18	Mean: 95.1 SD: 34.9	NR	Comp. Arm: Arm 1 P: <0.01
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Creatinine measure: ml/min	Mean: 105 SD:	4 years	41	Mean: 90 SD:	NR	NR>0.01
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Creatinine measure: ml/min	Mean: 107 SD:	4 years	48	Mean: 80 SD:	NR	NR>0.01
Brewer, 2012[88]	Arm 1(MPN)	Glomerular filtration rate decline: ML/MIN	Mean: 74.9 SD: NR	NR	45	Mean: 65.3 SD: NR	Comp. Arm: 21.1 SD: 12.9 P: NR	Comp. Arm: Arm 2 P: <0.001
Brewer, 2012[88]	Arm 2(MRN)	Glomerular filtration rate decline: ML/MIN	Mean: 69.5 SD: NR	NR	108	Mean: 48.8 SD: NR	Comp. Arm: 12 SD: 13.2 P: NR	NR
Dash, 2006[54]	Arm 1(PN)	Creatinine measure: mg/dL	Mean: 1.16 SD: 0.33	>3 months	45	Mean: 1.39 SD: 0.6	NR	Comp. Arm: Arm 2 95%CI: 0.23-0.48 P: <0.001
Dash, 2006[54]	Arm 2(RN)	Creatinine measure:	Mean:	>3	151	Mean: 1.6	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		mg/dL	1.09 SD: 0.36	months		SD: 0.76		
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Creatinine measure: ml/min	Mean: 87.39 SD:	15 months	33	Mean: 85.8 SD:	NR	NR0.002
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Creatinine measure: ml/min	Mean: 101.35 SD:	21 months	52	Mean: 62.3 SD:	NR	NR0.002
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Glomerular filtration rate decline: percent	Mean: NR SD:	15 months	33	Mean: 12.5 SD:	NR	NR0.002
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Glomerular filtration rate decline: percent	Mean: NR SD:	21 months	52	Mean: 29.3 SD:	NR	NR0.002
Deklaj, 2010[129]	Arm 1(LRN)	Creatinine measure: mL/min	Mean: 63.3 SD: 16.2	16.1	19	Mean: 43.4 SD: 9.3	Comp. Arm: -19.5 P: NR	Comp. Arm: Arm 2 and 3 P: 0.049
Deklaj, 2010[129]	Arm 2(LPN)	Creatinine measure: mL/min	Mean: 63.2 SD: 17.7	28.9	28	Mean: 61.4 SD: 18.8	Comp. Arm: -6 P: NR	NR
Deklaj, 2010[129]	Arm 3(LAT)	Creatinine measure: mL/min	Mean: 65.2 SD: 26.4	19.3	19	Mean: 59.2 SD: 27.1	Comp. Arm: -6.1 P: NR	NR
Desai, 2005,[102]	Arm 1(Laparascopic PN)	Creatinine measure: mg/dl	Mean: 1.02 SD: 0.32	NR	153	Mean: 1.27 SD: 0.92	Comp. Arm: 16.4 P: NR	Comp. Arm: Arm 2 P: 0.31
Desai, 2005,[102]	Arm 2(Cryoablation)	Creatinine measure: mg/dl	Mean: 1.19 SD: 0.57	NR	89	Mean: 1.41 SD: 0.65	Comp. Arm: 13.7 P: NR	NR
Emara, 2014[103]	(Cryoablation)	Creatinine measure: mmol/L	Mean: NR SD: NR	6 weeks	56	Mean: NR SD: NR	Comp. Arm: 9.214 P: NR	Comp. Arm: Arm 2 RR: 0.66 P:
Emara, 2014[103]	(Robot assisted partial nephrectomy)	Creatinine measure: mmol/L	Mean: NR	6 weeks	47	Mean: NR SD: NR	Comp. Arm: 5.4 P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
			SD: NR					
Faddegon, 2013[109]	Arm 1(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 75 SD: 22.5	NR	142	Mean: NR SD: NR	Comp. Arm: -7.97 SD: 15.3 P: NR	NR
Faddegon, 2013[109]	Arm 2(RFA)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 80.7 SD: 21.8	NR	205	Mean: NR SD: NR	Comp. Arm: -8.01 SD: 15 P: NR	NR
Ficarra, 2003[40]	Arm 1(RN)	Quality of life: Hospital Anxiety and Depression Scale (H.A.D.S.)-Assessing Anxiety	NR	NR	88	Mean: 2.77 SD: 2.77	NR	Comp. Arm: Arm 2 P: 0.003
Ficarra, 2003[40]	Arm 2(NSS)	Quality of life: Hospital Anxiety and Depression Scale (H.A.D.S.)-Assessing Anxiety	NR	NR	56	Mean: 1.79 SD: 2.47	NR	NR
Ficarra, 2003[40]	Arm 1(RN)	Quality of life: Hospital Anxiety and Depression Scale (H.A.D.S.)-Assessing Depression	NR	NR	88	Mean: 2.08 SD: 2.32	NR	Comp. Arm: Arm 2 P: 0.015
Ficarra, 2003[40]	Arm 2(NSS)	Quality of life: Hospital Anxiety and Depression Scale (H.A.D.S.)-Assessing Depression	NR	NR	56	Mean: 1.7 SD: 2.8	NR	NR
Ficarra, 2003[40]	Arm 1(RN)	Quality of life: Social Problem Questionnaire	NR	NR	88	Mean: 0.31 SD: 0.79	NR	Comp. Arm: Arm 2 P: NS
Ficarra, 2003[40]	Arm 2(NSS)	Quality of life: Social Problem Questionnaire	NR	NR	56	Mean: 0.46 SD: 1.15	NR	NR
Ficarra, 2003[40]	Arm 1(RN)	Quality of life: General Health Questionnaire	NR	NR	88	Mean: 0.78 SD: 1.88	NR	Comp. Arm: Arm 2 P: NS
Ficarra, 2003[40]	Arm 2(NSS)	Quality of life: General Health	NR	NR	56	Mean: 0.5 SD: 1.46	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Questionnaire						
Foyil, 2008[130]	Arm 1(LPN-Non)	Creatinine Clearance: ml/min	Mean: 63.2 SD: NR	12 months	55	Mean: NR SD: NR	Comp. Arm: 3.74 P: NR	NR
Foyil, 2008[130]	Arm 2(LPN-Warm ischemia)	Creatinine Clearance: ml/min	Mean: 71.97 SD: NR	12 months	37	Mean: NR SD: NR	Comp. Arm: 4.12 P: NR	NR
Foyil, 2008[130]	Arm 3(LPN-Cold ischemia)	Creatinine Clearance: ml/min	Mean: 63.34 SD: NR	12 months	6	Mean: NR SD: NR	Comp. Arm: 7.81 P: NR	NR
Foyil, 2008[130]	Arm 4(LRN)	Creatinine Clearance: ml/min	Mean: 56.11 SD: NR	12 months	50	Mean: NR SD: NR	Comp. Arm: -13.24 P: NR	NR
Foyil, 2008[130]	Arm 5(Cryo)	Creatinine Clearance: ml/min	Mean: 56.21 SD: NR	12 months	49	Mean: NR SD: NR	Comp. Arm: -1.95 P: NR	NR
Foyil, 2008[130]	Arm 1(LPN-Non)	Creatinine Clearance: ml/min	Mean: 63.2 SD: NR	12 months	55	Mean: NR SD: NR	Comp. Arm: 3.74 P: NR	NR
Foyil, 2008[130]	Arm 2(LPN-Warm ischemia)	Creatinine Clearance: ml/min	Mean: 71.97 SD: NR	12 months	37	Mean: NR SD: NR	Comp. Arm: 4.12 P: NR	NR
Foyil, 2008[130]	Arm 3(LPN-Cold ischemia)	Creatinine Clearance: ml/min	Mean: 63.34 SD: NR	12 months	6	Mean: NR SD: NR	Comp. Arm: 7.81 P: NR	NR
Foyil, 2008[130]	Arm 4(LRN)	Creatinine Clearance: ml/min	Mean: 56.11 SD: NR	12 months	50	Mean: NR SD: NR	Comp. Arm: -13.24 P: NR	NR
Foyil, 2008[130]	Arm 5(Cryo)	Creatinine Clearance: ml/min	Mean: 56.21 SD: NR	12 months	49	Mean: NR SD: NR	Comp. Arm: -1.95 P: NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Creatinine measure: Percent change	Mean: SD:	6 months	36	Mean: +34 SD: NR	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Creatinine measure: Percent change	Mean: SD:	6 months	37	Mean: +18 SD: NR	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Creatinine measure: Percent change	Mean: SD:	6 months	44	Mean: 0 SD: NR	NR	NR
Gratzke, 2009[100]	Arm	Creatinine measure:	Mean:	6 months	36	Mean: +34	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	1(Retroperitoneoscopic radical nephrectomy)	Percent change	SD:			SD: NR		
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Creatinine measure: Percent change	Mean: SD:	6 months	37	Mean: +18 SD: NR	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Creatinine measure: Percent change	Mean: SD:	6 months	44	Mean: 0 SD: NR	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Quality of life: SF-36	NR	NR	36	Mean: 48 SD:	NR	NR0.503
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Quality of life: SF-36	NR	NR	37	Mean: 48.3 SD:	NR	NR0.503
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Quality of life: SF-36	NR	NR	44	Mean: 44.5 SD:	NR	NR0.503
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Quality of life: SF-36	NR	NR	36	Mean: 47.4 SD:	NR	NR0.968
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Quality of life: SF-36	NR	NR	37	Mean: 48 SD:	NR	NR0.968
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Quality of life: SF-36	NR	NR	44	Mean: 47.2 SD:	NR	NR0.968
Guillotreau, 2012[104]	Arm 1(RPN)	Glomerular filtration rate decline: ml/min	Mean: 86.3 SD: 36	6 months	210	Mean: 76 SD: 21.2	Comp. Arm: -11.2 P: NR	Comp. Arm: Arm 2 P: 0.4
Guillotreau, 2012[104]	Arm 2(LCA)	Glomerular filtration rate decline: ml/min	Mean: 65.8 SD: 28.6	6 months	226	Mean: 60.1 SD: 31.4	Comp. Arm: -8.9 P: NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Creatinine measure: mg/dl	Mean: 1.1 SD: NR	NR	75	Mean: 1 SD: NR	NR	Comp. Arm: Arm 2 P: 0.101
Haramis, 2012[105]	Arm 2(LPN)	Creatinine measure: mg/dl	Mean: 0.9 SD: NR	NR	92	Mean: 1.2 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.6 SD: NR	1 year	67	Mean: 59.5 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical	Glomerular filtration	Mean:	1 year	195	Mean: 47.1	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	Nephrectomy)	rate decline: ml/min/1.73m2	70.3 SD: NR			SD: NR		
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.1 SD: NR	1 year	324	Mean: 63.8 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.6 SD: NR	3 year	67	Mean: 58.5 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.3 SD: NR	3 year	195	Mean: 49.8 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.1 SD: NR	3 year	324	Mean: 61.9 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.6 SD: NR	5 year	67	Mean: 65.3 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 70.3 SD: NR	5 year	195	Mean: 51.9 SD: NR	NR	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.1 SD: NR	5 year	324	Mean: 62.3 SD: NR	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Creatinine measure: mg/dl	Mean: 1.02 SD: 0.44	NR	79	Mean: 1.03 SD: 0.45	NR	NR0.02
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Creatinine measure: mg/dl	Mean: 1.18 SD: 0.37	NR	35	Mean: 1.51 SD: 0.22	NR	NR0.02
Kiriluk, 2011[106]	Arm 1(LPN)	Glomerular filtration rate decline: ML/MIN	Mean: 87 SD: NR	12months	51	Mean: 82.5 SD: NR	Comp. Arm: 5.17 P: <0.01	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Glomerular filtration rate decline: ML/MIN	Mean: 88 SD: NR	12months	51	Mean: 80.7 SD: NR	Comp. Arm: 8.29 P: <0.01	NR
Kiriluk, 2011[106]	Arm 1(LPN-Preop CKD1)	Glomerular filtration rate decline: ML/MIN	Mean: 117.9 SD: NR	12months	21	Mean: 106.7 SD: NR	Comp. Arm: 9.49 P: <0.01	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kiriluk, 2011[106]	Arm 2(LAT-Preop CKD1)	Glomerular filtration rate decline: ML/MIN	Mean: 116.2 SD: NR	12months	23	Mean: 102.1 SD: NR	Comp. Arm: 12.13 P: <0.01	NR
Kiriluk, 2011[106]	Arm 1(LPN-Preop CKD2)	Glomerular filtration rate decline: ML/MIN	Mean: 72.3 SD: NR	12months	23	Mean: 72 SD: NR	Comp. Arm: 0.4 P: 0.44	NR
Kiriluk, 2011[106]	Arm 2(LAT-Preop CKD2)	Glomerular filtration rate decline: ML/MIN	Mean: 76.4 SD: NR	12months	18	Mean: 7.6 SD: NR	Comp. Arm: 1.57 P: 0.67	NR
Kiriluk, 2011[106]	Arm 1(LPN-Preop CKD3 - 5)	Glomerular filtration rate decline: ML/MIN	Mean: 45.4 SD: NR	12months	7	Mean: 44.1 SD: NR	Comp. Arm: 2.86 P: 0.47	NR
Kiriluk, 2011[106]	Arm 2(LAT-Preop CKD3 - 5)	Glomerular filtration rate decline: ML/MIN	Mean: 42.5 SD: NR	12months	10	Mean: 39.5 SD: NR	Comp. Arm: 7.05 P: 0.03	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 63.6 SD: NR	3 months	41	Mean: NR SD: NR	Comp. Arm: -5.3 SE: 2.4 P: 0.049	Comp. Arm: Arm 2 P: NR
Klatte, 2011[117]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 63.6 SD: NR	3 months	82	Mean: NR SD: NR	Comp. Arm: -6.4 SE: 1.5 P: <0.001	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Glomerular filtration rate decline: mL/min/1.73m2	Mean: 67.77 SD: 22.9	1	82	Mean: 47.54 SD: 14.7	NR	Comp. Arm: Arm 2 P: <0.001
Kyung, 2014[61]	(Partial Nephrectomy)	Glomerular filtration rate decline: mL/min/1.73m2	Mean: 69.42 SD: 22.1	1	53	Mean: 61.98 SD: 20.3	NR	NR
Lane, 2010[62]	Arm 1(PN Limited ischemia)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 82 SD: NR	last follow up	804	Mean: 72 SD: NR	Comp. Arm: 12 P: NR	Comp. Arm: Arms 2,3 and 4 P: <0.001
Lane, 2010[62]	Arm 2(PN Unknown ischemia)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 84 SD: NR	last follow up	546	Mean: 74 SD: NR	Comp. Arm: 12 P: NR	NR
Lane, 2010[62]	Arm 3(PN Extended ischemia)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 84 SD: NR	last follow up	483	Mean: 68 SD: NR	Comp. Arm: 19 P: NR	NR
Lane, 2010[62]	Arm 4(RN)	Glomerular filtration	Mean:	last follow	569	Mean: 52	Comp. Arm: 35	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		rate decline: ml/min/1.73m2	83 SD: NR	up		SD: NR	P: NR	
Lane, 2010[124]	Arm 1(Active surveillance)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 54 SD: NR	NR	105	Mean: 51 SD: NR	NR	NR
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 64 SD: NR	NR	146	Mean: 41 SD: NR	NR	NR
Li, 2007[63]	Arm 1(PN)	Creatinine measure: mg/dl	Mean: 1.3 SD: 0.6	12 months	35	Mean: 1.7 SD: 1.2	NR	Comp. Arm: Arm 2 P: 0.103
Li, 2007[63]	Arm 2(RN)	Creatinine measure: mg/dl	Mean: 1.2 SD: 0.6	12 months	86	Mean: 1.7 SD: 1.1	NR	NR
Lucas, 2007[126]	Arm 1(RFA with prexisting CKD 3)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	19	Mean: NR SD: NR	Comp. Arm: -1.7 SD: 13.7 P: NR	Comp. Arm: Arms 2 and 3 P: 0.46
Lucas, 2007[126]	Arm 2(PN with prexisting CKD 3)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	18	Mean: NR SD: NR	Comp. Arm: -5.2 SD: 9.7 P: NR	NR
Lucas, 2007[126]	Arm 3(RN with prexisting CKD 3)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	6	Mean: NR SD: NR	Comp. Arm: -8.9 SD: 17.3 P: NR	NR
Lucas, 2007[126]	Arm 1(RFA with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: 3.1 SD: 17.3 P: NR	Comp. Arm: Arms 2 and 3 P: 0.46
Lucas, 2007[126]	Arm 2(PN with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: -5.3 SD: 7.2 P: NR	NR
Lucas, 2007[126]	Arm 3(RN with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: -10 SD: 10 P: NR	NR
Lucas, 2007[126]	Arm 1(RFA with prexisting CKD 3)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	19	Mean: NR SD: NR	Comp. Arm: -1.7 SD: 13.7 P: NR	Comp. Arm: Arms 2 and 3 P: 0.46
Lucas, 2007[126]	Arm 2(PN with prexisting CKD 3)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	18	Mean: NR SD: NR	Comp. Arm: -5.2 SD: 9.7 P: NR	NR
Lucas, 2007[126]	Arm 3(RN with prexisting CKD 3)	Glomerular filtration rate decline:	Mean: NR	NR	6	Mean: NR SD: NR	Comp. Arm: -8.9 SD: 17.3 P:	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		ml/min/1.73m2	SD: NR				NR	
Lucas, 2007[126]	Arm 1(RFA with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: 3.1 SD: 17.3 P: NR	Comp. Arm: Arms 2 and 3 P: 0.46
Lucas, 2007[126]	Arm 2(PN with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: -5.3 SD: 7.2 P: NR	NR
Lucas, 2007[126]	Arm 3(RN with prexisting CKD 3b)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: NR SD: NR	NR	NR	Mean: NR SD: NR	Comp. Arm: -10 SD: 10 P: NR	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Glomerular filtration rate decline: ml/min	Mean: 69 SD: 69	6 months	44	Mean: 59 SD:	Comp. Arm: -0.12 95%CI:	NR<0.001
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Glomerular filtration rate decline: ml/min	Mean: 65 SD: 65	6 months	44	Mean: 45 SD:	Comp. Arm: -0.3 95%CI:	NR<0.001
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Creatinine measure: mg/dl	Mean: 0.91 SD:	4 months	82	Mean: 1.01 SD:	NR	NR0.001
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Creatinine measure: mg/dl	Mean: 0.97 SD:	4 months	35	Mean: 1.41 SD:	NR	NR0.001
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Creatinine measure: mg/dl	Mean: 0.91 SD:	6 months	82	Mean: 1.01 SD:	NR	NR<0.001
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Creatinine measure: mg/dl	Mean: 0.97 SD:	6 months	35	Mean: 1.41 SD:	NR	NR<0.001
McKiernan, 2002[66]	Arm 1(Partial nephrectomy)	Creatinine measure: mg/dl	Mean: 0.98 SD:	NR	117	Mean: 1 SD:	NR	NR<0.001
McKiernan, 2002[66]	Arm 2(Radical nephrectomy)	Creatinine measure: mg/dl	Mean: 1 SD:	NR	173	Mean: 1.5 SD:	NR	NR<0.001
Medina-Polo, 2011[67]	Arm 1(NSS - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.3 SD: 18.63	6 months	86	Mean: 75.83 SD: 19.51	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.97 SD:	6 months	132	Mean: 57.08 SD: 12.62	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
			15.49					
Medina-Polo, 2011[67]	Arm 1(NSS - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.3 SD: 18.63	12 months	86	Mean: 74.13 SD: 17.39	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.97 SD: 15.49	12 months	132	Mean: 59.1 SD: 13.67	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.3 SD: 18.63	24 months	86	Mean: 75.98 SD: 19.19	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.97 SD: 15.49	24 months	132	Mean: 59.64 SD: 17.1	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.3 SD: 18.63	36 months	86	Mean: 74.86 SD: 19.82	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.97 SD: 15.49	36 months	132	Mean: 63.41 SD: 19.96	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.3 SD: 18.63	48 months	86	Mean: 75.38 SD: 24.82	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR>60)	Creatinine measure: ml/min/1.73m^2	Mean: 84.97 SD: 15.49	48 months	132	Mean: 63.45 SD: 18.26	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 50.13 SD: 6.99	6 months	30	Mean: 47.07 SD: 13.54	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 54.02 SD:	6 months	42	Mean: 37.33 SD: 12.48	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
			11.54					
Medina-Polo, 2011[67]	Arm 1(NSS - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 50.13 SD: 6.99	12 months	30	Mean: 46.74 SD: 12.45	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 54.02 SD: 11.54	12 months	42	Mean: 38.72 SD: 13.08	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 50.13 SD: 6.99	24 months	30	Mean: 47.76 SD: 13.45	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 54.02 SD: 11.54	24 months	42	Mean: 39.89 SD: 13.06	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 50.13 SD: 6.99	36 months	30	Mean: 49.02 SD: 13.74	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 54.02 SD: 11.54	36 months	42	Mean: 39.86 SD: 13.05	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 50.13 SD: 6.99	48 months	30	Mean: 48.84 SD: 13.99	NR	NR
Medina-Polo, 2011[67]	Arm 2(RN - GFR<60)	Creatinine measure: ml/min/1.73m^2	Mean: 54.02 SD: 11.54	48 months	42	Mean: 41.92 SD: 16.11	NR	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Creatinine measure: mg/dl	Mean: 1.3 SD: NR	3 months	50	Mean: 1.4 SD: NR	Comp. Arm: 0.1 P: NR	Comp. Arm: Arm 2 P: 0.596
Mitchell, 2011[118]	Arm 2(PN)	Creatinine measure: mg/dl	Mean: 1.5 SD: NR	3 months	62	Mean: 1.5 SD: NR	Comp. Arm: 0.1 P: NR	NR
Mitchell, 2011[118]	Arm 1(Ablation)	Glomerular filtration	Mean:	3 months	50	Mean: 49.3	Comp. Arm: -1.5	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		rate decline: ml/min/1.73m2	53.4 SD: NR			SD: NR	P: NR	Arm 2 P: 0.767
Mitchell, 2011[118]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 53.5 SD: NR	3 months	62	Mean: 50.3 SD: NR	Comp. Arm: -3.3 P: NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.3 SD: 16	60 months	152	Mean: 46.2 SD: 12.6	Comp. Arm: 25.1 SD: 11.3 P: NR	Comp. Arm: Arm 2 P: <0.001
Miyamoto, 2012[70]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.4 SD: 20.1	60 months	59	Mean: 60.8 SD: 18.3	Comp. Arm: 9.27 SD: 13.5 P: NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Creatinine measure: mg/dl	Mean: 0.82 SD: 0.18	60 months	152	Mean: 1.24 SD: 0.38	NR	Comp. Arm: Arm 2 P: <0.001
Miyamoto, 2012[70]	Arm 2(PN)	Creatinine measure: mg/dl	Mean: 0.83 SD: 0.22	60 months	59	Mean: 0.96 SD: 0.32	NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.3 SD: 16	Not Specified	152	Mean: 46.2 SD: 12.6	Comp. Arm: -25.1 SD: 11.3 P: NR	Comp. Arm: Arm 2 P: <0.001
Miyamoto, 2012[70]	Arm 2(PN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 71.4 SD: 20.1	Not Specified	59	Mean: 60.8 SD: 18.3	Comp. Arm: -9.27 SD: 13.5 P: NR	NR
Miyamoto, 2012[70]	Arm 1(RN)	Creatinine measure: mg/dl	Mean: 0.82 SD: 0.18	Not Specified	152	Mean: 1.24 SD: 0.38	NR	Comp. Arm: Arm 2 P: <0.001
Miyamoto, 2012[70]	Arm 2(PN)	Creatinine measure: mg/dl	Mean: 0.83 SD: 0.22	Not Specified	59	Mean: 0.96 SD: 0.32	NR	NR
Mues, 2012[110]	Arm 1(ablation)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: 59 SD: NR	3 months	98	Mean: 52 SD: NR	NR	P:
Mues, 2012[110]	Arm 2(PN)	Glomerular filtration rate decline:	Mean: 59	3 months	100	Mean: 53 SD: NR	NR	P: 0.76

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		mL/min/1.73 m2	SD: NR					
Mues, 2012[110]	Arm 1(ablation)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: 59 SD: NR	12 months	98	Mean: 51 SD: NR	NR	P:
Mues, 2012[110]	Arm 2(PN)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: 59 SD: NR	12 months	100	Mean: 52 SD: NR	NR	P: 0.78
Pascal, 2011[107]	Arm 1(LPN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 61.6 SD: 18.6	NR	48	Mean: 47.5 SD: 18.4	Comp. Arm: -14.5 SD: 16.4 P: NR	Comp. Arm: Arm 2 P: 0.02
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 53.8 SD: 19	NR	30	Mean: 47.5 SD: 14.8	Comp. Arm: -7.3 SD: 12.2 P: NR	NR
Pascal, 2011[107]	Arm 1(LPN)	Creatinine measure: mg/dl	Mean: 1.2 SD: 0.3	NR	48	Mean: 1.7 SD: 0.9	Comp. Arm: 0.4 SD: 0.5 P: NR	Comp. Arm: Arm 2 P: 0.04
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Creatinine measure: mg/dl	Mean: 1.5 SD: 0.5	NR	30	Mean: 1.7 SD: 0.6	Comp. Arm: 0.2 SD: 0.3 P: NR	NR
QUALITY OF LIFE								
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Creatinine measure: ml/min/1.73m^2	Mean: 81.28 SD:	>30 days	36	Mean: 93.06 SD:	NR	NRBetween arm1 and arm2, p<0.001, between young and old, p<0.001
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Creatinine measure: ml/min/1.73m^2	Mean: 79.9 SD:	>30 days	45	Mean: 62.84 SD:	NR	NRBetween arm1 and arm2, p<0.001, between young and old, p<0.001
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Creatinine measure: ml/min/1.73m^2	Mean: 81.87 SD:	>30 days	33	Mean: 62.66 SD:	NR	NRBetween arm3 and arm4, p=0.015,

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								between young and old, p<0.001
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Creatinine measure: ml/min/1.73m^2	Mean: 75.41 SD:	>30 days	55	Mean: 47.28 SD:	NR	NRBetween arm3 and arm4, p=0.015, between young and old, p<0.001
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Glomerular filtration rate decline: ml/min/1.73m^2	Mean: NR SD:	>30 days	36	Mean: 12.87 SD:	NR	NRBetween arm1 and arm2, p<0.001, between young and old, p=NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Glomerular filtration rate decline: ml/min/1.73m^2	Mean: NR SD:	>30 days	45	Mean: 23.6 SD:	NR	NRBetween arm1 and arm2, p<0.001, between young and old, p=NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Glomerular filtration rate decline: ml/min/1.73m^2	Mean: NR SD:	>30 days	33	Mean: 13.48 SD:	NR	NRBetween arm3 and arm4, p=0.095, between young and old, p=NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Glomerular filtration rate decline: ml/min/1.73m^2	Mean: NR SD:	>30 days	55	Mean: 21.37 SD:	NR	NRBetween arm3 and arm4, p=0.095, between young and old, p=NR
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Glomerular filtration rate decline:	Mean: 78.72	Last follow up	85	Mean: 72.52	NR	Comp. Arm: Arm 2 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		ml/min/1.73m2	SD: NR			SD: NR		<0.001
Roos, 2012[45]	Arm 2(RN(tumor 4.1 - 7cm))	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 76.02 SD: NR	Last follow up	118	Mean: 56.65 SD: NR	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 79.13 SD: NR	Last follow up	16	Mean: 81.02 SD: NR	NR	Comp. Arm: Arm 2 P: 0.006
Roos, 2012[45]	Arm 2(RN(tumor > 7cm))	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 85.72 SD: NR	Last follow up	28	Mean: 64.67 SD: NR	NR	NR
Scosyrev, 2014[72]	Arm 1(RN)	Glomerular filtration rate decline: mg/dl/1.73m2	Mean: NR SD:	1 year	259	Mean: 52.7 SD:	NR	Comp. Arm: NSS RD: 14.1 95%CI:
Scosyrev, 2014[72]	Arm 2(NSS)	Glomerular filtration rate decline: mg/dl/1.73m2	Mean: NR SD:	1 year	255	Mean: 66.8 SD:	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Quality of life: ORTC Quality of Life Questionnaire C30 (EORTC QLQ-C30)	NR	NR	15	Mean: 77.1 SD: NR	NR	NR
Shinohara, 2001[46]	Arm 2(RN)	Quality of life: ORTC Quality of Life Questionnaire C30 (EORTC QLQ-C30)	NR	NR	51	Mean: 66.9 SD: NR	NR	NR
Snow, 2008[92]	Arm 1(LPN)	Creatinine measure: mL/dL	Mean: 0.9 SD: 0.2	7 months	48	Mean: 1.03 SD: 0.34	NR	Comp. Arm: Arm 2 P: 0.0002
Snow, 2008[92]	Arm 2(LRN)	Creatinine measure: mL/dL	Mean: 0.9 SD: 0.2	7.8months	37	Mean: 1.4 SD: 0.32	NR	NR
Snow, 2008[92]	Arm 1(LPN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 89.5 SD: 22.1	7 months	48	Mean: 79 SD: 22	NR	Comp. Arm: Arm 2 P: 0.000001
Snow, 2008[92]	Arm 2(LRN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 90 SD: 16.7	7.8months	37	Mean: 55 SD: 14	NR	NR
Snow, 2008[92]	Arm 1(LPN)	Creatinine measure:	Mean:	7 months	48	Mean: 1.03	NR	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		mL/dL	0.9 SD: 0.2			SD: 0.34		Arm 2 P: 0.0002
Snow, 2008[92]	Arm 2(LRN)	Creatinine measure: mL/dL	Mean: 0.9 SD: 0.2	7.8months	37	Mean: 1.4 SD: 0.32	NR	NR
Snow, 2008[92]	Arm 1(LPN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 89.5 SD: 22.1	7 months	48	Mean: 79 SD: 22	NR	Comp. Arm: Arm 2 P: 0.000001
Snow, 2008[92]	Arm 2(LRN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 90 SD: 16.7	7.8months	37	Mean: 55 SD: 14	NR	NR
Takaki, 2014[123]	Arm 1(RFA)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 63.2 SD: 27.8	1 month	21	Mean: 55.7 SD: 26.3	NR	Comp. Arm: Arm 2 P: <0.001
Takaki, 2014[123]	Arm 2(RN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 88.4 SD: 22	1 month	39	Mean: 55.5 SD: 13.5	NR	NR
Takaki, 2014[123]	Arm 1(RFA)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 63.2 SD: 27.8	Last follow up	21	Mean: 56.8 SD: 31.4	NR	Comp. Arm: Arm 2 P: 0.08
Takaki, 2014[123]	Arm 2(RN)	Glomerular filtration rate decline: ml/min/1.73m2	Mean: 88.4 SD: 22	Last follow up	39	Mean: 59.6 SD: 17.8	NR	NR
Tanagho, 2013[116]	(Cryoablation)	Glomerular filtration rate decline: mL/min/1.73m2	Mean: 66.3 SD: 24.7	mean 35.8m	267	Mean: 61.3 SD: 27	P: <0.01	P: </=0.01
Tanagho, 2013[116]	(Robot assisted partial nephrectomy)	Glomerular filtration rate decline: mL/min/1.73m2	Mean: 84.5 SD: 20.9	mean 11.8m	233	Mean: 73.4 SD: 22.4	P: <0.01	NR
Tanagho, 2013[116]	(Cryoablation)	Creatinine measure: mg/dl	Mean: 1.2 SD: 0.9	mean 35.8m	267	Mean: 1.4 SD: 1.1	NR	P: </=0.01
Tanagho, 2013[116]	(Robot assisted partial nephrectomy)	Creatinine measure: mg/dl	Mean: 0.9	mean 11.8m	233	Mean: 1.1 SD: 0.5	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
			SD: 0.3					
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: mg/dl	Mean: 1.2 SD: 0.4	Postop	36	Mean: 1.6 SD: 0.6	NR	NR0.766
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: mg/dl	Mean: 1.4 SD: 0.5	Postop	36	Mean: 1.6 SD: 0.7	NR	NR0.766
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: mg/dl	Mean: 1.4 SD: 0.5	Postop	29	Mean: 1.5 SD: 0.8	NR	NR0.766
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: mg/dl	Mean: SD:	Postop	36	Mean: 0.4 SD: 0.5	NR	NR0.028
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: mg/dl	Mean: SD:	Postop	36	Mean: 0.2 SD: 0.3	NR	NR0.028
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: mg/dl	Mean: SD:	Postop	29	Mean: 0.1 SD: 0.4	NR	NR0.028
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: m/min/1.73m^2	Mean: 65 SD: 23.5	Postop	36	Mean: 48 SD: 17	NR	NR0.705
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: m/min/1.73m^2	Mean: 52.3 SD: 19.7	Postop	36	Mean: 51 SD: 27	NR	NR0.705
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: m/min/1.73m^2	Mean: 53.2 SD: 16.2	Postop	29	Mean: 52 SD: 15	NR	NR0.705
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Creatinine measure: m/min/1.73m^2	Mean: SD:	Postop	36	Mean: 18 SD: 17	NR	NR0.0025
Turna, 2009[113]	Arm 2(Cryoablation)	Creatinine measure: m/min/1.73m^2	Mean: SD:	Postop	36	Mean: 3 SD: 17	NR	NR0.0025
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Creatinine measure: m/min/1.73m^2	Mean: SD:	Postop	29	Mean: 7 SD: 15	NR	NR0.0025
Van Poppel, 2011[81]	Arm 1(NSS)	Creatinine measure: mg/dl	Mean: NR SD: NR	9.3 years	268	Mean: 1.3 SD:	NR	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Creatinine measure: mg/dl	Mean: NR SD: NR	9.3 years	273	Mean: 1.5 SD:	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Woldu, 2014[85]	Arm 1(NSS)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: NR SD: NR	60	539	Mean: NR SD: NR	Comp. Arm: -1.17 P: NR	NR
Woldu, 2014[85]	Arm 2(RN)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: NR SD: NR	60	767	Mean: NR SD: NR	Comp. Arm: -1.89 P: NR	NR
Yasuda, 2012[86]	Arm 1(NSS)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: NR SD: NR	3	97	Mean: NR SD: NR	Comp. Arm: -8.9 P: NR	NR
Yasuda, 2012[86]	Arm 2(RN)	Glomerular filtration rate decline: mL/min/1.73 m2	Mean: NR SD: NR	3	103	Mean: NR SD: NR	Comp. Arm: -38.1 P: NR	NR
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Creatinine measure: ml/min/1.73m^2	Mean: 99 SD:	5 years	75	Mean: 76 SD:	NR	NR
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Creatinine measure: ml/min/1.73m^2	Mean: 99 SD:	5 years	341	Mean: 64 SD:	NR	NR
Youn, 2013[119]	Arm 1(Open PN)	Creatinine measure: mg/dL	Mean: 0.82 SD: 0.17	NR	14	Mean: 0.89 SD: 0.32	NR	Comp. Arm: Arm 2 P: 0.87
Youn, 2013[119]	Arm 2(Laparascopic RFA)	Creatinine measure: mg/dL	Mean: 0.83 SD: 0.22	NR	41	Mean: 0.88 SD: 0.29	NR	NR
Zorn, 2007[93]	Arm 1(LPN)	Creatinine measure: mg/dl	Mean: 0.91 SD: NR	6 months	42	Mean: 1 SD: NR	NR	Comp. Arm: Arm 2 P: 0.006
Zorn, 2007[93]	Arm 2(LRN)	Creatinine measure: mg/dl	Mean: 0.91 SD: NR	6 months	55	Mean: 1.4 SD: NR	NR	NR
Zorn, 2007[93]	Arm 1(LPN)	Creatinine Clearance: NR	Mean: 94.3 SD: NR	6 months	42	Mean: 88.7 SD: NR	NR	Comp. Arm: Arm 2 P: <0.001
Zorn, 2007[93]	Arm 2(LRN)	Creatinine Clearance: NR	Mean: 100.8 SD: NR	6 months	55	Mean: 64.2 SD: NR	NR	NR
OVERALL SURVIVAL								
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA	5	1047	(82.5)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Badalato, 1997[50]	Arm 2(RN)	Overall survival	NA	5	10209	(85)	NR	NR
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA	10	1047	(From KM)	NR	NR
Badalato, 1997[50]	Arm 2(RN)	Overall survival	NA	10	10209	(From KM)	NR	NR0.161
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.91-1.36
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.76-1.35
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.76-1.55
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.87-1.91
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.76-1.60
Badalato, 1997[50]	Arm 1(PN)	Overall survival	NA		11256		NR	Comp. Arm: RN 95%CI: 0.89-1.40
Bensalah, 2007[101]	Arm 1(LPN)	Overall survival	NA	NR	50	49(98)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Overall survival	NA	NR	38	32(84.2)	NR	NR
Chang, 2014[108]	Arm 1(RFA)	Overall survival	NA	5	27	NR(85.5)	NR	Comp. Arm: Arm 2 P: 0.14
Chang, 2014[108]	Arm 2(PN)	Overall survival	NA	5	29	NR(96.6)	NR	NR
Choueiri, 2011[125]	Arm 1(TA)	Overall survival	NA	1	578	NR(96.4)	NR	NR
Choueiri, 2011[125]	Arm 2(PN)	Overall survival	NA	1	4402	NR(98.8)	NR	NR
Choueiri, 2011[125]	Arm 3(RN)	Overall survival	NA	1	10165	NR(97.2)	NR	NR
Choueiri, 2011[125]	Arm 1(TA)	Overall survival	NA	2	578	NR(92.5)	NR	NR
Choueiri, 2011[125]	Arm 2(PN)	Overall survival	NA	2	4402	NR(97.6)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Choueiri, 2011[125]	Arm 3(RN)	Overall survival	NA	2	10165	NR(94.6)	NR	NR
Choueiri, 2011[125]	Arm 1(TA)	Overall survival	NA	2	578	NR	NR	Comp. Arm: PN P: 0.32
Choueiri, 2011[125]	Arm 1(TA)	Overall survival	NA	2	578	NR	NR	Comp. Arm: RN P: 0.73
Daugherty, 2014[55]	(Radical Nephrectomy)	Overall survival	NA	5	494	NR(95.5)	NR	Comp. Arm: Arm 2 HR: 0.46 95%CI: 0.21-1.05 P: 0.07
Daugherty, 2014[55]	(Partial Nephrectomy)	Overall survival	NA	10	222	NR(98.2)	NR	NR
Daugherty, 2014[55]	(Radical Nephrectomy)	Overall survival	NA	5	494	NR(89.7)	NR	Comp. Arm: Arm2 HR: 0.5 95%CI: 0.28-0.92 P: 0.025
Daugherty, 2014[55]	(Partial Nephrectomy)	Overall survival	NA	10	222	NR(94)	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Overall survival	NA	NR	33	33(100)	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Overall survival	NA	NR	52	52(100)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Overall survival	NA	NR	153	153(100)	NR	Comp. Arm: Arm 2 P: 0.09
Desai, 2005[102]	Arm 2(Cryoablation)	Overall survival	NA	NR	89	86(96.6)	NR	NR
Emara, 2014[103]	(Cryoablation)	Overall survival	NA	31.3m	56	53(94.6)	NR	NR
Emara, 2014[103]	(Robot assisted partial nephrectomy)	Overall survival	NA	16.5m	47	47(100)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Overall survival	NA	1	36	33(91.7)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Overall survival	NA	1	37	36(97.3)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Overall survival	NA	1	44	43(97.7)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Haramis, 2012[105]	Arm 1(LCA)	Overall survival	NA	NR	75	74(98.7)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Overall survival	NA	NR	92	92(100)	NR	NR
Houston, 2009[56]	Arm 1(RN)	Overall survival	NA	NR	704	630(89.5)	NR	NR
Houston, 2009[56]	Arm 2(PN)	Overall survival	NA	NR	239	231(96.7)	NR	NR
Huang, 2009[58]	Arm 1(PN)	Overall survival	NA	3	556	NR(87)	NR	NR
Huang, 2009[58]	Arm 2(RN)	Overall survival	NA	3	2435	NR(80)	NR	NR
Huang, 2009[58]	Arm 1(PN)	Overall survival	NA	5	556	NR(74)	NR	NR
Huang, 2009[58]	Arm 2(RN)	Overall survival	NA	5	2435	NR(68)	NR	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Overall survival	NA	5	67	NR(100)	NR	NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Overall survival	NA	5	195	NR(86.5)	NR	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Overall survival	NA	5	324	NR(95.2)	NR	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Overall survival	NA	10	67	NR(100)	NR	Comp. Arm: Arm 2 P: 0.84
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Overall survival	NA	10	195	NR(67.2)	NR	NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Overall survival	NA	10	324	NR(81.1)	NR	Comp. Arm: Arm 2 P: <0.01
Indudhara, 1997[41]	Arm 1(nephron sparing surgery)	Overall survival	NA	3.1	35	33(0.91)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara, 1997{#6220}	Arm 2(radical nephrectomy)	Overall survival	NA	3.6	71	67(0.943661971830986)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kates, 2011, #2060	Arm 1(PN)	Overall survival	NA	10	2301	2201(95.7)	NR	NR
Kates, 2011, #2060	Arm 2(RN)	Overall survival	NA	10	1915	1677(87.6)	NR	NR
Kopp, 2014[60]	Arm 1(RN)	Overall survival	NA	5	122	NR(80)	NR	Comp. Arm: Arm 2 P: 0.291
Kopp, 2014[60]	Arm 2(PN)	Overall survival	NA	5	80	NR(83.3)	NR	NR
Kyung, 2014[61]	(Radical Nephrectomy)	Overall survival	NA	5	82	NR(90.7)	95%CI: 77-91 P: NR	NR
Kyung, 2014[61]	(Partial Nephrectomy)	Overall survival	NA	5	53	NR(93.8)	95%CI: 80-98 P: NR	NR
Lane, 2010[62]	Arm 1(PN Limited ischemia)	Overall survival	NA	5	804	NR(95.7)	NR	NR
Lane, 2010[62]	Arm 2(PN Unknown ischemia)	Overall survival	NA	5	546	NR(93.9)	NR	NR
Lane, 2010[62]	Arm 3(PN Extended ischemia)	Overall survival	NA	5	483	NR(94)	NR	NR
Lane, 2010[62]	Arm 4(RN)	Overall survival	NA	5	569	NR(84.3)	NR	NR
Lane, 2010[124]	Arm 1(Active surveillance)	Overall survival	NA	5	105	NR(58)	NR	NR
Lane, 2010[124]	Arm 2(Radical Nephrectomy)	Overall survival	NA	5	146	NR(72)	NR	NR
Li, 2007[63]	Arm 1(PN)	Overall survival	NA	NR	35	26(74.3)	NR	NR
Li, 2007[63]	Arm 2(RN)	Overall survival	NA	NR	128	104(81.3)	NR	NR
Li, 2007[63]	Arm 1(PN)	Overall survival	NA	5	35	NR(85)	NR	P: 0.126
Li, 2007[63]	Arm 2(RN)	Overall survival	NA	5	128	NR(91.4)	NR	NR
Mariusdottir, 2013[43]	Arm 2(Radical nephrectomy)	Overall survival	NA	5	44	34(65)	NR	NR
Mariusdottir, 2013[43]	Arm 1(Partial nephrectomy)	Overall survival	NA	5	44	44(100)	NR	NR
Medina-Polo, 2011[67]	Arm 1(NSS)	Overall survival	NA	4	116	105(90.6)	NR	NR
Medina-Polo, 2011[67]	Arm 2(Radical nephrectomy)	Overall survival	NA	4	174	140(80.5)	NR	NR
Meskawi, 2014[68]	Arm 1(PN)	Overall survival	NA	5	6104	NR(7)	NR	NR
Meskawi, 2014[68]	Arm 1(RN)	Overall survival	NA	10	6104	NR(23.8)	NR	NR
Meskawi, 2014[68]	Arm 2(PN)	Overall survival	NA	5	1526	NR(9.1)	NR	NR
Meskawi, 2014[68]	Arm 2(RN)	Overall survival	NA	10	1526	NR(20.3)	NR	P: 0.3

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Milonas, 2013[44]	Arm 1(NSS)	Overall survival	NA	5	34	NR(83.1)	NR	NR
Milonas, 2013[44]	Arm 2(RN)	Overall survival	NA	5	317	NR(71.2)	NR	NR
Milonas, 2013[44]	Arm 1(NSS)	Overall survival	NA	7	34	NR(64.4)	NR	NR
Milonas, 2013[44]	Arm 2(RN)	Overall survival	NA	7	317	NR(63.1)	NR	NR
Milonas, 2013[44]	Arm 1(NSS)	Overall survival	NA	12	34	NR(55.2)	NR	P: 0.437
Milonas, 2013[44]	Arm 2(RN)	Overall survival	NA	12	317	NR(53.7)	NR	NR
Minervini, 2012[98]	Arm 1(RN)	Overall survival	NA	5	143	NR(81.3)	NR	NR
Minervini, 2012[98]	Arm 2(TE)	Overall survival	NA	5	332	NR(82.9)	NR	NR
Minervini, 2012[98]	Arm 1(RN)	Overall survival	NA	10	143	NR(71.5)	NR	NR
Minervini, 2012[98]	Arm 2(TE)	Overall survival	NA	10	332	NR(71.9)	NR	NR
Mues, 2012[110]	Arm 1(ablation)	Overall survival	NA	31	98	0(0)	NR	Comp. Arm: Arm 2 P: 0.5
Mues, 2012[110]	Arm 2(PN)	Overall survival	NA	24	100	1(1)	NR	NR
Olweny, 2012[115]	Arm 1(RFA)	Overall survival	NA	5	37	NR(97.2)	NR	NR
Olweny, 2012[115]	Arm 2(PN)	Overall survival	NA	5	37	NR(100)	NR	NR
Pascal, 2011[107]	Arm 1(LPN)	Overall survival	NA	3	48	NR(93)	NR	Comp. Arm: Arm 2 P: 0.74
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Overall survival	NA	3	30	NR(93)	NR	NR
Pascal, 2011[107]	Arm 1(LPN)	Overall survival	NA	5	48	NR(93)	NR	Comp. Arm: Arm 2 P: 0.74
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Overall survival	NA	5	30	NR(88)	NR	NR
Patel, 2014[121]	Arm 1(DT(Deferred Treatmet)-Low Cardiovascular risk)	Overall survival	NA	100 months	754	NR(34)	NR	NR
Patel, 2014[121]	Arm 2(PN-Low Cardiovascular risk)	Overall survival	NA	100 months	1849	NR(71)	NR	Comp. Arm: Arm 1 HR: 0.35 95%CI: 0.29 - 0.41 P: <0.01
Patel, 2014[121]	Arm 3(RN-Low Cardiovascular risk)	Overall survival	NA	100 months	4574	NR(63)	NR	Comp. Arm: Arm 2 HR: 0.47 95%CI: 0.41 - 0.54 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								<0.01
Patel, 2014[121]	Arm 1(DT(Deferred Treatmet)-High Cardiovascular risk)	Overall survival	NA	100 months	754	NR(78)	NR	NR
Patel, 2014[121]	Arm 2(PN-High Cardiovascular risk)	Overall survival	NA	100 months	1849	NR(87)	NR	Comp. Arm: Arm 1 HR: 0.48 95%CI: 0.36 - 0.65 P: <0.01
Patel, 2014[121]	Arm 3(RN-High Cardiovascular risk)	Overall survival	NA	100 months	4574	NR(78)	NR	Comp. Arm: Arm 2 HR: 0.65 95%CI: 0.52 - 0.80 P: <0.01
Patel, 2014[120]	Arm 1(Non Surgical Management)	Overall survival	NA	1	754	NR(88.1)	NR	95%CI:
Patel, 2014[120]	Arm 2(PN)	Overall survival	NA	1	1849	NR(98.3)	NR	95%CI:
Patel, 2014[120]	Arm 3(RN)	Overall survival	NA	1	4574	NR(96.8)	NR	95%CI:
Patel, 2014[120]	Arm 1(Non Surgical Management)	Overall survival	NA	3	754	NR(63.3)	NR	95%CI:
Patel, 2014[120]	Arm 2(PN)	Overall survival	NA	3	1849	NR(91.8)	NR	95%CI:
Patel, 2014[120]	Arm 3(RN)	Overall survival	NA	3	4574	NR(86.7)	NR	95%CI:
Patel, 2014[120]	Arm 1(Non Surgical Management)	Overall survival	NA	5	754	NR(46.4)	NR	Comp. Arm: Arm 2 HR: 0.4 95%CI: 0.34 to -0.46' P: <0.01
Patel, 2014[120]	Arm 2(PN)	Overall survival	NA	5	1849	NR(83.1)	NR	Comp. Arm: Arm 3 HR: 0.8 95%CI: 0.71 to 0.90 P: <0.01
Patel, 2014[120]	Arm 3(RN)	Overall survival	NA	5	4574	NR(76.1)	NR	Comp. Arm: Arm 1 HR: 0.5 95%CI: 0.45

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								to 0.56 P: <0.01
Patel, 2014[120]	Arm 1(Non Surgical Management <75 years)	Overall survival	NA	5	754	NR	NR	Comp. Arm: Arm 2 HR: 0.44 95%CI: 0.35 to -0.56 P: <0.01
Patel, 2014[120]	Arm 2(PN<75 years)	Overall survival	NA	5	1849	NR	NR	Comp. Arm: Arm 3 HR: 0.87 95%CI: 0.73 - 1.02 P: 0.09
Patel, 2014[120]	Arm 3(RN<75 years)	Overall survival	NA	5	4574	NR	NR	Comp. Arm: Arm 1 HR: 0.51 95%CI: 0.42 - 0.63 P: <0.01
Patel, 2014[120]	Arm 1(Non Surgical Management 75-<80years)	Overall survival	NA	5	754	NR	NR	Comp. Arm: Arm 2 HR: 0.33 95%CI: 0.25 to -0.43 P: <0.01
Patel, 2014[120]	Arm 2(PN75-<80years)	Overall survival	NA	5	1849	NR	NR	Comp. Arm: Arm 3 HR: 0.86 95%CI: 0.7 - 1.07 P: 0.8
Patel, 2014[120]	Arm 3(RN75-<80years)	Overall survival	NA	5	4574	NR	NR	Comp. Arm: Arm 1 HR: 0.38 95%CI: 0.3 - 0.48 P: <0.01
Patel, 2014[120]	Arm 1(Non Surgical Management>/=80yea	Overall survival	NA	5	754	NR	NR	Comp. Arm: Arm 2 HR:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	rs)							0.36 95%CI: 0.27 to -0.48 P: <0.01
Patel, 2014[120]	Arm 2(PN>/=80years)	Overall survival	NA	5	1849	NR	NR	Comp. Arm: Arm 3 HR: 0.65 95%CI: 0.5 - 0.84 P: <0.01
Patel, 2014[120]	Arm 3(RN>/=80years)	Overall survival	NA	5	4574	NR	NR	Comp. Arm: Arm 1 HR: 0.55 95%CI: 0.46 - 0.66 P: <0.01
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	Median 4.8 years	36	33	NR	NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	Median 7.81	37	31	NR	NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Overall survival	NA	Median 4.18	32	20	NR	NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Overall survival	NA	NR	39	29	NR	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	5	36	(92)	NR	Comp. Arm: RN young 95%CI: 0.655
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	5	37	(91)	NR	NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old	Overall survival	NA	5	32	(72)	NR	Comp. Arm: RN old

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	(>65 years old))							95%CI: 0.058
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Overall survival	NA	5	39	(89)	NR	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	10	36	(84)	NR	NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Overall survival	NA	10	37	(86)	NR	NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Overall survival	NA	10	32	(36)	NR	NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Overall survival	NA	10	39	(68)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Overall survival	NA	5	101	NR(83)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Overall survival	NA	5	146	NR(86)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Overall survival	NA	10	101	NR(64)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Overall survival	NA	10	146	NR(76)	NR	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Overall survival	NA	5	170	(88.8)	NR	NR0.463
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Overall survival	NA	5	248	(91.5)	NR	NR0.463
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Overall survival	NA	5	75	(92)	NR	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Overall survival	NA	5	110	(93.6)	NR	NR
Shulyak, 2011{#2402}	Arm 1(Simple nephrectomy)	Overall survival	NA	5	95	(86.3)	NR	NR
Shulyak, 2011{#2402}	Arm 2(Radical nephrectomy)	Overall survival	NA	5	138	(89.9)	NR	NR
Smaldone, 2012[73]	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.6 95%CI: 1.03-2.3 P: NR
Smaldone,	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.5

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2012[73]								95%CI: 1.1-1.9 P: NR
Smaldone, 2012[73]	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.7 95%CI: 1.1-2.5 P: NR
Smaldone, 2012[73]	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.4 95%CI: 1.04-2.0 P: NR
Smaldone, 2012[73]	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.3 95%CI: 1.1-1.6 P: NR
Smaldone, 2012[73]	Overall(Overall)	Overall survival	NA	13.7	5496	NR	NR	HR: 1.5 95%CI: 1.02-2.3 P: NR
Smaldone, 2012[73]	Arm 1(PN)	Overall survival	NA	13.7	1665	NR(35)	NR	NR
Smaldone, 2012[73]	Arm 2(RN)	Overall survival	NA	13.6	3831	NR(25)	NR	NR
Sun, 2012[138]	Arm 1(PN)	Overall survival	NA	2	924	NR(7.1)	NR	NR
Sun, 2012[138]	Arm 2(RN)	Overall survival	NA	2	924	NR(7.9)	NR	NR
Sun, 2012[138]	Arm 1(PN)	Overall survival	NA	5	924	NR(20.5)	NR	Comp. Arm: Arm 2 HR: 0.84 95%CI: 0.7-0.99 P: 0.043
Sun, 2012[138]	Arm 2(RN)	Overall survival	NA	5	924	NR(24.1)	NR	NR
Sun, 2012[138]	Arm 1(PN age >/=75)	Overall survival	NA	2	414	NR(8.9)	NR	NR
Sun, 2012[138]	Arm 2(RN age >/=75)	Overall survival	NA	2	405	NR(10.1)	NR	NR
Sun, 2012[138]	Arm 1(PN age >/=75)	Overall survival	NA	5	414	NR(26)	NR	Comp. Arm: Arm 2 HR: 0.79 95%CI: 0.62-1.01 P: 0.05

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Sun, 2012[138]	Arm 2(RN age >/= 75)	Overall survival	NA	5	405	NR(28.5)	NR	NR
Sun, 2012[138]	Arm 1(PN >/= 2 comorbidities)	Overall survival	NA	2	612	NR(7.9)	NR	NR
Sun, 2012[138]	Arm 2(RN >/= 2 comorbidities)	Overall survival	NA	2	619	NR(8.6)	NR	NR
Sun, 2012[138]	Arm 1(PN >/= 2 comorbidities)	Overall survival	NA	5	612	NR(22.2)	NR	Comp. Arm: Arm 2 HR: 0.84 95%CI: 0.68-1.04 P: 0.1
Sun, 2012[138]	Arm 2(RN >/= 2 comorbidities)	Overall survival	NA	5	619	NR(26.1)	NR	NR
Sun, 2012[138]	Arm 1(PN age >/=75 and >/= 2 comorbidities)	Overall survival	NA	2	215	NR(10)	NR	NR
Sun, 2012[138]	Arm 2(RN age >/=75 and >/= 2 comorbidities)	Overall survival	NA	2	215	NR(12.4)	NR	NR
Sun, 2012[138]	Arm 1(PN age >/=75 and >/= 2 comorbidities)	Overall survival	NA	5	215	NR(28.4)	NR	Comp. Arm: Arm 2 HR: 0.71 OR: 95%CI: 0.52-0.97 P: 0.03
Sun, 2012[138]	Arm 2(RN age >/= 75 and >/= 2 comorbidities)	Overall survival	NA	5	215	NR(32.6)	NR	NR
takagi, 2011[75]	Arm 1(PN-eGFR 45 - 59)	Overall survival	NA	5	30	26(86)	NR	P: 0.0835
takagi, 2011[75]	Arm 2(RN-eGFR 45 - 59)	Overall survival	NA	5	38	36(94)	NR	NR
Takaki, 2014[123]	Arm 1(RFA)	Overall survival	NA	5	21	NR(63)	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Overall survival	NA	5	39	NR(97)	NR	NR
Takaki, 2014[123]	Arm 1(RFA)	Overall survival	NA	10	21	NR(48)	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Overall survival	NA	10	39	NR(97)	NR	P: <0.009
Tan, 2012[76]	Arm 1(PN)	Overall survival	NA	NR	1925	1438(74.7)	NR	NR
Tan, 2012[76]	Arm 2(RN)	Overall survival	NA	NR	5213	3049(58.5)	NR	NR
Tanagho,	(Cryoablation)	Overall survival	NA	5	267	NR(77.1)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2013[116]								
Tanagho, 2013[116]	(Robot assisted partial nephrectomy)	Overall survival	NA	5	233	NR(91.7)	NR	NR
Thompson, 2008[77]	Arm 1(PN)	Overall survival	NA	NR	358	296(82.7)	NR	NR
Thompson, 2008[77]	Arm 2(RN)	Overall survival	NA	NR	290	206(71)	NR	NR
Thompson, 2008[77]	Arm 3(PN-<65years)	Overall survival	NA	10	187	NR(82)	NR	NR
Thompson, 2008[77]	Arm 4(RN-<65years)	Overall survival	NA	10	140	NR(93)	NR	NR
Thompson, 2014[112]	Arm 1(cT1a-Partial Nephrectomy)	Overall survival	NA	3	1057	NR(95)	NR	Comp. Arm: Arm 2 P: <0.001
Thompson, 2014[112]	Arm 2(cT1a-Radiofrequency Ablation)	Overall survival	NA	3	180	NR(82)	NR	Comp. Arm: Arm 3 P: 0.42
Thompson, 2014[112]	Arm 3(cT1a-Cryoablation)	Overall survival	NA	3	187	NR(88)	NR	NR
Thompson, 2014[112]	Arm 4(cT1b-Partial Nephrectomy)	Overall survival	NA	3	326	NR(93)	NR	Comp. Arm: Arm 5 P: 0.45
Thompson, 2014[112]	Arm 5(cT1b-Cryoablation)	Overall survival	NA	3	53	NR(74)	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Overall survival	NA	2	36	(91.2)	NR	NR0.785
Turna, 2009[113]	Arm 2(Cryoablation)	Overall survival	NA	2	36	(88.5)	NR	NR0.785
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Overall survival	NA	2	29	(83.9)	NR	NR0.785
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Overall survival	NA	2	36	(100)	NR	NR0.0009
Turna, 2009[113]	Arm 2(Cryoablation)	Overall survival	NA	2	36	(69.6)	NR	NR0.0009
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Overall survival	NA	2	29	(33.2)	NR	NR0.0009
Van Poppel, 2011[81]	Arm 1(NSS)	Overall survival	NA	10	268	201(75.7)	NR	Comp. Arm: RR: HR: 1.5 OR: RD: 95%CI:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
								1.03-2.16 noninferiority, 0.77;superiority, 0.03
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Overall survival	NA	10	273	223(81.1)	NR	Comp. Arm: RR: HR: 1.5 OR: RD: 95%CI: 1.03-2.16 noninferiority, 0.77;superiority, 0.03
Weight, 2010[83]	Arm 1(RN-Upstaged Cohort)	Overall survival	NA	6	117	NR(46)	NR	NR
Weight, 2010[83]	Arm 2(PN-Upstaged Cohort)	Overall survival	NA	6	96	NR(65)	NR	Comp. Arm: Arm 1 P: 0.01
Weight, 2010[83]	Arm 3(RN-High Grade cohort)	Overall survival	NA	6	43	NR(29)	NR	NR
Weight, 2010[83]	Arm 4(PN-High Grade cohort)	Overall survival	NA	6	52	NR(73)	NR	Comp. Arm: Arm 1 P: <0.0001
Weight, 2010[84]	Arm 1(RN)	Overall survival	NA	NR	480	NR(78)	NR	NR
Weight, 2010[84]	Arm 2(PN)	Overall survival	NA	NR	524	NR(85)	NR	Comp. Arm: Arm 1 HR: 0.903 95%CI: 0.56-1.5 P: 0.68
Whitson, 2012[114]	Overall	Overall survival	NA	NR	8818	716(8.1)	NR	NR
Yokoyama, 2011[139]	Arm 1(Partial nephrectomy)	Overall survival	NA	Median 37 month	75	72	NR	NR
Yokoyama, 2011[139]	Arm 2(Radical nephrectomy)	Overall survival	NA	Median 45 month	341	318	NR	NR
Zini, 2009[87]	Arm 1(Partial nephrectomy	Overall survival	NA	5	2153	(89.3)	NR	Comp. Arm: Arm1 RR:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	(matched for age, tumor size, year of surgery, not by Furhman grade))							HR: Reference OR: RD: 95%CI: 0.001
Zini, 2009[87]	Arm 2(Radical nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	5	5616	(84.4)	NR	Comp. Arm: Arm1 RR: HR: 1.23 OR: RD: 95%CI: 0.001
Zini, 2009[87]	Arm 3(Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	5	1283	(88.9)	NR	Comp. Arm: Arm3 RR: HR: Reference OR: RD: 95%CI: 0.048
Zini, 2009[87]	Arm 4(Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	5	3166	(85.5)	NR	Comp. Arm: Arm3 RR: HR: 1.19 OR: RD: 95%CI: 0.048
Zini, 2009[87]	Arm 1(Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	10	2153	(71.3)	NR	Comp. Arm: Arm1 RR: HR: Reference OR: RD: 95%CI: 0.001
Zini, 2009[87]	Arm 2(Radical nephrectomy (matched for age, tumor size, year of	Overall survival	NA	10	5616	(68.2)	NR	Comp. Arm: Arm1 RR: HR: 1.23 OR:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	surgery, not by Furhman grade))							RD: 95%CI: 0.001
Zini, 2009[87]	Arm 3(Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	10	1283	(70.9)	NR	Comp. Arm: Arm3 RR: HR: Reference OR: RD: 95%CI: 0.048
Zini, 2009[87]	Arm 4(Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	10	3166	(68.8)	NR	Comp. Arm: Arm3 RR: HR: 1.19 OR: RD: 95%CI: 0.048
Zini, 2009[87]	Arm 1(Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	5	2153	(88.3)	NR	NR<0.001
Zini, 2009[87]	Arm 2(Radical nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	5	5616	(83.7)	NR	NR<0.001
Zini, 2009[87]	Arm 3(Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	5	1283	(87.6)	NR	NR0.02
Zini, 2009[87]	Arm 4(Radical nephrectomy (matched for age, tumor size, year of	Overall survival	NA	5	3166	(84.4)	NR	NR0.02

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	surgery, Furhman grade))							
Zini, 2009[87]	Arm 1(Partial nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	10	2153	(72.9)	NR	NR<0.001
Zini, 2009[87]	Arm 2(Radical nephrectomy (matched for age, tumor size, year of surgery, not by Furhman grade))	Overall survival	NA	10	5616	(68.4)	NR	NR<0.001
Zini, 2009[87]	Arm 3(Partial nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	10	1283	(72.9)	NR	NR0.02
Zini, 2009[87]	Arm 4(Radical nephrectomy (matched for age, tumor size, year of surgery, Furhman grade))	Overall survival	NA	10	3166	(69.4)	NR	NR0.02
HARMS								
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	48	2	NR	NR
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Harm Name: Other-define Define: Thrombophlebitis If Clavien,report grade:	NA	NR	48	0	NR	NR
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Harm Name: Wound complications (hernia, dehiscence) Define: Minor flank protrusion	NA	NR	48	1	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		If Clavien,report grade:						
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Harm Name: Acute kidney injury Define: Hemodialysis If Clavien,report grade:	NA	NR	48	0(0)	NR	NR
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	41	1	NR	NR
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Harm Name: Other-define Define: Thrombophlebitis If Clavien,report grade:	NA	NR	41	1	NR	NR
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Harm Name: Wound complications (hernia, dehiscence) Define: Minor flank protrusion If Clavien,report grade:	NA	NR	41	2	NR	NR
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Harm Name: Acute kidney injury Define: Hemodialysis If Clavien,report grade:	NA	NR	41	0(0)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Other-define Define: Genitourinary If Clavien,report grade: NA	NA	30months	1066	NR(13)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Hemorrhage Define: Bleeding If Clavien,report grade: NA	NA	30months	1066	NR(4)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Wound complications (hernia, dehiscence) Define: Wound If Clavien,report grade:	NA	30months	1066	NR(2)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Respiratory Define: respiratory failure If Clavien,report grade: NA	NA	30months	1066	NR(12)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Infectious disease Define: infection If Clavien,report grade: NA	NA	30months	1066	NR(10)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Gastrointestinal Define: gastrointestinal If Clavien,report grade: NA	NA	30months	1066	NR(10)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Cardiovascular Define: cardiac If Clavien,report grade: NA	NA	30months	1066	NR(3)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Other-define Define: renal failure If Clavien,report grade: NA	NA	30months	1066	NR(2)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade: NA	NA	30months	1066	NR(2)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Hematologic (thromboembolic) Define: E/DVT If Clavien,report grade: NA	NA	30months	1066	NR(1)	NR	NR
Becker, 2014[94]	Arm 1(LapRN)	Harm Name: Neurologic Define:	NA	30months	1066	NR(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		neurological If Clavien,report grade: NA						
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Other-define Define: Genitourinary If Clavien,report grade: NA	NA	30months	157	NR(20)	NR	Comp. Arm: Arm 1 OR: 1.7 P: NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Hemorrhage Define: Bleeding If Clavien,report grade: NA	NA	30months	157	NR(8)	NR	Comp. Arm: Arm 1 OR: 2.2 P: NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Wound complications (hernia, dehiscence) Define: Wound If Clavien,report grade: NA	NA	30months	157	NR(1)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Respiratory Define: respiratory failure If Clavien,report grade: NA	NA	30months	157	NR(15)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Infectious disease Define: infection If Clavien,report grade: NA	NA	30months	157	NR(15)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: gastrointestinal If Clavien,report grade: NA	NA	30months	157	NR(9)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Cardiovascular Define: cardiac If Clavien,report grade: NA	NA	30months	157	NR(4)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Other-define Define: renal failure If Clavien,report grade: NA	NA	30months	157	NR(5)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade: NA	NA	30months	157	NR(2)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Hematologic (thromboembolic) Define: E/DVT If Clavien,report grade: NA	NA	30months	157	NR(1)	NR	NR
Becker, 2014[94]	Arm 3(LPN)	Harm Name: Neurologic Define: neurological If Clavien,report grade: NA	NA	30months	157	NR(0)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Other-define Define: Genitourinary If Clavien,report grade: NA	NA	30months	1094	NR(20)	NR	Comp. Arm: Arm 1 OR: 1.7 P: NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Hemorrhage Define: Bleeding If Clavien,report grade: NA	NA	30months	1094	NR(5)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Wound complications (hernia, dehiscence) Define: Wound If Clavien,report grade: NA	NA	30months	1094	NR(1)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Respiratory Define: respiratory failure If	NA	30months	1094	NR(13)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: NA						
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Infectious disease Define: infection If Clavien,report grade: NA	NA	30months	1094	NR(10)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Gastrointestinal Define: gastrointestinal If Clavien,report grade: NA	NA	30months	1094	NR(9)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Cardiovascular Define: cardiac If Clavien,report grade: NA	NA	30months	1094	NR(3)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Other-define Define: renal failure If Clavien,report grade: NA	NA	30months	1094	NR(4)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade: NA	NA	30months	1094	NR(2)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Hematologic (thromboembolic) Define: E/DVT If Clavien,report grade: NA	NA	30months	1094	NR(1)	NR	NR
Becker, 2014[94]	Arm 2(OPN)	Harm Name: Neurologic Define: neurological If Clavien,report grade: NA	NA	30months	1094	NR(0)	NR	NR
Bensalah,	Arm 1(LPN)	Harm Name: Urine	NA	NR	50	2(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2007[101]		leak Define: NA If Clavien,report grade: NA						
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	50	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Need for subsequent intervention Define: NA If Clavien,report grade: NA	NA	NR	50	3(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Loss of kidney Define: NA If Clavien,report grade: NA	NA	NR	50	0(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	50	2(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	50	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Need for subsequent intervention Define: NA If Clavien,report grade: NA	NA	NR	50	3(NR)	NR	NR
Bensalah, 2007[101]	Arm 1(LPN)	Harm Name: Loss of kidney Define: NA If Clavien,report grade: NA	NA	NR	50	0(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Urine leak Define: NA If Clavien,report grade:	NA	NR	38	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	38	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Need for subsequent intervention Define: NA If Clavien,report grade: NA	NA	NR	38	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Loss of kidney Define: NA If Clavien,report grade: NA	NA	1year	38	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	38	0(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	38	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Need for subsequent intervention Define: NA If Clavien,report grade: NA	NA	NR	38	1(NR)	NR	NR
Bensalah, 2007[101]	Arm 2(LRFA)	Harm Name: Loss of kidney Define: NA If Clavien,report grade: NA	NA	1year	38	1(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	108	6(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name:	NA	NR	108	4(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Cardiovascular Define: NA If Clavien,report grade: NA						
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	108	3(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	108	6(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	108	2(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	108	4(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	NR	108	4(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR	108	1(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	108	0(NR)	NR	NR
Brewer, 2012[88]	Arm 2(MRN)	Harm Name: Listed by severity of complications (using	NA	NR	108	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		the Clavien Grading System if available) Define: NA If Clavien,report grade: V						
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	45	5(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	45	2(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	45	2(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	45	1(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	45	0(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	45	1(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	NR	45	0(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Hematologic (thromboembolic)	NA	NR	45	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: NA If Clavien,report grade: NA						
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	45	1(NR)	NR	NR
Brewer, 2012[88]	Arm 1(MPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: V	NA	NR	45	0(NR)	NR	NR
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR0	27	0(NR)	NR	NR
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR1	27	NR	NR	NR
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR1	27	NR	NR	NR
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR2	27	NR	NR	SD: 0.44 P:
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Listed by severity of complications (using	NA	NR2	27	NR	NR	SD: 0.949 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		the Clavien Grading System if available) Define: NA If Clavien,report grade: II						
Chang, 2014[108]	Arm 1(RFA)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IIIa	NA	NR3	27	NR	NR	SD: 0.933 P:
Chang, 2014[108]	Arm 2(PN)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR0	29	0(NR)	NR	NR
Chang, 2014[108]	Arm 2(PN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR0	29	0(NR)	NR	NR
Chang, 2014[108]	Arm 2(PN)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR1	29	NR	NR	NR
Chang, 2014[108]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR0	29	NR	NR	NR
Chang, 2014[108]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available)	NA	NR1	29	NR	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: NA If Clavien,report grade: II						
Chang, 2014[108]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IIIa	NA	NR2	29	NR	NR	NR
Deklaj, 2010[129]	Arm 1(LRN)	Harm Name: Other-define Define: Intraoperative complication If Clavien,report grade: NA	NA	NR	19	NR(5.3)	NR	P: 0.38
Deklaj, 2010[129]	Arm 1(LRN)	Harm Name: Other-define Define: postoperative complication If Clavien,report grade: NA	NA	NR	19	NR(21.1)	NR	P: 0.87
Deklaj, 2010[129]	Arm 2(LPN)	Harm Name: Other-define Define: Intraoperative complication If Clavien,report grade: NA	NA	NR	28	NR(10.7)	NR	P: 0.38
Deklaj, 2010[129]	Arm 2(LPN)	Harm Name: Other-define Define: postoperative complication If Clavien,report grade: NA	NA	NR	28	NR(21.4)	NR	P: 0.87
Deklaj, 2010[129]	Arm 3(LAT)	Harm Name: Other-define Define: Intraoperative complication If Clavien,report grade:	NA	NR	19	NR(5.3)	NR	P: 0.38

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Deklaj, 2010[129]	Arm 3(LAT)	Harm Name: Other-define Define: postoperative complication If Clavien,report grade: NA	NA	NR	19	NR(15.8)	NR	P: 0.87
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	52	0	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	52	1	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade:	NA	NR	52	2	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Cardiovascular Define: vascular injury If Clavien,report grade:	NA	NR	52	1	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: bowel injury If Clavien,report grade:	NA	NR	52	1	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Cardiovascular Define: non-surgical cardiovascular complication If Clavien,report grade:	NA	NR	52	1	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Neurologic Define: post-op delirium If Clavien,report grade:	NA	NR	52	1	NR	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Other-define Define:	NA	NR	52	1	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		liver/splenic injury If Clavien,report grade:						
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Harm Name: Positive Surgical Margin Define: If Clavien,report grade:	NA	NR	52	0	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	33	1	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	33	4	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade:	NA	NR	33	1	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Cardiovascular Define: vascular injury If Clavien,report grade:	NA	NR	33	0	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: bowel injury If Clavien,report grade:	NA	NR	33	0	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Cardiovascular Define: non-surgical cardiovascular complication If Clavien,report grade:	NA	NR	33	1	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Neurologic Define: post-op delirium If Clavien,report grade:	NA	NR	33	0	NR	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Other-define Define: liver/splenic injury If	NA	NR	33	3	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Harm Name: Positive Surgical Margin Define: If Clavien,report grade:	NA	NR	33	1	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	153	15(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	153	1(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: abscess Define: NA If Clavien,report grade: NA	NA	NR	153	1(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	153	4(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Gastrointestinal Define: Prolonged ileus If Clavien,report grade: NA	NA	NR	153	2(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Respiratory Define: Atelectasis, pleural effusion, pneumonia, If Clavien,report grade: NA	NA	NR	153	7(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Hematologic (thromboembolic) Define: Pulmonary embolism,Internal	NA	NR	153	6(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		jugular vein thrombus,deep vein thrombus If Clavien,report grade: NA						
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Cardiovascular Define: Atrial fibrillation, congestive heart failure If Clavien,report grade: NA	NA	NR	153	3(NR)	NR	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Harm Name: Wound complications (hernia, dehiscence) Define: dehiscence, hernia If Clavien,report grade: NA	NA	NR	153	4(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	78	1(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: abscess Define: NA If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Gastrointestinal Define: Prolonged ileus If	NA	NR	78	1(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: NA						
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Respiratory Define: Atelectasis, pneumothorax, pneumonia, pleural injury If Clavien,report grade: NA	NA	NR	78	4(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Hematologic (thromboembolic) Define: Pulmonary embolism,Internal jugular vein thrombus,deep vein thrombus If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Cardiovascular Define: Atrial fibrillation, congestive heart failure If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Harm Name: Wound complications (hernia, dehiscence) Define: dehiscence, hernia If Clavien,report grade: NA	NA	NR	78	0(NR)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	47	2(4.3)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Infectious disease Define: NA If	NA	NR	47	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: NA						
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	47	0(0)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	NR	47	0(0)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	47	2(4.3)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	47	0(0)	NR	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IIIB	NA	NR	47	1(1.8)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Hemorrhage Define: NA If Clavien,report	NA	NR	56	3(5.4)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		grade: NA						
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	56	1(1.8)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	56	1(1.8)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	NR	56	1(1.8)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	56	3(5.4)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	56	1(1.8)	NR	NR
Emara, 2014[103]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade:	NA	NR	56	2(4.3)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		IIIB						
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Cardiovascular Define: Deep Vein Thrombosis If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Cardiovascular Define: Pulmonary Embolism If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Cardiovascular Define: Myocardial Infarction If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Other-define Define: Pneumothorax If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Infectious disease Define: Sepsis If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Infectious disease Define: Pneumonia If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Acute kidney injury Define: Acute renal failure If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical	Harm Name: Infectious disease Define: Wound	NA	NR	36	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	nephrectomy)	infection If Clavien,report grade:						
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	36	0(0)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	36	2(5.6)	NR	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Harm Name: Wound complications (hernia, dehiscence) Define: Secondary wound healing If Clavien,report grade:	NA	NR	36	1(2.8)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Cardiovascular Define: Deep Vein Thrombosis If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Cardiovascular Define: Pulmonary Embolism If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Cardiovascular Define: Myocardial Infarction If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Other-define Define: Pneumothorax If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical	Harm Name:	NA	NR	37	1(2.7)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	nephrectomy)	Infectious disease Define: Sepsis If Clavien,report grade:						
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Infectious disease Define: Pneumonia If Clavien,report grade:	NA	NR	37	1(2.7)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Acute kidney injury Define: Acute renal failure If Clavien,report grade:	NA	NR	37	1(2.7)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	37	1(2.7)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	37	2(5.4)	NR	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Harm Name: Wound complications (hernia, dehiscence) Define: Secondary wound healing If Clavien,report grade:	NA	NR	37	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Cardiovascular Define: Deep Vein Thrombosis If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Cardiovascular Define: Pulmonary Embolism If Clavien,report grade:	NA	NR	44	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Cardiovascular Define: Myocardial Infarction If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Other-define Define: Pneumothorax If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Infectious disease Define: Sepsis If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Infectious disease Define: Pneumonia If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Acute kidney injury Define: Acute renal failure If Clavien,report grade:	NA	NR	44	2(4.6)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	44	0(0)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	44	2(4.6)	NR	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Harm Name: Wound complications (hernia,	NA	NR	44	1(2.3)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		dehiscence) Define: Secondary wound healing If Clavien,report grade:						
Guillotreau, 2012[104]	Arm 2(LCA)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	226	19(8)	NR	NR
Guillotreau, 2012[104]	Arm 1(RPN)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	210	36(17)	NR	Comp. Arm: Arm 2 P: 0.004
Guillotreau, 2012[104]	Arm 1(RPN)	Harm Name: Minor vs. major Define: Major If Clavien,report grade: NA	NA	NR	210	6(3)	NR	Comp. Arm: Arm 2 P: 0.71
Guillotreau, 2012[104]	Arm 2(LCA)	Harm Name: Minor vs. major Define: Major If Clavien,report grade: NA	NA	NR	226	8(3)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	92	5(NR)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade: NA	NA	NR	92	2(NR)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Respiratory Define: pneumonia, pneumothorax, atelectasia If Clavien,report grade: NA	NA	NR	92	3(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Need for subsequent intervention Define: stent If Clavien,report grade: NA	NA	NR	92	0(NR)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	92	3(NR)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	92	7(NR)	NR	NR
Haramis, 2012[105]	Arm 2(LPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: III	NA	NR	92	1(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	75	3(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade: NA	NA	NR	75	1(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name:	NA	NR	75	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Respiratory Define: pneumonia, pneumothorax, atelectasia If Clavien,report grade: NA						
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Need for subsequent intervention Define: stent If Clavien,report grade: NA	NA	NR	75	1(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	75	2(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	75	3(NR)	NR	NR
Haramis, 2012[105]	Arm 1(LCA)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: III	NA	NR	75	1(NR)	NR	NR
Indudhara,1997[41]	Arm 2(radical nephrectomy)	Harm Name: urine leak Define: NR If Clavien,report grade: NR	NA	1year	71	0(0)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA	Comp. Arm: NA RR: NA HR: NA OR:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
							95%CI: NA SE: NA SD: NA P: NA	NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara,1997[41]	Arm 2(radical nephrectomy)	Harm Name: wound infection Define: NR If Clavien,report grade: NR	NA	1year	71	0(0)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara,1997[41]	Arm 1(nephron sparing surgery)	Harm Name: urine leak Define: NR If Clavien,report grade: NR	NA	1year	35	2(0.0571428571428571)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Indudhara,1997[41]	Arm 1(nephron sparing surgery)	Harm Name: wound infection Define: NR If Clavien,report grade: NR	NA	1year	35	1(0.0285714285714286)	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA	Comp. Arm: NA RR: NA HR: NA OR: NA RD: NA 95%CI: NA SE: NA SD: NA P: NA
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Minor vs. major Define: Minor complications If Clavien,report	NA	NR	73		NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		grade:						
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Minor vs. major Define: Major complications If Clavien,report grade:	NA	NR	73		NR	NR
Janetschek, 2000[90]	Arm 1(Wedge-resection)	Harm Name: Minor vs. major Define: Minor complications If Clavien,report grade:	NA	NR	25		NR	NR
Janetschek, 2000[90]	Arm 1(Wedge-resection)	Harm Name: Minor vs. major Define: Major complications If Clavien,report grade:	NA	NR	25		NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	30 days	535	56(10.5)	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	31 - 365 days	535	51(9.5)	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	30 days	535	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	30 days	535	108(20.3)	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	30 days	535	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Harm Name: Need for subsequent	NA	30 days	535	NR	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		intervention Define: Stent Placement If Clavien,report grade: NA						
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	30 days	160	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	31 - 365 days	160	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	30 days	160	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	30 days	160	30(18.3)	NR	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	30 days	160	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Harm Name: Need for subsequent intervention Define: Stent Placement If Clavien,report grade: NA	NA	30 days	160	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	30 days	404	52(12.8)	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	31 - 365 days	404	37(9)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	30 days	404	12(3)	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	30 days	404	102(25.1)	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	30 days	404	14(3.4)	NR	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Harm Name: Need for subsequent intervention Define: Stent Placement If Clavien,report grade: NA	NA	30 days	404	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	30 days	330	23(7)	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	31 - 365 days	330	27(8.5)	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	30 days	330	NR	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	30 days	330	92(28.8)	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Wound complications (hernia, dehiscence) Define:	NA	30 days	330	12(3.7)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA If Clavien,report grade: NA						
Kaowalczyk, 2013[131]	Arm 3(OPN)	Harm Name: Need for subsequent intervention Define: Stent Placement If Clavien,report grade: NA	NA	30 days	330	12(3.8)	NR	NR
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	30 days	211	NR	NR	Comp. Arm: Arms 2 - 5 P: <0.001
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	31 - 365 days	211	12(5.8)	NR	Comp. Arm: Arms 2 - 5 P: <0.001
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	30 days	211	NR	NR	Comp. Arm: Arms 2 - 5 P: 0.121
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	30 days	211	27(12.8)	NR	Comp. Arm: Arms 2 - 5 P: <0.001
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Wound complications (hernia, dehiscence) Define: NA If Clavien,report grade: NA	NA	30 days	211	NR	NR	Comp. Arm: Arms 2 - 5 P: 0.077
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Harm Name: Need for subsequent intervention Define: Stent Placement If Clavien,report grade: NA	NA	30 days	211	NR	NR	Comp. Arm: Arms 2 - 5 P: <0.001
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: If	NA	NR	35	0	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	35	1	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	35	0	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Acute kidney injury Define: Acute renal failure If Clavien,report grade:	NA	NR	35	0	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Respiratory Define: Atelectasis If Clavien,report grade:	NA	NR	35	0	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	35	2	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: Serosal tear If Clavien,report grade:	NA	NR	35	2	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Other-define Define: Foley catheter clot If Clavien,report grade:	NA	NR	35	0	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Hemorrhage Define: bleeding requiring transfusion If Clavien,report grade:	NA	NR	35	2	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Hematologic (thromboembolic) Define: lumbar vein tear If Clavien,report	NA	NR	35	0	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		grade:						
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: splenic capsule tear If Clavien,report grade:	NA	NR	35	0	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: liver injury If Clavien,report grade:	NA	NR	35	1	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Gastrointestinal Define: mesenteric injury If Clavien,report grade:	NA	NR	35	1	NR	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Harm Name: Respiratory Define: pleural effusion If Clavien,report grade:	NA	NR	35	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: If Clavien,report grade:	NA	NR	79	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Infectious disease Define: Wound infection If Clavien,report grade:	NA	NR	79	0	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	79	2	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Acute kidney injury Define: Acute renal failure If Clavien,report grade:	NA	NR	79	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Respiratory Define: Atelectasis If Clavien,report grade:	NA	NR	79	1	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	79	0	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: Serosal tear If Clavien,report grade:	NA	NR	79	0	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Other-define Define: Foley catheter clot If Clavien,report grade:	NA	NR	79	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Hemorrhage Define: bleeding requiring transfusion If Clavien,report grade:	NA	NR	79	4	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Hematologic (thromboembolic) Define: lumbar vein tear If Clavien,report grade:	NA	NR	79	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: splenic capsule tear If Clavien,report grade:	NA	NR	79	1	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: liver injury If Clavien,report grade:	NA	NR	79	0	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Gastrointestinal Define: mesenteric injury If Clavien,report grade:	NA	NR	79	0	NR	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Harm Name: Respiratory Define:	NA	NR	79	0	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		pleural effusion If Clavien,report grade:						
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	51	6(NR)	NR	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Urinary tract infection Define: NA If Clavien,report grade: NA	NA	NR	51	0(NR)	NR	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Hematologic (thromboembolic) Define: DVT If Clavien,report grade: NA	NA	NR	51	1(NR)	NR	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Wound complications (hernia, dehiscence) Define: Incisional hernia If Clavien,report grade: NA	NA	NR	51	0(NR)	NR	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	51	1(NR)	NR	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	51	5(NR)	NR	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name:	NA	NR	51	5(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Hemorrhage Define: NA If Clavien,report grade: NA						
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name: Urinary tract infection Define: NA If Clavien,report grade: NA	NA	NR	51	1(NR)	NR	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name: Hematologic (thromboembolic) Define: DVT If Clavien,report grade: NA	NA	NR	51	0(NR)	NR	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name: Wound complications (hernia, dehiscence) Define: Incisional hernia If Clavien,report grade: NA	NA	NR	51	1(NR)	NR	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	51	3(NR)	NR	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	51	9(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	41	1(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Acute kidney injury Define: ARF If Clavien,report grade: NA	NA	NR	41	1(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR	41	1(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	41	0(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Respiratory Define: pneumonia, pneumothorax If Clavien,report grade: NA	NA	NR	41	0(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Need for subsequent intervention Define: Stent If Clavien,report grade:	NA	NR	41	1(NR)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	41	3(7)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	41	3(7)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: III	NA	NR	41	0(0)	NR	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IV	NA	NR	41	2(5)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	82	3(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Acute kidney injury Define: ARF If Clavien,report grade: NA	NA	NR	82	0(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR	82	0(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	82	2(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Respiratory Define: pneumonia, pneumothorax If Clavien,report grade: NA	NA	NR	82	2(NR)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Need for	NA	NR	82	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		subsequent intervention Define: stent If Clavien,report grade:						
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	82	5(6)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	82	4(5)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: III	NA	NR	82	4(5)	NR	NR
Klatte, 2011[117]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IV	NA	NR	82	1(1)	NR	NR
Kopp, 2014[60]	Arm 1(RN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR0	122	0(NR)	NR	SD: <0.001 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Kopp, 2014[60]	Arm 1(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: NA	NA	NR3	122	NR	NR	NR
Kopp, 2014[60]	Arm 2(PN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR8	80	10(NR)	NR	NR
Kopp, 2014[60]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: NA	NA	NR14	80	NR	NR	SD: <0.001 P:
Kyung, 2014[61]	NA(Radical Nephrectomy)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	82	24(29.3)	NR	Comp. Arm: Arm 2 HR: 1.137 P: 0.718
Kyung, 2014[61]	NA(Partial Nephrectomy)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	53	12(22.6)	NR	NR
Lane, 2010[62]	Arm 4(RN)	Harm Name: Acute kidney injury Define: If Clavien,report grade:	NA		569	8(1.4)	NR	NR
Lane, 2010[62]	Arm 1(PN, ALL)	Harm Name: Acute kidney injury Define: If Clavien,report grade:	NA		1833	14(0.8)	NR	NR
Lowrance, 2010[65]	Arm 2(RN)	Harm Name: Listed by severity of	NA	NR	651	73(11)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		complications (using the Clavien Grading System if available) Define: low grade 1-2 If Clavien,report grade: NA						
Lowrance, 2010[65]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: high grade 3-4 If Clavien,report grade: NA	NA	NR	651	17(3)	NR	NR
Lowrance, 2010[65]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: death 5 If Clavien,report grade: NA	NA	NR	651	3(0.5)	NR	NR
Lowrance, 2010[65]	Arm 1(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: low grade 1-2 If Clavien,report grade: NA	NA	NR	1061	151(14)	NR	NR
Lowrance, 2010[65]	Arm 1(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: high grade 3-4 If Clavien,report grade: NA	NA	NR	1061	61(6)	NR	NR
Lowrance, 2010[65]	Arm 1(PN)	Harm Name: Listed by severity of	NA	NR	1061	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		complications (using the Clavien Grading System if available) Define: death 5 If Clavien,report grade: NA						
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	35	0	NR	NR
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	35	0	NR	NR
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Cardiovascular Define: Arrythmia If Clavien,report grade:	NA	NR	35	1	NR	NR
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	35	3	NR	NR
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	82	1	NR	NR
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	82	2	NR	NR
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Harm Name: Cardiovascular Define: Arrythmia If Clavien,report grade:	NA	NR	82	3	NR	NR
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Harm Name: Gastrointestinal Define: Ileus If Clavien,report grade:	NA	NR	82	7	NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Positive Surgical Margin Define: If Clavien,report grade:	NA	NR	66	5(7.6)	Comp. Arm: P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Hematologic (thromboembolic) Define: deep venous thrombosis If Clavien,report grade:	NA	NR	66	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	NR	66	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Other-define Define: prolonged intubation If Clavien,report grade:	NA	NR	66	3(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Other-define Define: symptomatic pneumothorax If Clavien,report grade:	NA	NR	66	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Wound complications (hernia, dehiscence) Define: seroma If Clavien,report grade:	NA	NR	66	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 2(RN)	Harm Name: Other-define Define: prolonged ilius If Clavien,report grade:	NA	NR	66	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 1(PN)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	periopNR	33	2(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 1(PN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	periopNR	33	1(NR)	Comp. Arm: P: NR	NR
Mitchell, 2006[69]	Arm 1(PN)	Harm Name: Hemorrhage Define: bleeding If Clavien,report grade:	NA	periopNR	33	2(NR)	Comp. Arm: P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Mitchell, 2006[69]	Arm 1(PN)	Harm Name: Positive Surgical Margin Define: If Clavien,report grade:	NA	NR	33	2(6.1)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Other-define Define: Intraoperative complications If Clavien,report grade:	NA	NR	100	6(6)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Other-define Define: Postoperative complications If Clavien,report grade:	NA	NR	100	18(18)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Other-define Define: Renal artery Injury If Clavien,report grade:	NA	NR	100	1(1)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Respiratory Define: Pleural injury If Clavien,report grade:	NA	NR	100	1(1)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: I	NA	NR	100	10(10)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: II	NA	NR	100	2(2)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 2(PN)	Harm Name: Listed by severity of	NA	NR	100	0(0)	Comp. Arm: P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		complications (using the Clavien Grading System if available) Define: If Clavien,report grade: IIIa						
Mues, 2012[110]	Arm 2(PN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: IIIb	NA	NR	100	6(6)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Other-define Define: Intraoperative complications If Clavien,report grade:	NA	NR	98	1(1)	Comp. Arm: P: NR	Comp. Arm: Arm 2 P: 0.16
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Other-define Define: Postoperative complications If Clavien,report grade:	NA	NR	98	9(9.2)	Comp. Arm: P: NR	Comp. Arm: Arm 2 P: 0.05
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Other-define Define: Renal artery Injury If Clavien,report grade:	NA	NR	98	0(0)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Respiratory Define: Pleural injury If Clavien,report grade:	NA	NR	98	0(0)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: I	NA	NR	98	5(5.1)	Comp. Arm: P: NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: II	NA	NR	98	1(1)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: IIIa	NA	NR	98	1(1)	Comp. Arm: P: NR	NR
Mues, 2012[110]	Arm 1(Ablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: If Clavien,report grade: IIIb	NA	NR	98	2(2)	Comp. Arm: P: NR	NR
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	3months	48	2(4.2)	NR	Comp. Arm: Arm 2 P: 0.5
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	3months	48	7(14.5)	NR	Comp. Arm: Arm 2 P: NR
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	3months	48	1(2.1)	NR	Comp. Arm: Arm 2 P: 0.43
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Hematologic	NA	1month	48	3(6.3)	NR	Comp. Arm: Arm 2 P:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		(thromboembolic) Define: NA If Clavien,report grade: NA						0.28
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	1month	48	1(2.1)	NR	Comp. Arm: Arm 2 P: 1
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Cardiovascular Define: MI If Clavien,report grade: NA	NA	1month	48	1(2.1)	NR	Comp. Arm: Arm 2 P: 1
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	1month	48	0(0)	NR	Comp. Arm: Arm 2 P: 0.4
Pascal, 2011[107]	Arm 1(LPN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	1month	48	1(2.1)	Comp. Arm: P: NR	Comp. Arm: Arm 2 P: 0.432
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	3months	30	0(0)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	3months	30	1(3.3)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	3months	30	0(0)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Hematologic (thromboembolic) Define: NA If	NA	1month	30	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: NA						
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	1month	30	1(3.3)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Cardiovascular Define: MI If Clavien,report grade: NA	NA	1month	30	0(0)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	1month	30	1(3.3)	NR	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	1month	30	0(0)	Comp. Arm: P: NR	NR
Permpongkosol, 2007, #4196	Arm 1(LRN)	Harm Name: Minor vs. major Define: NA If Clavien,report grade: NA	NA	intraop and postopNR	549	110(20)	Comp. Arm: RR: 0.9 95%CI: 0.7-1.1 P: NR	NR
Permpongkosol, 2007, #4196	Arm 2(LPN)	Harm Name: Minor vs. major Define: NA If Clavien,report grade: NA	NA	intraop and postopNR	345	97(28)	Comp. Arm: RR: 1.3 95%CI: 1.1-1.6 P: NR	NR
Permpongkosol, 2007, #4196	Arm 3(LRA)	Harm Name: Minor vs. major Define: NA If Clavien,report grade: NA	NA	intraop and postopNR	81	23(18.6)	Comp. Arm: RR: 1.3 95%CI: 0.9-1.8 P: NR	NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Harm Name: Cardiovascular Define: Pulmonary If Clavien,report grade:	NA	NR	45	3(6.6)	NR	NRBetween arm1 and arm2, p=0.479, between young and old, p=0.541
Roos, 2010[96]	Arm 2(Radical	Harm Name:	NA	NR	45	19(NR)	NR	NRBetween

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	nephrectomy (NSS), for young (<55 years old))	Cardiovascular Define: Cardiovascular If Clavien,report grade:						arm1 and arm2, p=0.021, between young and old, p=NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Urinary fistula If Clavien,report grade:	NA	NR	45	0(0)	NR	NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Harm Name: Cardiovascular Define: Pulmonary If Clavien,report grade:	NA	NR	55	6(11.5)	NR	NRBetween arm3 and arm4, p=0.399, between young and old, p=0.541
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Harm Name: Cardiovascular Define: Cardiovascular If Clavien,report grade:	NA	NR	55	0(0)	NR	NRBetween arm3 and arm4, p=0.314, between young and old, p=NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Urinary fistula If Clavien,report grade:	NA	NR	55	0(0)	NR	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Harm Name: Cardiovascular Define: Pulmonary If Clavien,report grade:	NA	NR	36	4(11.1)	NR	NRBetween arm1 and arm2, p=0.479, between young and old, p=0.541
Roos, 2010[96]	Arm 1(Partial	Harm Name:	NA	NR	36	1(3.3)	NR	NRBetween

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	nephrectomy (NSS), for young (<55 years old))	Cardiovascular Define: Cardiovascular If Clavien,report grade:						arm1 and arm2, p=0.021, between young and old, p=NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Urinary fistula If Clavien,report grade:	NA	NR	36	4(11.1)	NR	NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Harm Name: Cardiovascular Define: Pulmonary If Clavien,report grade:	NA	NR	33	2(6.1)	NR	NRBetween arm3 and arm4, p=0.399, between young and old, p=0.541
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Harm Name: Cardiovascular Define: Cardiovascular If Clavien,report grade:	NA	NR	33	0(0)	NR	NRBetween arm3 and arm4, p=0.314, between young and old, p=NR
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Urinary fistula If Clavien,report grade:	NA	NR	33	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Respiratory insufficiency,analgesics, diuretics If	NA	NR	146	38(26)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: I						
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Perioperative blood transfusions If Clavien,report grade: II	NA	NR	146	18(12.3)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Transurethral or suprapubic catheter or DJ-insertion, thoracal drain If Clavien,report grade: IIIa	NA	NR	146	5(3.4)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Open revision or intraoperative complcations If Clavien,report grade: IIIb	NA	NR	146	3(2.1)	NR	NR
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available)	NA	NR	146	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: Acute renal failure If Clavien,report grade: IV						
Roos, 2012[45]	Arm 2(RN)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Death If Clavien,report grade: V	NA	NR	146	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Fistula If Clavien,report grade: NA	NA	NR	28	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	28	5(45.5)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	28	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	28	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor 4.1 - 7cm))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Fistula If Clavien,report grade: NA	NA	NR	118	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor 4.1 -	Harm Name:	NA	NR	118	12(34.3)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	7cm))	Respiratory Define: NA If Clavien,report grade: NA						
Roos, 2012[45]	Arm 2(RN(tumor 4.1 - 7cm))	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	118	0(0)	NR	NR
Roos, 2012[45]	Arm 2(RN(tumor 4.1 - 7cm))	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	118	2(5.7)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Respiratory insufficiency,analgesis,diuretics If Clavien,report grade: I	NA	NR	101	17(16.8)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Perioperative blood transfusions If Clavien,report grade: II	NA	NR	101	27(26.7)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Transurethral or suprapubic catheter or DJ-	NA	NR	101	5(5)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		insertion, thoracal drain If Clavien,report grade: IIIa						
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Open revision or intraoperative complcations If Clavien,report grade: IIIb	NA	NR	101	1(1)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Acute renal failure If Clavien,report grade: IV	NA	NR	101	0(0)	NR	NR
Roos, 2012[45]	Arm 1(NSS)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: Death If Clavien,report grade: V	NA	NR	101	0(0)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Fistula If Clavien,report grade: NA	NA	NR	16	0(0)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor	Harm Name:	NA	NR	16	1(NR)	NR	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
	>7cm))	Respiratory Define: NA If Clavien,report grade: NA						Arm 2 P: 0.28
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	16	0(0)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	16	0(0)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: Fistula If Clavien,report grade: NA	NA	NR	85	5(16.1)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	85	7(22.5)	NR	Comp. Arm: Arm 2 P: 0.641
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	85	2(6.5)	NR	NR
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Harm Name: Neurologic Define: NA If Clavien,report grade: NA	NA	NR	85	3(9.7)	NR	Comp. Arm: Arm 2 P: 0.349
Shinohara, 2001[46]	Arm 2(RN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	51	4(NR)	NR	NR
Shinohara, 2001[46]	Arm 2(RN)	Harm Name: Hemorrhage Define: retroperitoneal hemorrhage If	NA	NR	51	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade: NA						
Shinohara, 2001[46]	Arm 2(RN)	Harm Name: Gastrointestinal Define: including subileus or ileus If Clavien,report grade: NA	NA	NR	51	9(NR)	NR	NR
Shinohara, 2001[46]	Arm 2(RN)	Harm Name: Neurologic Define: Anorexia If Clavien,report grade: NA	NA	NR	51	1(NR)	NR	NR
Shinohara, 2001[46]	Arm 2(RN)	Harm Name: Respiratory Define: Atelectasis If Clavien,report grade: NA	NA	NR	51	1(NR)	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	15	0(NR)	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Harm Name: Hemorrhage Define: retroperitoneal hemorrhage If Clavien,report grade: NA	NA	NR	15	1(NR)	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Harm Name: Gastrointestinal Define: including subileus or ileus If Clavien,report grade: NA	NA	NR	15	0(NR)	NR	NR
Shinohara, 2001[46]	Arm 1(NSS)	Harm Name: Neurologic Define: Cerebral bleeding If Clavien,report grade: NA	NA	NR	15	1(NR)	NR	NR
Shinohara,	Arm 1(NSS)	Harm Name:	NA	NR	15	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2001[46]		Respiratory Define: Atelectasis If Clavien,report grade: NA						
Stern, 2007[111]	Arm 1(RFA)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade: NA	NA	NR	40	2(NR)	NR	NR
Stern, 2007[111]	Arm 1(RFA)	Harm Name: Wound complications (hernia, dehiscence) Define: hernia If Clavien,report grade: NA	NA	NR	40	1(NR)	NR	NR
Stern, 2007[111]	Arm 1(RFA)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade: NA	NA	NR	40	0(NR)	NR	NR
Stern, 2007[111]	Arm 2(PN)	Harm Name: Gastrointestinal Define: ileus If Clavien,report grade: NA	NA	NR	37	0(NR)	NR	NR
Stern, 2007[111]	Arm 2(PN)	Harm Name: Wound complications (hernia, dehiscence) Define: hernia If Clavien,report grade: NA	NA	NR	37	0(NR)	NR	NR
Stern, 2007[111]	Arm 2(PN)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade: NA	NA	NR	37	1(NR)	NR	NR
Sun, 2012[74]	Arm 2(RN)	Harm Name: Acute kidney injury Define: ARF If Clavien,report grade:	NA	NR	840	169(20.1)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Sun, 2012[74]	Arm 1(PN)	Harm Name: Acute kidney injury Define: ARF If Clavien,report grade: NA	NA	NR	840	123(14.6)	NR	Comp. Arm: Arm 2 HR: 1.83 95%CI: 1.16-1.86 P: 0.001
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: 0.12
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Acute kidney injury Define: Dialysis If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: >.99
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Gastrointestinal Define: Bowel Ischemia If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: >.99
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Respiratory Define: Pneumothorax If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: 0.35
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Hemorrhage Define: hematoma or bleeding If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: 0.12
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Infectious disease Define: infection or abscess If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: >.99
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Minor	NA	NR	21	NR	NR	Comp. Arm:

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		vs. major Define: Major If Clavien,report grade: NA						Arm 2 P: 0.61
Takaki, 2014[123]	Arm 1(RFA)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	21	NR	NR	Comp. Arm: Arm 2 P: 0.12
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Hematuria Define: NA If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Acute kidney injury Define: Dialysis If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Gastrointestinal Define: Bowel Ischemia If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Respiratory Define: Pneumothorax If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Hemorrhage Define: hematoma or bleeding If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Infectious disease Define: infection or abscess If Clavien,report grade:	NA	NR	39	NR	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Minor vs. major Define: Major If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Takaki, 2014[123]	Arm 2(RN)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	39	NR	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	233	1(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Hemorrhage Define: NA If Clavien,report grade: NA	NA	NR	233	1(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	233	1(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	233	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	233	0(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR	233	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Cardiovascular	NA	NR	233	2(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: NA If Clavien,report grade: NA						
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	233	4(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: II	NA	NR	233	5(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IIIA	NA	NR	233	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IVA	NA	NR	233	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	267	0(NR)	NR	NR
Tanagho,	NA(Cryoablation)	Harm Name:	NA	NR	267	3(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
2013[116]		Hemorrhage Define: NA If Clavien,report grade: NA						
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	267	0(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	267	3(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	267	1(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR	267	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	267	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: I	NA	NR	267	1(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available)	NA	NR	267	2(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: NA If Clavien,report grade: II						
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IIIA	NA	NR	267	2(NR)	NR	NR
Tanagho, 2013[116]	NA(Cryoablation)	Harm Name: Listed by severity of complications (using the Clavien Grading System if available) Define: NA If Clavien,report grade: IVA	NA	NR	267	2(NR)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	307	0(0)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	307	6(7.7)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	307	14(18)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	307	18(23.1)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Respiratory Define: NA If Clavien,report	NA	NR	307	6(7.7)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		grade: NA						
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	307	7(9)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR	307	4(5.1)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN-cT1b-T2)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	187	17(9.1)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN-cT1b-T2)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	187	3(1.6)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN-cT1b-T2)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	187	36(19.3)	NR	NR
Tomaszewski, 2014[78]	Arm 2(RN-cT1b-T2)	Harm Name: Minor vs. major Define: Major If Clavien,report grade: NA	NA	NR	187	16(8.6)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	785	43(20.5)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	785	4(1.9)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Infectious disease	NA	NR	785	30(14.3)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: NA If Clavien,report grade: NA						
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Gastrointestinal Define: NA If Clavien,report grade: NA	NA	NR	785	30(14.3)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Respiratory Define: NA If Clavien,report grade: NA	NA	NR	785	20(9.5)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Cardiovascular Define: NA If Clavien,report grade: NA	NA	NR	785	16(7.6)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN)	Harm Name: Hematologic (thromboembolic) Define: NA If Clavien,report grade: NA	NA	NR	785	8(3.8)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN-cT1b-T2)	Harm Name: Urine leak Define: NA If Clavien,report grade: NA	NA	NR	154	0(0)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN-cT1b-T2)	Harm Name: Acute kidney injury Define: NA If Clavien,report grade: NA	NA	NR	154	5(3.2)	NR	NR
Tomaszewski, 2014[78]	Arm 1(PN-cT1b-T2)	Harm Name: Minor vs. major Define: Minor If Clavien,report grade: NA	NA	NR	154	24(15.6)	NR	Comp. Arm: Arm 2 P: 0.059
Tomaszewski, 2014[78]	Arm 1(PN-cT1b-T2)	Harm Name: Minor vs. major Define: Major If Clavien,report grade:	NA	NR	154	9(5.8)	NR	Comp. Arm: Arm 2 P: 0.618

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		NA						
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Harm Name: Other-define Define: All urological complications If Clavien,report grade:	NA	NR	36	9	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Harm Name: Other-define Define: All non-urological complications If Clavien,report grade:	NA	NR	36	12	NR	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Harm Name: Acute kidney injury Define: Requiring hemodialysis (temporary and permanent) If Clavien,report grade:	NA	NR	36	5	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Harm Name: Other-define Define: All urological complications If Clavien,report grade:	NA	NR	29	1	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Harm Name: Other-define Define: All non-urological complications If Clavien,report grade:	NA	NR	29	1	NR	NR
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Harm Name: Acute kidney injury Define: Requiring hemodialysis (temporary and permanent) If Clavien,report grade:	NA	NR	29	0	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Harm Name: Other-define Define: All urological complications If Clavien,report grade:	NA	NR	36	3	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Turna, 2009[113]	Arm 2(Cryoablation)	Harm Name: Other-define Define: All non-urological complications If Clavien,report grade:	NA	NR	36	2	NR	NR
Turna, 2009[113]	Arm 2(Cryoablation)	Harm Name: Acute kidney injury Define: Requiring hemodialysis (temporary and permanent) If Clavien,report grade:	NA	NR	36	0	NR	NR
Uchida, 2004[79]	Arm 2(RN)	Harm Name: Gastrointestinal Define: If Clavien,report grade:	NA	NR	54	2(NR)	NR	NR
Uchida, 2004[79]	Arm 2(RN)	Harm Name: Infectious disease Define: If Clavien,report grade:	NA	NR	51	1(NR)	NR	NR
Uchida, 2004[79]	Arm 2(RN)	Harm Name: Hemorrhage Define: If Clavien,report grade:	NA	NR	51	1(NR)	NR	NR
Uchida, 2004[79]	Arm 1(PN)	Harm Name: Urine leak Define: If Clavien,report grade:	NA	NR	54	2(NR)	NR	NR
Uchida, 2004[79]	Arm 1(PN)	Harm Name: Other-define Define: renal hypertension If Clavien,report grade:	NA	NR	54	1(NR)	NR	NR
Uzzo, 1999[80]	Arm 1(RN)	Harm Name: Hematologic (thromboembolic) Define: Pulmonary embolism If Clavien,report grade: NA	NA	NR	28	1(NR)	NR	NR
Uzzo, 1999[80]	Arm 1(RN)	Harm Name: Gastrointestinal	NA	NR	28	1(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: Post operative ileus If Clavien,report grade: NA						
Uzzo, 1999[80]	Arm 1(RN)	Harm Name: Respiratory Define: Pneumonia If Clavien,report grade: NA	NA	NR	28	0(NR)	NR	NR
Uzzo, 1999[80]	Arm 1(RN)	Harm Name: Hemorrhage Define: Perinephric hematoma If Clavien,report grade: NA	NA	NR	28	0(NR)	NR	NR
Uzzo, 1999[80]	Arm 1(RN)	Harm Name: abscess Define: Perinephric abscess If Clavien,report grade: NA	NA	NR	28	0(NR)	NR	NR
Uzzo, 1999[80]	Arm 2(NSS)	Harm Name: Hematologic (thromboembolic) Define: Pulmonary embolism If Clavien,report grade: NA	NA	NR	52	0(NR)	NR	NR
Uzzo, 1999[80]	Arm 2(NSS)	Harm Name: Gastrointestinal Define: Post operative ileus If Clavien,report grade: NA	NA	NR	52	1(NR)	NR	NR
Uzzo, 1999[80]	Arm 2(NSS)	Harm Name: Respiratory Define: Pneumonia If Clavien,report grade: NA	NA	NR	52	1(NR)	NR	NR
Uzzo, 1999[80]	Arm 2(NSS)	Harm Name: Hemorrhage Define:	NA	NR	52	1(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Perinephric hematoma If Clavien,report grade: NA						
Uzzo, 1999[80]	Arm 2(NSS)	Harm Name: abscess Define: Perinephric abscess If Clavien,report grade: NA	NA	NR	52	1(NR)	NR	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Harm Name: Urine leak Define: Urinary fistula If Clavien,report grade:	NA	NR	290	0(0)	NR	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Harm Name: Respiratory Define: If Clavien,report grade:	NA	NR	290	25(8.6)	NR	NR
Van Poppel, 2011[81]	Arm 1(NSS)	Harm Name: Urine leak Define: Urinary fistula If Clavien,report grade:	NA	NR	242	9(4)	NR	NR
Van Poppel, 2011[81]	Arm 1(NSS)	Harm Name: Respiratory Define: If Clavien,report grade:	NA	NR	242	27(11.2)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: non-complication If Clavien,report grade:	NA	NR	88	71(80.68)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: total genitourinary If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Acute kidney injury Define: acute renal failure If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Wound	NA	NR	88	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		complications (hernia, dehiscence) Define: total wound If Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Wound complications (hernia, dehiscence) Define: infection If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Wound complications (hernia, dehiscence) Define: subcutaneous hydrops If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Infectious disease Define: total infectious If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Infectious disease Define: urinary tract infection If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Infectious disease Define: fever of unknow origin If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: total gastrointestinal If Clavien,report grade:	NA	NR	88	6(6.82)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name:	NA	NR	88	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Gastrointestinal Define: hiccup If Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: stress ulcer If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: small bowel obstruction If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: constipation If Clavien,report grade:	NA	NR	88	3(3.41)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: gastrointestinal bleeding If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: emesis If Clavien,report grade:	NA	NR	88	3(3.41)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: biliary colic If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: pancreatitis If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Gastrointestinal Define: pancreatic	NA	NR	88	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		fistula If Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Cardiovascular Define: total cardiac If Clavien,report grade:	NA	NR	88	4(4.55)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Cardiovascular Define: myocardial infarction If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Cardiovascular Define: congestive heart failure If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Cardiovascular Define: hypertension If Clavien,report grade:	NA	NR	88	3(3.41)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define: total pulmonary If Clavien,report grade:	NA	NR	88	2(2.27)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define: pneumothorax If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define:	NA	NR	88	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		respiratory distress If Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define: pleaural effusion If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Respiratory Define: atelectasis If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hematologic (thromboembolic) Define: total thromboembolic If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hematologic (thromboembolic) Define: deep vein thrombosis If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hemorrhage Define: total bleeding If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hemorrhage Define: perinephric hematoma If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hemorrhage Define: other postoperative hemorrhage If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Hematologic (thromboembolic) Define: anemia If	NA	NR	88	1(1.14)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Neurologic Define: total neurologic If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Neurologic Define: cerebrovascular event If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Neurologic Define: neuropathy If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Neurologic Define: syncope If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: total miscellaneous If Clavien,report grade:	NA	NR	88	2(2.27)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: anaphylaxis If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: Chylous leak If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: gout If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: hyponatremia If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: shock	NA	NR	88	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		If Clavien,report grade:						
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: hypoalbuminemia If Clavien,report grade:	NA	NR	88	1(1.14)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Other-define Define: death If Clavien,report grade:	NA	NR	88	0(0)	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: I	NA	NR	88	10	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: II	NA	NR	88	6	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: IIIa	NA	NR	88	0	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: IIIb	NA	NR	88	0	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: IV a	NA	NR	88	1	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: IV b	NA	NR	88	0	NR	NR
Xu, 2014[47]	Arm 1(LRN)	Harm Name: Define: If Clavien,report grade: V	NA	NR	88	0	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: non-	NA	NR	42	27(64.29)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		complication If Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: total genitourinary If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Acute kidney injury Define: acute renal failure If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Wound complications (hernia, dehiscence) Define: total wound If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Wound complications (hernia, dehiscence) Define: infection If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Wound complications (hernia, dehiscence) Define: subcutaneous hydrops If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Infectious disease Define: total infectious If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Infectious disease Define: urinary tract infection If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Infectious disease	NA	NR	42	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: fever of unknow origin If Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: total gastrointestinal If Clavien,report grade:	NA	NR	42	5(11.9)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: hiccup If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: stress ulcer If Clavien,report grade:	NA	NR	42	2(4.76)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: small bowel obstruction If Clavien,report grade:	NA	NR	42	0	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: constipation If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: gastrointestinal bleeding If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: emesis If	NA	NR	42	2(4.76)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: biliary colic If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: pancreatitis If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Gastrointestinal Define: pancreatic fistula If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Cardiovascular Define: total cardiac If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Cardiovascular Define: myocardial infarction If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Cardiovascular Define: congestive heart failure If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Cardiovascular Define: hypertension If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name:	NA	NR	42	4(9.52)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Respiratory Define: total pulmonary If Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade:	NA	NR	42	2(4.76)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Respiratory Define: pneumothorax If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Respiratory Define: respiratory distress If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Respiratory Define: pleaural effusion If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Respiratory Define: atelectasis If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Hematologic (thromboembolic) Define: total thromboembolic If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Hematologic (thromboembolic) Define: deep vein thrombosis If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Hemorrhage Define: total bleeding If Clavien,report grade:	NA	NR	42	3(7.14)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name:	NA	NR	42	1(2.38)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Hemorrhage Define: perinephric hematoma If Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Hemorrhage Define: other postoperative hemorrhage If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Hematologic (thromboembolic) Define: anemia If Clavien,report grade:	NA	NR	42	2(4.76)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Neurologic Define: total neurologic If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Neurologic Define: cerebrovascular event If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Neurologic Define: neuropathy If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Neurologic Define: syncope If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: total miscellaneous If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: anaphylaxis If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-	NA	NR	42	0(0)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		define Define: Chylous leak If Clavien,report grade:						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: gout If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: hyponatremia If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: shock If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: hypoalbuminemia If Clavien,report grade:	NA	NR	42	1(2.38)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Other-define Define: death If Clavien,report grade:	NA	NR	42	0(0)	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: I	NA	NR	42	4	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: II	NA	NR	42	11	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: IIIa	NA	NR	42	0	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: IIIb	NA	NR	42	0	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name:	NA	NR	42	0	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: If Clavien,report grade: IV a						
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: IV b	NA	NR	42	0	NR	NR
Xu, 2014[47]	Arm 3(LPN)	Harm Name: Define: If Clavien,report grade: V	NA	NR	42	0	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: non-complication If Clavien,report grade:	NA	NR	526	368(69.96)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: total genitourinary If Clavien,report grade:	NA	NR	526	7(1.33)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Acute kidney injury Define: acute renal failure If Clavien,report grade:	NA	NR	526	7(1.33)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Wound complications (hernia, dehiscence) Define: total wound If Clavien,report grade:	NA	NR	526	7(1.33)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Wound complications (hernia, dehiscence) Define: infection If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Wound complications (hernia, dehiscence) Define: subcutaneous hydrops If	NA	NR	526	6(1.14)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Infectious disease Define: total infectious If Clavien,report grade:	NA	NR	526	13(2.47)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Infectious disease Define: urinary tract infection If Clavien,report grade:	NA	NR	526	3(0.57)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Infectious disease Define: fever of unknow origin If Clavien,report grade:	NA	NR	526	8(1.52)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade:	NA	NR	526	2(0.38)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: total gastrointestinal If Clavien,report grade:	NA	NR	526	53(10.8)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: hiccup If Clavien,report grade:	NA	NR	526	2(0.38)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: stress ulcer If Clavien,report grade:	NA	NR	526	14(2.66)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: small bowel obstruction If Clavien,report grade:	NA	NR	526	3(0.57)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name:	NA	NR	526	15(2.85)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Gastrointestinal Define: constipation If Clavien,report grade:						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: gastrointestinal bleeding If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: emesis If Clavien,report grade:	NA	NR	526	13(2.47)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: biliary colic If Clavien,report grade:	NA	NR	526	0(0)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: pancreatitis If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Gastrointestinal Define: pancreatic fistula If Clavien,report grade:	NA	NR	526	4(0.76)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Cardiovascular Define: total cardiac If Clavien,report grade:	NA	NR	526	20(3.8)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	NR	526	6(1.14)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Cardiovascular Define: myocardial	NA	NR	526	2(0.38)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		infarction If Clavien,report grade:						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Cardiovascular Define: congestive heart failure If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Cardiovascular Define: hypertension If Clavien,report grade:	NA	NR	526	11(2.09)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: total pulmonary If Clavien,report grade:	NA	NR	526	10(1.9)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade:	NA	NR	526	4(0.76)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: pneumothorax If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: respiratory distress If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: pleaural effusion If Clavien,report grade:	NA	NR	526	1(0.38)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Respiratory Define: atelectasis If Clavien,report grade:	NA	NR	526	2(0.38)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Hematologic (thromboembolic) Define: total	NA	NR	526	1(0.19)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		thromboembolic If Clavien,report grade:						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Hematologic (thromboembolic) Define: deep vein thrombosis If Clavien,report grade:	NA	NR	526	0(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Hemorrhage Define: total bleeding If Clavien,report grade:	NA	NR	526	11(2.09)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Hemorrhage Define: perinephric hematoma If Clavien,report grade:	NA	NR	526	0(0)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Hemorrhage Define: other postoperative hemorrhage If Clavien,report grade:	NA	NR	526	7(1.33)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: anemia If Clavien,report grade:	NA	NR	526	4(0.76)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Neurologic Define: total neurologic If Clavien,report grade:	NA	NR	526	3(0.57)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Neurologic Define: cerebrovascular event If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Neurologic Define: neuropathy If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name:	NA	NR	526	1(0.19)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Neurologic Define: syncope If Clavien,report grade:						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: total miscellaneous If Clavien,report grade:	NA	NR	526	33(6.27)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: anaphylaxis If Clavien,report grade:	NA	NR	526	9(1.71)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: Chylous leak If Clavien,report grade:	NA	NR	526	6(1.14)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: gout If Clavien,report grade:	NA	NR	526	1(0.19)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: hyponatremia If Clavien,report grade:	NA	NR	526	2(0.34)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: shock If Clavien,report grade:	NA	NR	526	0(0)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: hypoalbuminemia If Clavien,report grade:	NA	NR	526	15(2.85)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Other-define Define: death If Clavien,report grade:	NA	NR	526	2(0.38)	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: I	NA	NR	526	50	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name:	NA	NR	526	93	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: If Clavien,report grade: II						
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: IIIa	NA	NR	526	6	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: IIIb	NA	NR	526	0	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: IV a	NA	NR	536	7	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: IV b	NA	NR	526	0	NR	NR
Xu, 2014[47]	Arm 2(ORN)	Harm Name: Define: If Clavien,report grade: V	NA	NR	526	2	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: non-complication If Clavien,report grade:	NA	NR	187	119(63.64)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Acute kidney injury Define: total genitourinary If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Acute kidney injury Define: acute renal failure If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Wound complications (hernia, dehiscence) Define: total wound If Clavien,report grade:	NA	NR	187	6(3.21)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Wound complications (hernia, dehiscence) Define: infection If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Wound complications (hernia, dehiscence) Define: subcutaneous hydrops If Clavien,report grade:	NA	NR	187	5(2.67)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Infectious disease Define: total infectious If Clavien,report grade:	NA	NR	187	3(3)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Infectious disease Define: urinary tract infection If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Infectious disease Define: fever of unknow origin If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Infectious disease Define: sepsis If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: total gastrointestinal If Clavien,report grade:	NA	NR	187	26(13.9)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: hiccup If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name:	NA	NR	187	7(3.74)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Gastrointestinal Define: stress ulcer If Clavien,report grade:						
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: small bowel obstruction If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: constipation If Clavien,report grade:	NA	NR	187	5(2.67)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: gastrointestinal bleeding If Clavien,report grade:	NA	NR	187	4(2.41)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: emesis If Clavien,report grade:	NA	NR	187	6(3.21)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: biliary colic If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: pancreatitis If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Gastrointestinal Define: pancreatic fistula If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Cardiovascular	NA	NR	187	9(4.81)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Define: total cardiac If Clavien,report grade:						
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Cardiovascular Define: arrhythmia If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Cardiovascular Define: myocardial infarction If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Cardiovascular Define: congestive heart failure If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Cardiovascular Define: hypertension If Clavien,report grade:	NA	NR	187	7(3.74)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define: total pulmonary If Clavien,report grade:	NA	NR	187	8(4.28)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define: pneumonia If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define: pneumothorax If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define: respiratory distress If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define:	NA	NR	187	3(1.6)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		pleaural effusion If Clavien,report grade:						
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Respiratory Define: atelectasis If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hematologic (thromboembolic) Define: total thromboembolic If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hematologic (thromboembolic) Define: deep vein thrombosis If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hemorrhage Define: total bleeding If Clavien,report grade:	NA	NR	187	7(3.74)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hemorrhage Define: perinephric hematoma If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hemorrhage Define: other postoperative hemorrhage If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Hematologic (thromboembolic) Define: anemia If Clavien,report grade:	NA	NR	187	3(1.6)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Neurologic Define: total neurologic If	NA	NR	187	1(0.53)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		Clavien,report grade:						
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Neurologic Define: cerebrovascular event If Clavien,report grade:	NA	NR	187	4(2.41)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Neurologic Define: neuropathy If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Neurologic Define: syncope If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: total miscellaneous If Clavien,report grade:	NA	NR	187	8(4.28)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: anaphylaxis If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: Chylous leak If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: gout If Clavien,report grade:	NA	NR	187	2(1.07)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: hyponatremia If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: shock If Clavien,report grade:	NA	NR	187	1(0.53)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define:	NA	NR	187	4(2.14)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		hypoalbuminemia If Clavien,report grade:						
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Other-define Define: death If Clavien,report grade:	NA	NR	187	0(0)	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: I	NA	NR	187	20	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: II	NA	NR	187	41	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: IIIa	NA	NR	187	6	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: IIIb	NA	NR	187	1	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: IV a	NA	NR	187	0	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: IV b	NA	NR	187	0	NR	NR
Xu, 2014[47]	Arm 4(OPN)	Harm Name: Define: If Clavien,report grade: V	NA	NR	187	0	NR	NR
Yasuda, 2013[86]	Arm 2(RN)	Harm Name: Other-define Define: complications If Clavien,report grade: I	NA	NR	103	10(9.7)	NR	NR
Yasuda, 2013[86]	Arm 2(RN)	Harm Name: Other-	NA	NR	103	5(4.9)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		define Define: complications If Clavien,report grade: II						
Yasuda, 2013[86]	Arm 2(RN)	Harm Name: Other-define Define: complications If Clavien,report grade: IIIa	NA	NR	103	1(1)	NR	NR
Yasuda, 2013[86]	Arm 1(NSS)	Harm Name: Other-define Define: complications If Clavien,report grade: I	NA	NR	97	7(7.2)	NR	NR
Yasuda, 2013[86]	Arm 1(NSS)	Harm Name: Other-define Define: complications If Clavien,report grade: II	NA	NR	97	6(6.2)	NR	NR
Yasuda, 2013[86]	Arm 1(NSS)	Harm Name: Other-define Define: complications If Clavien,report grade: IIIa	NA	NR	97	6(6.2)	NR	NR
Youn, 2013[119]	Arm 2(Laparascopic RFA)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report grade: NA	NA	NR	41	1(NR)	NR	NR
Youn, 2013[119]	Arm 2(Laparascopic RFA)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	41	0(NR)	NR	NR
Youn, 2013[119]	Arm 1(Open PN)	Harm Name: Ureteral injury (any injury of collecting system and ureter) Define: NA If Clavien,report	NA	NR	14	0(NR)	NR	NR

Author, year	Arm(name)	Outcome and Units	Baseline Outcome	Time point	N for analysis	Outcome at Timepoint(s): n(%)	Within Arm	Between Arm Comparisons
		grade: NA						
Youn, 2013[119]	Arm 1(Open PN)	Harm Name: Infectious disease Define: NA If Clavien,report grade: NA	NA	NR	14	0(NR)	NR	NR
ACTIVE SURVEILLANCE(UNCONTROLLED STUDIES)								
Oncologic efficacy								
Rosales, 2010[137]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	NR	212	NR(98.1)	NR	NR
Rosales, 2010[137]	Overall(Active Surveillance)	Cancer-specific survival: n(%)	NA	NR	212	NR(99.5)	NR	NR
Crispen, 2009[134]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	mean of 31 months	173	172(99.4)	NR	NR
Crispen, 2008[133]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	mean of 33.4months	70	69(98.6)	NR	NR
Abouassaly, 2008[132]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	median of 24months	110	NR(98.2)	NR	NR
Abouassaly, 2008[132]	Overall(Active Surveillance)	Cancer-specific survival: n(%)	NA	median of 24months	110	NR(100)	NR	NR
Kunkle, 2007[136]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	median of 29months	89	88(98.9)	NR	NR
Jewett, 2011[135]	Overall(Active Surveillance)	Cancer-specific survival: n(%)	NA	>12 months	178	176(98.9)	NR	NR
Jewett, 2011[135]	Overall(Active Surveillance)	Metastasis-free survival: n(%)	NA	>12 months	178	178(100)	NR	NR
Leonard, 2013[36]	Overall(Active surveillance)	Metastasis-free survival: n(%)	NA	Mean of 27.86 monthsmonths	133	132(99.2)	NR	NR
Overall Survival								
Rosales, 2010[137]	Overall(Active Surveillance)	Overall survival	NA	NR	212	NR(93)	NR	NR
Abouassaly, 2008[132]	Overall(Active Surveillance)	Overall survival	NA	median 2 years	110	NR(69)	NR	NR
Jewett, 2011[135]	Overall(Active Surveillance)	Overall survival	NA	>1	178	168(94.4)	NR	NR

N=Number; GFR: Glomerular Filtration Rate; H: Hypertension; IQR: Interquartile range; LPN: Laparoscopic partial nephrectomy; LTA: Laparoscopic Thermal Ablation; NA: Not Applicable; NR: Not reported; NSM: Non surgical Management; NSS: Nephron-sparing surgery; OPN: Open partial nephrectomy; ORN: Open Radical Nephrectomy; PN: Partial Nephrectomy; RFA: Radio frequency ablation; RN Radical nephrectomy; SD: Standard deviation; OR=Odds Ratio; RD=Risk Difference; P=p value

Table D13: Perioperative Outcomes

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Length of stay: days	41	NR	7.3	NR
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Length of stay: days	48	NR	8.1	NR
Barbalias, 1999[39]	Arm 1(Partial nephrectomy)	Blood Transfusion:	41	5 years	0.8	NR
Barbalias, 1999[39]	Arm 2(Radical nephrectomy)	Blood Transfusion:	48	5 years	1.1	NR
Bensalah, 2007[101]	Arm 1(LPN)	Blood loss: cc or mls	50	NR	217	SD: 178
Bensalah, 2007[101]	Arm 2(LRFA)	Blood loss: cc or mls	38	NR	24	SD: 24
Bensalah, 2007[101]	Arm 1(LPN)	Length of stay: days	50	NR	2.9	SD: 1.6
Bensalah, 2007[101]	Arm 2(LRFA)	Length of stay: days	38	NR	0.7	SD: 0.7
Brewer, 2012[88]	Arm 1(MPN)	Blood loss: cc or mls	45	NR	401.8	SD: 412.7
Brewer, 2012[88]	Arm 2(MRN)	Blood loss: cc or mls	108	NR	157.6	SD: 166.8
Brewer, 2012[88]	Arm 1(MPN)	Blood Transfusion: patients	45	NR	8	NR
Brewer, 2012[88]	Arm 2(MRN)	Blood Transfusion: patients	108	NR	8	NR
Brewer, 2012[88]	Arm 1(MPN)	Conversion to radical nephrectomy: patients	45	NR	2	NR
Brewer, 2012[88]	Arm 2(MRN)	Conversion to radical nephrectomy: patients	108	NR	NA	NR
Brewer, 2012[88]	Arm 1(MPN)	conversion to open surgery: patients	45	NR	2	NR
Brewer, 2012[88]	Arm 2(MRN)	conversion to open surgery: patients	108	NR	1	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Blood loss: cc or mls	33	NR	233	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Blood loss: cc or mls	52	NR	112	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Blood Transfusion: cc or mls	33	NR	9.1	NR
Deklaj, 2010[89]	Arm 2(Radical	Blood Transfusion: cc	52	NR	5.8	NR

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
	nephrectomy)	or mls				
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	conversion to open surgery: patients	33	NR	3	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	conversion to open surgery: patients	52	NR	1	NR
Deklaj, 2010[89]	Arm 1(Partial nephrectomy)	Length of stay: days	33	NR	2.12	NR
Deklaj, 2010[89]	Arm 2(Radical nephrectomy)	Length of stay: days	52	NR	2.02	NR
Deklaj, 2010[129]	Arm 1(LRN)	Blood Transfusion: patients	19	NR	5.3	NR
Deklaj, 2010[129]	Arm 2(LPN)	Blood Transfusion: patients	28	NR	7.1	NR
Deklaj, 2010[129]	Arm 3(LAT)	Blood Transfusion: patients	19	NR	5.3	NR
Deklaj, 2010[129]	Arm 1(LRN)	Length of stay: days	19	NR	5.3	NR
Deklaj, 2010[129]	Arm 2(LPN)	Length of stay: days	28	NR	7.1	NR
Deklaj, 2010[129]	Arm 3(LAT)	Length of stay: days	19	NR	5.3	NR
Deklaj, 2010[129]	Arm 1(LRN)	conversion to open surgery: patients	19	NR	0	NR
Deklaj, 2010[129]	Arm 2(LPN)	conversion to open surgery: patients	28	NR	1	NR
Deklaj, 2010[129]	Arm 3(LAT)	conversion to open surgery: patients	19	NR	0	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	Blood Transfusion: patients	153	NR	7	NR
Desai, 2005[102]	Arm 2(Cryoablation)	Blood Transfusion: patients	78	NR	0	NR
Desai, 2005[102]	Arm 1(Laparascopic PN)	conversion to open surgery: patients	153	NR	1	NR
Desai, 2005[102]	Arm 2(Cryoablation)	conversion to open surgery: patients	78	NR	0	NR
Emara, 2014[103]	NA(Cryoablation)	Conversion to radical nephrectomy: patients	56	NR	0	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Conversion to radical nephrectomy: patients	47	NR	2	NR
Emara, 2014[103]	NA(Cryoablation)	Blood loss: cc or mls	56	NR	47.1	SD: 16.24
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Blood loss: cc or mls	47	NR	94.3	SD: 40.1
Emara, 2014[103]	NA(Cryoablation)	Length of stay: days	56	NR	1.679	SD: 0.175

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Length of stay: days	47	NR	1.383	SD: 0.1237
Emara, 2014[103]	NA(Cryoablation)	Blood Transfusion: patients	56	NR	0	NR
Emara, 2014[103]	NA(Robot assisted partial nephrectomy)	Blood Transfusion: patients	47	NR	0	NR
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Blood loss: cc or mls	36	NR	231	SD: 153
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Blood loss: cc or mls	37	NR	424	SD: 361
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Blood loss: cc or mls	44	NR	361	SD: 360
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Length of stay: days	36	NR	7.2	SD: 2.9
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Length of stay: days	37	NR	9.1	SD: 3.5
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Length of stay: days	44	NR	9.6	IQR: Range: SD: 3.1
Gratzke, 2009[100]	Arm 1(Retroperitoneoscopic radical nephrectomy)	Blood Transfusion: patients	36	NR	4	NR
Gratzke, 2009[100]	Arm 2(Open radical nephrectomy)	Blood Transfusion: patients	37	NR	10	NR
Gratzke, 2009[100]	Arm 3(Nephron-sparing surgery)	Blood Transfusion: patients	44	NR	9	NR
Guillotreau, 2012[104]	Arm 1(RPN)	Blood loss: cc or mls	210	NR	200	IQR: 100-300
Guillotreau, 2012[104]	Arm 2(LCA)	Blood loss: cc or mls	226	NR	75	IQR: 50-100
Guillotreau, 2012[104]	Arm 1(RPN)	Length of stay: days	210	NR	72	IQR: 72-96 SD: NR
Guillotreau, 2012[104]	Arm 2(LCA)	Length of stay: days	226	NR	48	IQR: 24-72 Range: NR SD: NR
Guillotreau, 2012[104]	Arm 1(RPN)	conversion to open surgery: patients	210	NR	NS	IQR: NS Range: NR SD: NR
Guillotreau,	Arm 2(LCA)	conversion to open	226	NR	0	IQR: 0 Range:

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
2012[104]		surgery: patients				NR SD: NR
Haramis, 2012[105]	Arm 1(LCA)	Blood loss: cc or mls	75	NR	66	NR
Haramis, 2012[105]	Arm 2(LPN)	Blood loss: cc or mls	92	NR	168.4	NR
Haramis, 2012[105]	Arm 1(LCA)	Blood Transfusion: patients	75	NR	3	NR
Haramis, 2012[105]	Arm 2(LPN)	Blood Transfusion: patients	92	NR	5	NR
Haramis, 2012[105]	Arm 1(LCA)	Length of stay: days	75	NR	1.6	NR
Haramis, 2012[105]	Arm 2(LPN)	Length of stay: days	92	NR	2	NR
Haramis, 2012[105]	Arm 1(LCA)	Conversion to radical nephrectomy: patients	75	NR	NA	NR
Haramis, 2012[105]	Arm 2(LPN)	Conversion to radical nephrectomy: patients	92	NR	3	NR
Haramis, 2012[105]	Arm 1(LCA)	conversion to open surgery: patients	75	NR	0	NR
Haramis, 2012[105]	Arm 2(LPN)	conversion to open surgery: patients	92	NR	1	NR
Iizuka, 2012[97]	Arm 1(T1b-Partial Nephrectomy)	Blood loss: cc or mls	67	NR	265	IQR: NR Range: 10-2400' SD: NR
Iizuka, 2012[97]	Arm 2(T1b-Radical Nephrectomy)	Blood loss: cc or mls	195	NR	282	IQR: NR Range: 5-2500' SD: NR
Iizuka, 2012[97]	Arm 3(T1a-Partial Nephrectomy)	Blood loss: cc or mls	324	NR	248	IQR: NR Range: 5-3400' SD: NR
Indudhara,1997[41]	Arm 1(nephron sparing surgery)	Blood loss: cc or mls	35	1	390	IQR: NR Range: 100-900
Indudhara,1997[41]	Arm 2(radical nephrectomy)	Blood loss: cc or mls	71	1	150	Range: 90-390
Indudhara,1997[41]	Arm 1(nephron sparing surgery)	Blood Transfusion: patients	35	1	1.7	Range: 0-4
Indudhara,1997[41]	Arm 2(radical nephrectomy)	Blood Transfusion: patients	71	1	0.85	Range: 0-3
Indudhara,1997[41]	Arm 1(nephron sparing surgery)	Length of stay: days	35	1	7	Range: 5 to 19
Indudhara,1997[41]	Arm 2(radical nephrectomy)	Length of stay: days	71	1	5	Range: 5 to 9
Janetschek, 2000[90]	Arm 1(Wedge-resection)	Blood loss: cc or mls	25	NR	287	Range: 20-800

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	Blood loss: cc or mls	73	NR	170	IQR: Range: 0-1500 SD:
Janetschek, 2000[90]	Arm 1(Wedge-resection)	Length of stay: days	25	NR	5.8	Range: 3-8
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	Length of stay: days	73	NR	7.2	Range: 3-32
Janetschek, 2000[90]	Arm 1(Wedge-resection)	conversion to open surgery: patients	25	NR	0	NR
Janetschek, 2000[90]	Arm 2(Laparoscopic radical nephrectomy)	conversion to open surgery: patients	73	NR	0	NR
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Blood Transfusion: patients	211	30 days	14	NR
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Blood Transfusion: patients	160	30 days	NR	NR
Kaowalczyk, 2013[131]	Arm 3(OPN)	Blood Transfusion: patients	330	30 days	46	NR
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Blood Transfusion: patients	535	30 days	31	NR
Kaowalczyk, 2013[131]	Arm 5(ORN)	Blood Transfusion: patients	404	30 days	37	NR
Kaowalczyk, 2013[131]	Arm 1(Ablation)	Length of stay: days	211	NA	2.3	SD: 2.5
Kaowalczyk, 2013[131]	Arm 2(MIPN)	Length of stay: days	160	NA	3.7	SD: 3.1
Kaowalczyk, 2013[131]	Arm 3(OPN)	Length of stay: days	330	NA	5.4	SD: 4.3
Kaowalczyk, 2013[131]	Arm 4(MIRN)	Length of stay: days	535	NA	3.9	SD: 2.8
Kaowalczyk, 2013[131]	Arm 5(ORN)	Length of stay: days	404	NA	5.4	SD: 3.6
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Blood loss: cc or mls	79	NR	391.2	Range: 50-1500 SD: 390.7
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Blood loss: cc or mls	35	NR	372.4	Range: 50-1900 SD: 423.7
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Blood Transfusion: patients	79	NR	4 (5.1%)	NR
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Blood Transfusion: patients	35	NR	2 (5.7%)	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Conversion to radical nephrectomy: patients	79	NR	1	NR

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Conversion to radical nephrectomy: patients	35	NR	0	NR
Kim, 2003[91]	Arm 1(Partial nephrectomy)	Length of stay: days	79	NR	2.8	Range: 1-6
Kim, 2003[91]	Arm 2(Radical nephrectomy)	Length of stay: days	35	NR	3.2	Range: 1-9
Kiriluk, 2011[106]	Arm 1(LPN)	Blood loss: cc or mls	51	NR	141	Range: 10 - 600
Kiriluk, 2011[106]	Arm 2(LAT)	Blood loss: cc or mls	51	NR	54.2	Range: 0 - 300
Kiriluk, 2011[106]	Arm 1(LPN)	Blood Transfusion: patients	51	NR	4	NR
Kiriluk, 2011[106]	Arm 2(LAT)	Blood Transfusion: patients	51	NR	5	NR
Kiriluk, 2011[106]	Arm 1(LPN)	Length of stay: days	51	NR	1.7	Range: 1 - 5
Kiriluk, 2011[106]	Arm 2(LAT)	Length of stay: days	51	NR	1.67	Range: 0 - 12
Kiriluk, 2011[106]	Arm 1(LPN)	conversion to open surgery: patients	51	NR	4	NR
Kiriluk, 2011[106]	Arm 2(LAT)	conversion to open surgery: patients	51	NR	0	NR
Klatte, 2011[117]	Arm 1(Cryoablation)	Blood Transfusion: patients	41	NR	0	NR
Klatte, 2011[117]	Arm 2(PN)	Blood Transfusion: patients	82	NR	1	NR
Kopp, 2014[60]	Arm 1(RN)	Blood loss: cc or mls	122	NR	225	IQR: 100-400
Kopp, 2014[60]	Arm 2(PN)	Blood loss: cc or mls	80	NR	325	IQR: 200-500
Kopp, 2014[60]	Arm 1(RN)	Blood Transfusion: patients	122	NR	20	NR
Kopp, 2014[60]	Arm 2(PN)	Blood Transfusion: patients	80	NR	13	NR
Kopp, 2014[60]	Arm 1(RN)	Length of stay: days	122	NR	6	IQR: 4-14'
Kopp, 2014[60]	Arm 2(PN)	Length of stay: days	80	NR	7	IQR: 6-10'
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Blood loss: cc or mls	82	NR	200	Range: 150-300
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Blood loss: cc or mls	35	NR	100	Range: 50-150
Matin, 2002[95]	Arm 1(Nephron sparing surgery)	Length of stay: days	82	NR	5	Range: 5-7
Matin, 2002[95]	Arm 2(Laparoscopic radical nephrectomy)	Length of stay: days	35	NR	1	Range: 1-2
Miyamoto, 2012[70]	Arm 1(RN)	Blood loss: cc or mls	152	NR	895.1	SD: 73.6

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Miyamoto, 2012[70]	Arm 2(PN)	Blood loss: cc or mls	59	NR	293.5	SD: 38.9
Miyamoto, 2012[70]	Arm 1(RN)	Blood loss: cc or mls	152	Not Specified	895.1	SD: 73.6
Miyamoto, 2012[70]	Arm 2(PN)	Blood loss: cc or mls	59	Not Specified	293.5	SD: 38.9
Mues, 2012[110]	Arm 1(Ablation)	Blood loss: cc or mls	98	NR	50	Range: 5-400
Mues, 2012[110]	Arm 2(PN)	Blood loss: cc or mls	100	NR	400	Range: 25-3900
Mues, 2012[110]	Arm 1(Ablation)	Blood Transfusion: patients	98	NR	0	NR
Mues, 2012[110]	Arm 2(PN)	Blood Transfusion: patients	100	NR	1	NR
Mues, 2012[110]	Arm 1(Ablation)	Length of stay: days	98	NR	1.7	Range: 1.0-8.0
Mues, 2012[110]	Arm 2(PN)	Length of stay: days	100	NR	4.1	Range: 1.0-21.0
Pascal, 2011[107]	Arm 1(LPN)	Blood loss: cc or mls	48	NR	391.3	SD: 692
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Blood loss: cc or mls	30	NR	162.4	SD: 163.2
Pascal, 2011[107]	Arm 1(LPN)	Blood Transfusion: patients	48	NR	8	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Blood Transfusion: patients	30	NR	1	NR
Pascal, 2011[107]	Arm 1(LPN)	Length of stay: days	48	NR	4.6	SD: 2.9
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	Length of stay: days	30	NR	2.4	SD: 2.2
Pascal, 2011[107]	Arm 1(LPN)	conversion to open surgery: patients	48	NR	4	NR
Pascal, 2011[107]	Arm 2(Laparoscopic Renal cryoablation)	conversion to open surgery: patients	30	NR	0	NR
Permpongkosol, 2007[127]	Arm 1(LRN)	conversion to open surgery: patients	549	periopNA	16	NR
Permpongkosol, 2007[127]	Arm 2(LPN)	conversion to open surgery: patients	345	periopNA	12	NR
Permpongkosol, 2007[127]	Arm 3(LRA)	conversion to open surgery: patients	81	periopNA	0	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Blood Transfusion: patients	36	NR	9	NR
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for	Blood Transfusion: patients	45	NR	3	NR

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
	young (<55 years old))					
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Blood Transfusion: patients	33	NR	7	NR
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Blood Transfusion: patients	55	NR	10	NR
Roos, 2010[96]	Arm 1(Partial nephrectomy (NSS), for young (<55 years old))	Length of stay: days	36	NR	8	Range: 4-17
Roos, 2010[96]	Arm 2(Radical nephrectomy (NSS), for young (<55 years old))	Length of stay: days	45	NR	9	Range: 5-13
Roos, 2010[96]	Arm 3(Partial nephrectomy, for old (>65 years old))	Length of stay: days	33	NR	7	Range: 7-15
Roos, 2010[96]	Arm 4(Radical nephrectomy, for old (>65 years old))	Length of stay: days	55	NR	9	Range: 4-28
Roos, 2012[45]	Arm 1(NSS(tumor 4.1 - 7cm))	Blood Transfusion: patients	85	NR	14	NR
Roos, 2012[45]	Arm 2(RN(tumor 4.1 - 7cm))	Blood Transfusion: patients	118	NR	16	NR
Roos, 2012[45]	Arm 1(NSS(tumor >7cm))	Blood Transfusion: patients	16	NR	7	NR
Roos, 2012[45]	Arm 2(RN(tumor >7cm))	Blood Transfusion: patients	28	NR	4	NR
Shinohara, 2001[46]	Arm 1(NSS)	Blood loss: cc or mls	15	NR	518	SD: 631
Shinohara, 2001[46]	Arm 2(RN)	Blood loss: cc or mls	51	NR	380	SD: 330
Shinohara, 2001[46]	Arm 1(NSS)	Blood Transfusion: patients	15	NR	4	NR
Shinohara, 2001[46]	Arm 2(RN)	Blood Transfusion: patients	51	NR	5	NR
Tanagho, 2013[116]	NA(Cryoablation)	Blood loss: cc or mls	267	NR	74.2	SD: 100.1
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Blood loss: cc or mls	233	NR	136.3	SD: 112.2
Tanagho, 2013[116]	NA(Cryoablation)	Blood Transfusion: patients	267	NR	1	SD: NA
Tanagho, 2013[116]	NA(Robot assisted partial nephrectomy)	Blood Transfusion: patients	233	NR	6	SD: NA

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Tomaszewski, 2014[78]	Overall(Overall)	Blood loss: cc or mls	1092	NR	179	SD: 257
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Blood loss: cc or mls	36	NR	408	Range: 50-4500 SD: 800
Turna, 2009[113]	Arm 2(Cryoablation)	Blood loss: cc or mls	36	NR	151	Range: 10-800 SD: 171
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Blood loss: cc or mls	29	NR	NA	NR
Turna, 2009[113]	Arm 1(Laparoscopic partial nephrectomy)	Length of stay: days	36	NR	3.3	Range: 1.3-12 SD: 2.6
Turna, 2009[113]	Arm 2(Cryoablation)	Length of stay: days	36	NR	1.8	Range: 0.9-6 SD: 1.3
Turna, 2009[113]	Arm 3(Radiofrequency ablation)	Length of stay: days	29	NR	1	Range: 1-1
Uchinda, 2004[79]	Arm 1(PN)	Blood loss: cc or mls	54	periopNA	600	Range: 130-2800
Uchinda, 2004[79]	Arm 2(RN)	Blood loss: cc or mls	51	periopNA	390	Range: 65-1200
Uzzo, 1999[80]	Arm 1(RN)	Length of stay: patients	28	NR	7	NR
Uzzo, 1999[80]	Arm 2(NSS)	Length of stay: patients	52	NR	7.8	NR
Van Poppel, 2011[81]	Arm 1(NSS)	Blood loss: patients	242	NR	69	NR
Van Poppel, 2011[81]	Arm 2(Radical nephrectomy)	Blood loss: patients	290	NR	49	NR
Xu, 2014[47]	Arm 1(LRN)	Blood loss: cc or mls	88	NR	235.9	SD: 411.9
Xu, 2014[47]	Arm 2(ORN)	Blood loss: cc or mls	526	NR	232.1	SD: 379.5
Xu, 2014[47]	Arm 3(LPN)	Blood loss: cc or mls	42	NR	191.1	SD: 166
Xu, 2014[47]	Arm 4(OPN)	Blood loss: cc or mls	187	NR	231.5	SD: 222.5
Xu, 2014[47]	Arm 1(LRN)	Length of stay: days	88	NR	7.6	SD: 2.4
Xu, 2014[47]	Arm 2(ORN)	Length of stay: days	526	NR	9.2	SD: 3.9
Xu, 2014[47]	Arm 3(LPN)	Length of stay: days	42	NR	8.5	SD: 3.1
Xu, 2014[47]	Arm 4(OPN)	Length of stay: days	187	NR	9.3	SD: 3.8
Yasuda, 2013[86]	Arm 1(NSS)	Blood loss: cc or mls	97	NR	150	IQR: 60-275
Yasuda, 2013[86]	Arm 2(RN)	Blood loss: cc or mls	103	NR	157	IQR: 65-400
Youn, 2013[119]	Arm 1(Open PN)	Length of stay: days	14	NR	12.28	SD: 3.29
Youn, 2013[119]	Arm 2(Laparascopic RFA)	Length of stay: days	41	NR	8.33	SD: 3.23

Author, year	Arm(name)	Outcome and Units	N for analysis	Time point	Outcome Value	Outcome IQR Range SD
Youn, 2013[119]	Arm 1(Open PN)	Blood Transfusion: patients	14	NR	0	NR
Youn, 2013[119]	Arm 2(Laparascopic RFA)	Blood Transfusion: patients	41	NR	0	NR
Zorn, 2007[93]	Arm 1(LPN)	Blood loss: cc or mls	42	NR	207	Range: 125-450
Zorn, 2007[93]	Arm 2(LRN)	Blood loss: cc or mls	55	NR	121	Range: 100-600
Zorn, 2007[93]	Arm 1(LPN)	Blood Transfusion: patients	42	NR	2	NR
Zorn, 2007[93]	Arm 2(LRN)	Blood Transfusion: patients	55	NR	4	NR
Zorn, 2007[93]	Arm 1(LPN)	Length of stay: days	42	NR	2.3	NR
Zorn, 2007[93]	Arm 2(LRN)	Length of stay: days	55	NR	1.8	NR

N=Number; GFR: Glomerular Filtration Rate; H: Hypertension; IQR: Interquartile range; LPN: Laparoscopic partial nephrectomy; LTA: Laparoscopic Thermal Ablation; NA: Not Applicable; NR: Not reported; NSM: Non surgical Management; NSS: Nephron-sparing surgery; OPN: Open partial nephrectomy; ORN: Open Radical Nephrectomy; PN: Partial Nephrectomy; RFA: Radio frequency ablation; RN Radical nephrectomy; SD: Standard deviation; OR=Odds Ratio; RD=Risk Difference; P=p value

Reference List

1. Akdogan B, Gudeloglu A, Inci K, Gunay LM, Koni A, Ozen H. Prevalence and predictors of benign lesions in renal masses smaller than 7 cm presumed to be renal cell carcinoma. Clin Genitourin Cancer 2012; 10(2):121-5. PMID: 22401753

2. Antonelli A, Furlan M, Sandri M *et al*. The R.e.N.a.L. Nephrometric nomogram cannot accurately predict malignancy or aggressiveness of small renal masses amenable to partial nephrectomy. Clin Genitourin Cancer 2014; 12(5):366-72. PMID: 24637340

3. Bazzi WM, Dejbakhsh SZ, Bernstein M, Russo P. The association of baseline health and gender with small renal mass pathology. Can J Urol 2014; 21(3):7271-6. PMID: 24978356

4. Campbell SC, Novick AC, Herts B *et al*. Prospective evaluation of fine needle aspiration of small, solid renal masses: accuracy and morbidity. Urology 1997; 50(1):25-9. PMID: 9218014

5. Choi SK, Jeon SH, Chang SG. Characterization of small renal masses less than 4 cm with quadriphasic multidetector helical computed tomography: differentiation of benign and malignant lesions. Korean J Urol 2012; 53(3):159-64. PMID: 22468210

6. Chung MS, Choi HJ, Kim MH, Cho KS. Comparison of T2-weighted MRI with and without fat suppression for differentiating renal angiomyolipomas without visible fat from other renal tumors. AJR Am J Roentgenol 2014; 202(4):765-71. PMID: 24660704

7. Chyhrai A, Sanjmyatav J, Gajda M *et al*. Multi-colour FISH on preoperative renal tumour biopsies to confirm the diagnosis of uncertain renal masses. World J Urol 2010; 28(3):269-74. PMID: 20390284

8. Fujita T, Iwamura M, Wakatabe Y *et al*. Predictors of benign histology in clinical T1a renal cell carcinoma tumors undergoing partial nephrectomy. Int J Urol 2014; 21(1):100-2. PMID: 23635425

9. Halverson SJ, Kunju LP, Bhalla R *et al*. Accuracy of determining small renal mass management with risk stratified biopsies: confirmation by final pathology. J Urol 2013; 189(2):441-6. PMID: 23253955

10. Harisinghani MG, Maher MM, Gervais DA *et al*. Incidence of malignancy in complex cystic renal masses (Bosniak category III): should imaging-guided biopsy precede surgery? AJR Am J Roentgenol 2003; 180(3):755-8. PMID: 12591691

11. Jeon HG, Lee SR, Kim KH *et al*. Benign lesions after partial nephrectomy for presumed renal cell carcinoma in masses 4 cm or less: prevalence and predictors in Korean patients. Urology 2010; 76(3):574-9. PMID: 20303148

12. Kava BR, Eldefrawy A, Ayyathurai R *et al*. Impact of body mass index and tumor location on the incidence of benign histology at the time of nephron-sparing surgery. Int Urol Nephrol 2012; 44(5):1319-24. PMID: 22678516

13. Keehn A, Srivastava A, Maiman R *et al*. The Relationship Between Visceral Obesity and the Clinicopathologic Features of Patients with Small Renal Masses. J Endourol 2014. PMID: 25203393

14. Koo KC, Yoo H, Shin TY *et al*. External validation of the RENAL nephrometry score nomogram for predicting high-grade renal cell carcinoma in solid, enhancing, and small renal masses. World J Urol 2014; 32(1):249-55. PMID: 24013182

15. Lane BR, Babineau D, Kattan MW *et al*. A preoperative prognostic nomogram for solid enhancing renal tumors 7 cm or less amenable to partial nephrectomy. J Urol 2007; 178(2):429-34. PMID: 17561141

16. Leveridge MJ, Finelli A, Kachura JR *et al*. Outcomes of small renal mass needle core biopsy, nondiagnostic percutaneous biopsy, and the role of repeat biopsy. Eur Urol 2011; 60(3):578-84. PMID: 21704449

17. Londono DC, Wuerstle MC, Thomas AA *et al*. Accuracy and implications of percutaneous renal biopsy in the management of renal masses. Perm J 2013; 17 (3):4-7. PMID: 24355883

18. Menogue SR, O'Brien BA, Brown AL, Cohen RJ. Percutaneous core biopsy of small renal mass lesions: a diagnostic tool to better stratify patients for surgical intervention. BJU Int 2013; 111(4 Pt B):E146-51. PMID: 22805186

19. Millet I, Curros F, Serre I, Taourel P, Thuret R. Can renal biopsy accurately predict histological subtype and Fuhrman grade of renal cell carcinoma? J Urol 2012; 188(5):1690-4. PMID: 22998910

20. Mullins JK, Kaouk JH, Bhayani S *et al*. Tumor complexity predicts malignant disease for small renal masses . J Urol 2012; 188(6):2072-6. PMID:

23083863

21. Murphy AM, Buck AM, Benson MC, McKiernan JM. Increasing detection rate of benign renal tumors: evaluation of factors predicting for benign tumor histologic features during past two decades. Urology 2009; 73(6):1293-7. PMID: 19371933

22. Neuzillet Y, Lechevallier E, Andre M, Daniel L, Coulange C. Accuracy and clinical role of fine needle percutaneous biopsy with computerized tomography guidance of small (less than 4.0 cm) renal masses. J Urol 2004; 171(5):1802-5. PMID: 15076280

23. Nishikawa M, Miyake H, Kitajima K, Takahashi S, Sugimura K, Fujisawa M. Preoperative differentiation between benign and malignant renal masses smaller than 4 cm treated with partial nephrectomy. Int J Clin Oncol 2014. PMID: 24526391

24. Park SY, Jeon SS, Lee SY *et al*. Incidence and predictive factors of benign renal lesions in Korean patients with preoperative imaging diagnoses of renal cell carcinoma. J Korean Med Sci 2011; 26(3):360-4. PMID: 21394303

25. Park SY, Park BK, Kim CK, Kwon GY. Ultrasound-guided core biopsy of small renal masses: diagnostic rate and limitations. J Vasc Interv Radiol 2013; 24(1):90-6. PMID: 23206333

26. Rosenkrantz A.B., Wehrli N.E., Melamed J., Taneja S.S., Shaikh M.B. Renal masses measuring under 2 cm: Pathologic outcomes and associations with MRI features. Eur. J. Radiol. 2014; 83(8):1311-6.

27. Salem S, Ponsky LE, Abouassaly R *et al*. Image-guided biopsy of small renal masses in the era of ablative therapies. Int J Urol 2013; 20(6):580-4. PMID: 23190309

28. Shannon B.A., Cohen R.J., de Bruto H., Davies R.J. The Value of Preoperative Needle Core Biopsy for Diagnosing Benign Lesions Among Small, Incidentally Detected Renal Masses. J. Urol. 2008; 180(4):1257-61.

29. Sofikerim M, Tatlisen A, Canoz O, Tokat F, Demirtas A, Mavili E. What is the role of percutaneous needle core biopsy in diagnosis of renal masses? Urology 2010; 76(3):614-8. PMID: 20110106

30. Soga N, Nishikawa K, Takaki H *et al*. Low incidence of benign lesions in resected suspicious renal masses greater than 2 cm: Single-center experience from Japan. Int J Urol 2012; 19(8):729-34. PMID: 22515572

31. Vasudevan A, Davies RJ, Shannon BA, Cohen RJ. Incidental renal tumours: the frequency of benign lesions and the role of preoperative core biopsy. BJU Int 2006; 97(5):946-9. PMID: 16643475

32. Volpe A, Mattar K, Finelli A *et al*. Contemporary results of percutaneous biopsy of 100 small renal masses: a single center experience. J Urol 2008; 180(6):2333-7. PMID: 18930274

33. Wang R, Wolf JS Jr, Wood DP Jr, Higgins EJ, Hafez KS. Accuracy of percutaneous core biopsy in management of small renal masses. Urology 2009; 73(3):586-90; discussion 590-1. PMID: 19118884

34. Xiong YH, Zhang ZL, Li YH *et al*. Benign pathological findings in 303 Chinese patients undergoing surgery for presumed localized renal cell carcinoma. Int J Urol 2010; 17(6):517-21. PMID: 20370841

35. Blumenfeld AJ, Guru K, Fuchs GJ, Kim HL. Percutaneous biopsy of renal cell carcinoma underestimates nuclear grade. Urology 2010; 76(3):610-3. PMID: 20163843

36. Leonard M, Tait CD, Gillan AS, Rai BP, Byrne DJ, Nabi G. Impact of multiple deprivations on detection, progression and interventions in small renal masses (less than 4 cm) in a population based study. Eur J Surg Oncol 2013; 39(10):1157-63. PMID: 23886896

37. Scanga LR, Maygarden SJ. Utility of fine-needle aspiration and core biopsy with touch preparation in the diagnosis of renal lesions. Cancer Cytopathol 2014; 122(3):182-90. PMID: 24353131

38. Schmit G.D., Atwell T.D., Callstrom M.R. *et al*. Percutaneous cryoablation of renal masses (greater-than or equal to)3cm: Efficacy and safety in treatment of 108 patients. J. Endourol. 2010; 24(8):1255-62.

39. Barbalias GA, Liatsikos EN, Tsintavis A, Nikiforidis G. Adenocarcinoma of the kidney: nephron-sparing surgical approach vs. radical nephrectomy. J Surg Oncol 1999; 72(3):156-61. PMID: 10562362

40. Ficarra V, Novella G, Sarti A *et al*. Psycho-social well-being and general health status after surgical treatment for localized renal cell carcinoma. Int Urol Nephrol 2002-2003; 34(4):441-6. PMID: 14577481

41. Indudhara R, Bueschen AJ, Urban DA, Burns JR, Lloyd LK. Nephron-sparing surgery compared with radical nephrectomy for renal tumors: current indications and results. South Med J 1997; 90 (10):982-5. PMID: 9347807

42. Kim JM, Song PH, Kim HT, Park TC. Comparison of Partial and Radical Nephrectomy for pT1b Renal Cell Carcinoma. Korean J Urol 2010; 51(9):596-600. PMID: 20856643

43. Mariusdottir E, Jonsson E, Marteinsson VT, Sigurdsson MI, Gudbjartsson T. Kidney function following partial or radical nephrectomy for renal cell carcinoma: a population-based study. Scand J Urol 2013; 47(6):476-82. PMID: 23597159

44. Milonas D, Skulcius G, Baltrimavicius R *et al*. Comparison of long-term results after nephron-sparing surgery and radical nephrectomy in treating 4- to 7-cm renal cell carcinoma. Medicina (Kaunas) 2013; 49(5):223-8. PMID: 24247918

45. Roos FC, Brenner W, Thomas C *et al*. Functional analysis of elective nephron-sparing surgery vs radical nephrectomy for renal tumors larger than 4 cm. Urology 2012; 79(3):607-13. PMID: 22386408

46. Shinohara N, Harabayashi T, Sato S, Hioka T, Tsuchiya K, Koyanagi T. Impact of nephron-sparing surgery on quality of life in patients with localized renal cell carcinoma. Eur Urol 2001; 39 (1):114-9. PMID: 11173949

47. Xu H., Ding Q., Jiang H.-W. Fewer complications after laparoscopic nephrectomy as compared to the open procedure with the modified Clavien

classification system - a retrospective analysis from Southern China. World J. Surg. Oncol. 2014; 12(1).

48. Antonelli A, Ficarra V, Bertini R *et al*. Elective partial nephrectomy is equivalent to radical nephrectomy in patients with clinical T1 renal cell carcinoma: results of a retrospective, comparative, multi-institutional study. BJU Int 2012; 109(7):1013-8. PMID: 21883829

49. Antoniewicz AA, Poletajew S, Borowka A, Pasierski T, Rostek M, Pikto-Pietkiewicz W. Renal function and adaptive changes in patients after radical or partial nephrectomy. Int Urol Nephrol 2012; 44(3):745-51. PMID: 21947980

50. Badalato GM, Kates M, Wisnivesky JP, Choudhury AR, McKiernan JM. Survival after partial and radical nephrectomy for the treatment of stage T1bN0M0 renal cell carcinoma (RCC) in the USA: a propensity scoring approach. BJU Int 2012; 109(10):1457-62. PMID: 21933334

51. Bedke J, Pritsch M, Buse S *et al*. Prognostic stratification of localized renal cell carcinoma by tumor size. J Urol 2008; 180(1):62-7. PMID: 18485376

52. Crepel M, Jeldres C, Sun M *et al*. A population-based comparison of cancer-control rates between radical and partial nephrectomy for T1A renal cell carcinoma. Urology 2010; 76(4):883-8. PMID: 20932408

53. Crepel M, Jeldres C, Perrotte P *et al*. Nephron-sparing surgery is equally effective to radical nephrectomy for T1BN0M0 renal cell carcinoma: a population-based assessment. Urology 2010; 75(2):271-5. PMID: 19962740

54. Dash A, Vickers AJ, Schachter LR, Bach AM, Snyder ME, Russo P. Comparison of outcomes in elective partial vs radical nephrectomy for clear cell renal cell carcinoma of 4-7 cm. BJU Int 2006; 97(5):939-45. PMID: 16643474

55. Daugherty M, Bratslavsky G. Compared with radical nephrectomy, nephron-sparing surgery offers a long-term survival advantage in patients between the ages of 20 and 44 years with renal cell carcinomas (</=4 cm): an analysis of the SEER database. Urol Oncol 2014; 32 (5):549-54. PMID: 24495447

56. Thompson RH, Siddiqui S, Lohse CM, Leibovich BC, Russo P, Blute ML. Partial versus radical nephrectomy for 4 to 7 cm renal cortical tumors. J Urol 2009; 182(6):2601-6. PMID: 19836797

57. Huang WC, Levey AS, Serio AM *et al*. Chronic kidney disease after nephrectomy in patients with renal cortical tumours: a retrospective cohort study. Lancet Oncol 2006; 7(9):735-40. PMID: 16945768

58. Huang WC, Elkin EB, Levey AS, Jang TL, Russo P. Partial nephrectomy versus radical nephrectomy in patients with small renal tumors--is there a difference in mortality and cardiovascular outcomes? J Urol 2009; 181(1):55-61; discussion 61-2. PMID: 19012918

59. Kates M, Badalato GM, Pitman M, McKiernan JM. Increased risk of overall and cardiovascular mortality after radical nephrectomy for renal cell carcinoma 2 cm or less. J Urol 2011; 186(4):1247-53. PMID: 21849201

60. Kopp RP, Mehrazin R, Palazzi KL *et al*. Survival outcomes after radical and partial nephrectomy for clinical T2 renal tumours categorised by R.E.N.A.L. nephrometry score. BJU Int 2013. PMID: 24274650

61. Kyung YS, You D, Kwon T *et al*. The type of nephrectomy has little effect on overall survival or cardiac events in patients of 70 years and older with localized clinical t1 stage renal masses. Korean J Urol 2014; 55(7):446-52. PMID: 25045442

62. Lane BR, Fergany AF, Weight CJ, Campbell SC. Renal functional outcomes after partial nephrectomy with extended ischemic intervals are better than after radical nephrectomy. J Urol 2010; 184(4):1286-90. PMID: 20723936

63. Li JR, Yang CR, Cheng CL *et al*. Partial nephrectomy in the treatment of localized renal cell carcinoma: experience of Taichung Veterans General Hospital. J Chin Med Assoc 2007; 70(7):281-5. PMID: 17631464

64. Li Q, Guan H, Qin J, Jiang T . Mini-Margin nephron sparing surgery for renal cell carcinoma 4 cm or less. Adv Urol 2010. PMID: 20862196

65. Lowrance WT, Yee DS, Savage C *et al*. Complications after radical and partial nephrectomy as a function of age. J Urol 2010; 183(5):1725-30. PMID: 20299040

66. McKiernan J, Simmons R, Katz J, Russo P. Natural history of chronic renal insufficiency after partial and radical nephrectomy. Urology 2002; 59(6):816-20. PMID: 12031359

67. Medina-Polo J, Romero-Otero J, Rodriguez-Antolin A *et al*. Can partial nephrectomy preserve renal function and modify survival in comparison with radical nephrectomy? Scand J Urol Nephrol 2011; 45(2):143-50. PMID: 21247272

68. Meskawi M, Becker A, Bianchi M *et al*. Partial and radical nephrectomy provide comparable long-term cancer control for T1b renal cell carcinoma. Int J Urol 2014; 21(2):122-8. PMID: 23819700

69. Mitchell RE, Gilbert SM, Murphy AM, Olsson CA, Benson MC, McKiernan JM. Partial nephrectomy and radical nephrectomy offer similar cancer outcomes in renal cortical tumors 4 cm or larger. Urology 2006; 67(2):260-4. PMID: 16461075

70. Miyamoto K, Inoue S, Kajiwara M, Teishima J, Matsubara A. Comparison of renal function after partial nephrectomy and radical nephrectomy for renal cell carcinoma. Urol Int 2012; 89(2):227-32. PMID: 22846207

71. Patard JJ, Shvarts O, Lam JS *et al*. Safety and efficacy of partial nephrectomy for all T1 tumors based on an international multicenter experience. J Urol 2004; 171(6 Pt 1):2181-5, quiz 2435. PMID: 15126781

72. Scosyrev E, Messing EM, Sylvester R, Campbell S, Van Poppel H. Renal function after nephron-sparing surgery versus radical nephrectomy: results from EORTC randomized trial 30904. Eur Urol 2014; 65(2):372-7. PMID: 23850254

73. Smaldone MC, Egleston B, Uzzo RG, Kutikov A. Does partial nephrectomy result in a durable overall survival benefit in the Medicare population? J Urol 2012; 188(6):2089-94. PMID: 23083877

74. Sun M, Bianchi M, Hansen J *et al*. Chronic kidney disease after nephrectomy in patients with small renal masses: a retrospective observational analysis. Eur Urol 2012; 62(4):696-703. PMID: 22483407

75. Takagi T, Kondo T, Iizuka J *et al*. Postoperative renal function after partial nephrectomy for renal cell carcinoma in patients with pre-existing chronic kidney disease: a comparison with radical nephrectomy. Int J Urol 2011; 18 (6):472-6. PMID: 21481013

76. Tan HJ, Norton EC, Ye Z, Hafez KS, Gore JL, Miller DC. Long-term survival following partial vs radical nephrectomy among older patients with early-stage kidney cancer. JAMA 2012; 307(15):1629-35. PMID: 22511691

77. Thompson RH, Boorjian SA, Lohse CM *et al*. Radical nephrectomy for pT1a renal masses may be associated with decreased overall survival compared with partial nephrectomy. J Urol 2008; 179(2):468-71; discussion 472-3. PMID: 18076931

78. Tomaszewski JJ, Uzzo RG, Kutikov A *et al*. Assessing the burden of complications after surgery for clinically localized kidney cancer by age and comorbidity status. Urology 2014; 83(4):843-9. PMID: 24680455

79. Uchida K, Takahashi A, Masumori N, Yanase M, Itoh N, Tsukamoto T. Partial nephrectomy for small localized renal cell carcinoma. Hinyokika Kiyo 2004; 50(6):389-95. PMID: 15293735

80. Uzzo RG, Wei JT, Hafez K, Kay R, Novick AC. Comparison of direct hospital costs and length of stay for radical nephrectomy versus nephron-sparing surgery in the management of localized renal cell carcinoma. Urology 1999; 54(6):994-8. PMID: 10604696

81. Van Poppel H, Da Pozzo L, Albrecht W *et al*. A prospective, randomised EORTC intergroup phase 3 study comparing the oncologic outcome of elective nephron-sparing surgery and radical nephrectomy for low-stage renal cell carcinoma. Eur Urol 2011; 59(4):543-52. PMID: 21186077

82. Weight CJ, Larson BT, Gao T *et al*. Elective partial nephrectomy in patients with clinical T1b renal tumors is associated with improved overall survival. Urology 2010; 76(3):631-7. PMID: 20451967

83. Weight CJ, Lythgoe C, Unnikrishnan R, Lane BR, Campbell SC, Fergany AF. Partial nephrectomy does not compromise survival in patients with pathologic upstaging to pT2/pT3 or high-grade renal tumors compared with radical nephrectomy. Urology 2011; 77(5):1142-6. PMID: 21420154

84. Weight CJ, Larson BT, Fergany AF *et al*. Nephrectomy induced chronic renal insufficiency is associated with increased risk of cardiovascular death and death from any cause in patients with localized cT1b renal masses. J Urol 2010; 183(4):1317-23. PMID: 20171688

85. Woldu SL, Weinberg AC, Korets R *et al*. Who Really Benefits From Nephron-sparing Surgery? Urology 2014; 84(4):860-8. PMID: 25260447

86. Yasuda Y, Yuasa T, Yamamoto S *et al*. Evaluation of the RENAL nephrometry scoring system in adopting nephron-sparing surgery for cT1 renal cancer. Urol Int 2013; 90(2):179-83. PMID: 23146865

87. Zini L, Perrotte P, Capitanio U *et al*. Radical versus partial nephrectomy: effect on overall and noncancer mortality. Cancer 2009; 115(7):1465-71. PMID: 19195042

88. Brewer K, O'Malley RL, Hayn M *et al*. Perioperative and renal function outcomes of minimally invasive partial nephrectomy for T1b and T2a kidney tumors. J Endourol 2012; 26(3):244-8. PMID: 22192099

89. Deklaj T, Lifshitz DA, Shikanov SA, Katz MH, Zorn KC, Shalhav AL. Laparoscopic radical versus laparoscopic partial nephrectomy for clinical T1bN0M0 renal tumors: comparison of perioperative, pathological, and functional outcomes . J Endourol 2010; 24(10):1603-7. PMID: 20932215

90. Janetschek G, Jeschke K, Peschel R, Strohmeyer D, Henning K, Bartsch G. Laparoscopic surgery for stage T1 renal cell carcinoma: radical nephrectomy and wedge resection. Eur Urol 2000; 38 (2):131-8. PMID: 10895002

91. Kim FJ, Rha KH, Hernandez F, Jarrett TW, Pinto PA, Kavoussi LR. Laparoscopic radical versus partial nephrectomy: assessment of complications. J Urol 2003; 170(2 Pt 1):408-11. PMID: 12853787

92. Snow DC, Bhayani SB. Rapid communication: chronic renal insufficiency after laparoscopic partial nephrectomy and radical nephrectomy for pathologic t1a lesions. J Endourol 2008; 22 (2):337-41. PMID: 18257672

93. Zorn KC, Gong EM, Orvieto MA *et al*. Comparison of laparoscopic radical and partial nephrectomy: effects on long-term serum creatinine. Urology 2007; 69(6):1035-40. PMID: 17572181

94. Becker A, Ravi P, Roghmann F *et al*. Laparoscopic radical nephrectomy vs laparoscopic or open partial nephrectomy for T1 renal cell carcinoma: comparison of complication rates in elderly patients during the initial phase of adoption. Urology 2014; 83(6):1285-91. PMID: 24862392

95. Matin SF, Gill IS, Worley S, Novick AC. Outcome of laparoscopic radical and open partial nephrectomy for the sporadic 4 cm. or less renal tumor with a normal contralateral kidney. J Urol 2002; 168(4 Pt 1):1356-9; discussion 1359-60. PMID: 12352392

96. Roos FC, Brenner W, Jager W *et al*. Perioperative morbidity and renal function in young and elderly patients undergoing elective nephron-sparing surgery or radical nephrectomy for renal tumours larger than 4 cm. BJU Int 2011; 107(4):554-61. PMID: 20707798

97. Iizuka J, Kondo T, Hashimoto Y *et al*. Similar functional outcomes after partial nephrectomy for clinical T1b and T1a renal cell carcinoma. Int J Urol 2012; 19(11):980-6. PMID: 22735049

98. Minervini A, Serni S, Tuccio A *et al*. Simple enucleation versus radical nephrectomy in the treatment of pT1a and pT1b renal cell carcinoma. Ann Surg Oncol 2012; 19(2):694-700. PMID: 21861225

99. Jeon HG, Jeong IG, Lee JW, Lee SE, Lee E. Prognostic factors for chronic kidney disease after curative surgery in patients with small renal tumors . Urology 2009; 74(5):1064-8. PMID: 19758688

100. Gratzke C, Seitz M, Bayrle F *et al*. Quality of life and perioperative outcomes after retroperitoneoscopic radical nephrectomy (RN), open RN and nephron-sparing surgery in patients with renal cell carcinoma. BJU Int 2009; 104(4):470-5. PMID: 19239445

101. Bensalah K, Zeltser I, Tuncel A, Cadeddu J, Lotan Y. Evaluation of costs and morbidity associated with laparoscopic radiofrequency ablation and laparoscopic partial nephrectomy for treating small renal tumours. BJU Int 2008; 101(4):467-71. PMID: 17922853

102. Desai MM, Aron M, Gill IS. Laparoscopic partial nephrectomy versus laparoscopic cryoablation for the small renal tumor. Urology 2005; 66(5

Suppl):23-8. PMID: 16194703

103. Emara AM, Kommu SS, Hindley RG, Barber NJ. Robot-assisted partial nephrectomy vs laparoscopic cryoablation for the small renal mass: redefining the minimally invasive 'gold standard'. BJU Int 2014; 113(1):92-9. PMID: 24053473

104. Guillotreau J, Haber GP, Autorino R *et al*. Robotic partial nephrectomy versus laparoscopic cryoablation for the small renal mass. Eur Urol 2012; 61(5):899-904. PMID: 22264680

105. Haramis G, Graversen JA, Mues AC *et al*. Retrospective comparison of laparoscopic partial nephrectomy versus laparoscopic renal cryoablation for small (<3.5 cm) cortical renal masses. J Laparoendosc Adv Surg Tech A 2012; 22 (2):152-7. PMID: 22145574

106. Kiriluk KJ, Shikanov SA, Steinberg GD, Shalhav AL, Lifshitz DA. Laparoscopic partial nephrectomy versus laparoscopic ablative therapy: a comparison of surgical and functional outcomes in a matched control study. J Endourol 2011; 25(12):1867-72. PMID: 21902540

107. Haber GP, Lee MC, Crouzet S, Kamoi K, Gill IS. Tumour in solitary kidney: laparoscopic partial nephrectomy vs laparoscopic cryoablation. BJU Int 2012; 109(1):118-24. PMID: 21895929

108. Chang X, Zhang F, Liu T *et al*. Radiofrequency ablation versus partial nephrectomy for clinical T1b renal cell carcinoma: long-term clinical and oncologic outcomes. J Urol 2014. PMID: 25106899

109. Faddegon S, Ju T, Olweny EO *et al*. A comparison of long term renal functional outcomes following partial nephrectomy and radiofrequency ablation. Can J Urol 2013; 20(3):6785-9. PMID: 23783048

110. Mues AC, Korets R, Graversen JA *et al*. Clinical, pathologic, and functional outcomes after nephron-sparing surgery in patients with a solitary kidney: a multicenter experience. J Endourol 2012; 26(10):1361-6. PMID: 22667344

111. Stern JM, Svatek R, Park S *et al*. Intermediate comparison of partial nephrectomy and radiofrequency ablation for clinical T1a renal tumours. BJU Int 2007; 100(2):287-90. PMID: 17617136

112. Thompson RH, Atwell T, Schmit G *et al*. Comparison of Partial Nephrectomy and Percutaneous Ablation for cT1 Renal Masses. Eur Urol 2014. PMID: 25108580

113. Turna B, Kaouk JH, Frota R *et al*. Minimally invasive nephron sparing management for renal tumors in solitary kidneys. J Urol 2009; 182(5):2150-7. PMID: 19758655

114. Whitson JM, Harris CR, Meng MV. Population-based comparative effectiveness of nephron-sparing surgery vs ablation for small renal masses. BJU Int 2012; 110(10):1438-43; discussion 1443. PMID: 22639860

115. Olweny EO, Park SK, Tan YK, Best SL, Trimmer C, Cadeddu JA. Radiofrequency ablation versus partial nephrectomy in patients with solitary clinical T1a renal cell carcinoma: comparable oncologic outcomes at a minimum of 5 years of follow-up. Eur Urol 2012; 61(6):1156-61. PMID: 22257424

116. Tanagho YS, Bhayani S, Kim EH, Figenshau RS. Renal Cryoablation versus Robot-Assisted Partial Nephrectomy: Washington University Long-Term Experience. J Endourol 2013. PMID: 24175692

117. Klatte T, Mauermann J, Heinz-Peer G *et al*. Perioperative, oncologic, and functional outcomes of laparoscopic renal cryoablation and open partial nephrectomy: a matched pair analysis. J Endourol 2011; 25(6):991-7. PMID: 21568698

118. Mitchell CR, Atwell TD, Weisbrod AJ *et al*. Renal function outcomes in patients treated with partial nephrectomy versus percutaneous ablation for renal tumors in a solitary kidney. J Urol 2011; 186(5):1786-90. PMID: 21944103

119. Youn CS, Park JM, Lee JY *et al*. Comparison of laparoscopic radiofrequency ablation and open partial nephrectomy in patients with a small renal mass. Korean J Urol 2013; 54(9):603-8. PMID: 24044094

120. Patel HD, Kates M, Pierorazio PM *et al*. Survival after diagnosis of localized T1a kidney cancer: current population-based practice of surgery and nonsurgical management. Urology 2014; 83(1):126-32. PMID: 24246317

121. Patel HD, Kates M, Pierorazio PM, Allaf ME. Balancing cardiovascular (CV) and cancer death among patients with small renal masses: modification by CV risk. BJU Int 2014. PMID: 24589376

122. Sun M, Becker A, Tian Z *et al*. Management of localized kidney cancer: calculating cancer-specific mortality and competing risks of death for surgery and nonsurgical management. Eur Urol 2014; 65(1):235-41. PMID: 23567066

123. Takaki H, Soga N, Kanda H *et al*. Radiofrequency ablation versus radical nephrectomy: clinical outcomes for stage T1b renal cell carcinoma. Radiology 2014; 270(1):292-9. PMID: 23925272

124. Lane BR, Abouassaly R, Gao T *et al*. Active treatment of localized renal tumors may not impact overall survival in patients aged 75 years or older. Cancer 2010; 116(13):3119-26. PMID: 20564627

125. Choueiri TK, Schutz FA, Hevelone ND *et al*. Thermal ablation vs surgery for localized kidney cancer: a Surveillance, Epidemiology, and End Results (SEER) database analysis. Urology 2011; 78(1):93-8. PMID: 21550636

126. Lucas SM, Stern JM, Adibi M, Zeltser IS, Cadeddu JA, Raj GV. Renal function outcomes in patients treated for renal masses smaller than 4 cm by ablative and extirpative techniques. J Urol 2008; 179(1):75-9; discussion 79-80. PMID: 17997440

127. Permpongkosol S, Link RE, Su LM *et al*. Complications of 2,775 urological laparoscopic procedures: 1993 to 2005. J Urol 2007; 177(2):580-5. PMID: 17222637

128. Takaki H, Yamakado K, Soga N *et al*. Midterm results of radiofrequency ablation versus nephrectomy for T1a renal cell carcinoma. Jpn J Radiol 2010; 28(6):460-8. PMID: 20661697

129. Deklaj T, Lifshitz DA, Shikanov SA *et al*. Localized T1a renal lesions in the elderly: outcomes of laparoscopic renal surgery. J Endourol 2010;

24(3):397-401. PMID: 20334557

130. Foyil KV, Ames CD, Ferguson GG *et al*. Longterm changes in creatinine clearance after laparoscopic renal surgery. J Am Coll Surg 2008; 206(3):511-5. PMID: 18308223

131. Kowalczyk KJ, Choueiri TK, Hevelone ND *et al*. Comparative effectiveness, costs and trends in treatment of small renal masses from 2005 to 2007. BJU Int 2013; 112(4):E273-80. PMID: 23452093

132. Abouassaly R, Lane BR, Novick AC. Active surveillance of renal masses in elderly patients. J Urol 2008; 180(2):505-8; discussion 508-9. PMID: 18550113

133. Crispen PL, Wong YN, Greenberg RE, Chen DY, Uzzo RG. Predicting growth of solid renal masses under active surveillance. Urol Oncol 2008; 26(5):555-9. PMID: 18774473

134. Crispen PL, Viterbo R, Boorjian SA, Greenberg RE, Chen DY, Uzzo RG. Natural history, growth kinetics, and outcomes of untreated clinically localized renal tumors under active surveillance. Cancer 2009; 115(13):2844-52. PMID: 19402168

135. Jewett MA, Mattar K, Basiuk J *et al*. Active surveillance of small renal masses: progression patterns of early stage kidney cancer. Eur Urol 2011; 60(1):39-44. PMID: 21477920

136. Kunkle DA, Crispen PL, Chen DY, Greenberg RE, Uzzo RG. Enhancing renal masses with zero net growth during active surveillance. J Urol 2007; 177(3):849-53; discussion 853-4. PMID: 17296355

137. Rosales JC, Haramis G, Moreno J *et al*. Active surveillance for renal cortical neoplasms. J Urol 2010; 183(5):1698-702. PMID: 20299038

138. Sun M, Bianchi M, Trinh QD *et al*. Comparison of partial vs radical nephrectomy with regard to other-cause mortality in T1 renal cell carcinoma among patients aged >/=75 years with multiple comorbidities. BJU Int 2013; 111(1):67-73. PMID: 22612472

139. Yokoyama M, Fujii Y, Iimura Y *et al*. Longitudinal change in renal function after radical nephrectomy in Japanese patients with renal cortical tumors. J Urol 2011; 185(6):2066-71. PMID: 21496840

Appendix E: Uncontrolled studies

Uncontrolled Studies

Author, year	Study Design:	Intervention(n)	Outcome	Adverse Event	Follow Up
Larcher, 2014[1]	Retrospective	Thermal ablation (174)	Oncologic efficacy ,Overall survival	Not reported	48 months
Larson, 2014[2]	Retrospective	Partial nephrectomy (1532)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	1month
Sandberg, 2014[3]	Prospective	Partial nephrectomy (339)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	367 and 462 year
Takagi, 2014[4]	Prospective cohort	Partial nephrectomy (163)	Renal functional outcomes	Not reported	12 months
Miyake, 2014[5]	Prospective cohort	Partial nephrectomy (48)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	NR
Keehn, 2014[6]	Retrospective	Partial nephrectomy (144)	Renal functional outcomes	Not reported	NR
Zargar, 2014[7]	Retrospective	Partial nephrectomy (266)	Renal functional outcomes	Not reported	1-2 year
Kuru, 2014[8]	Retrospective series	Partial nephrectomy (35)	Renal functional outcomes	Not reported	36 months
Maddox, 2014[9]	cohort, Retrospective	Partial nephrectomy (46)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,	24.3 months
Johnson, 2014[10]	Retrospective cohort	Thermal ablation (144)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	97.9 months
Rodriguez-Faba, 2014[11]	case series	Thermal ablation (28)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	25 months
McClure, 2014[12]	Retrospective series	Thermal ablation (84)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	24 months
Yap, 2014[13]	Retrospective series	Partial nephrectomy	Renal functional outcomes ,Overall	Not reported	59 months

		(2107)	survival		
Curtiss, 2014[14]	case series	Partial nephrectomy (297)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,	Not reported
Cheema, 2014[15]	Retrospective	Partial nephrectomy (97)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2 months
Tomaszewski, 2014[16]	Retrospective	Partial nephrectomy (831)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,	Not reported
Richards, 2014[17]	Retrospective	Partial nephrectomy (235)	Renal functional outcomes	Not reported	29 months
Tomaszewski, 2014[18]	case series	Partial nephrectomy (375)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Porpiglia, 2014[19]	Retrospective	Partial nephrectomy (87)	Renal functional outcomes	Not reported	Not reported
Hu, 2014[20]	Retrospective	Partial nephrectomy (227)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2.7 year
Mukkamala, 2014[21]	Retrospective	Partial nephrectomy (358)	Renal functional outcomes	Not reported	39 months
Aguilera Bazan, 2014[22]	Retrospective Cohort	Partial nephrectomy (130)	Oncologic efficacy	Not reported	71 months
Eggener, 2014[23]	Retrospective	Partial nephrectomy (874)	Renal functional outcomes	Not reported	Not reported
Choo, 2014[24]	retro matched	Partial nephrectomy (107)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Schmit, 2014[25]	Retrospective	Thermal ablation (375)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Tay, 2014[26]	Retrospective	Radical nephrectomy(65)	Oncologic efficacy	Not reported	4 year
Wahafu, 2014[27]	Retrospective Cohort	Partial nephrectomy (526)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	31 months

Yeon, 2014[28]	Retrospective	Partial nephrectomy (113)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Mukkamala, 2014[29]	Retrospective Cohort	Partial nephrectomy (602)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	2.9 year
Bessede, 2014[30]	Retrospective Cohort	Partial nephrectomy (519)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	23 months
Peyronnet, 2014[31]	Retrospective Cohort	Partial nephrectomy (430)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	16.7 months
Leslie, 2014[32]	Retrospective	Partial nephrectomy (162)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Park, 2014[33]	case series	Partial nephrectomy (98)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	47.5 months
Zeccolini, 2014[34]	case series	Thermal ablation (25)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Pignot, 2014[35]	case series	Partial nephrectomy (570)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Schauer, 2014[36]	Retrospective	Partial nephrectomy (50)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	Not reported
Borghesi, 2014[37]	case series	Partial nephrectomy (96)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	Not reported
Wiener, 2014[38]	case series	Partial nephrectomy (122)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	20 months
Curry, 2014[39]	case series	Thermal ablation (45)	Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	30.6 months
Harris, 2014[40]	Retrospective Cohort	Partial nephrectomy (260)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	10.6 months
Mukkamala, 2014[41]	Retrospective	Partial nephrectomy (417)	Oncologic efficacy	Not reported	1 year

Georgiades, 2014[42]	Retrospective	Thermal ablation (134)	Oncologic efficacy	Not reported	Not reported
Takagi, 2013[43]	Retrospective	Partial nephrectomy (122)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Chang, 2014[44]	Retrospective	Thermal ablation (170)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	51.2 months
Veltri, 2014[45]	Retrospective	Thermal ablation (137)	Oncologic efficacy	Not reported	39 months
Ploussard, 2013[46]	Prospective cohort	Partial nephrectomy (65)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	12 months
Lagerveld, 2014[47]	Retrospective cohort	Thermal ablation (97)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	37.7 months
Bigot, 2014[48]	Retrospective Cohort	Partial nephrectomy (168)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Not reported	30 months
Sea, 2013[49]	Retrospective	Partial nephrectomy (119)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	8.9 months
Ramirez, 2014[50]	Retrospective	Thermal ablation (79)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	59 months
Hakky, 2014[51]	Retrospective cohort	Partial nephrectomy (166)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
George, 2014[52]	Retrospective cohort	Partial nephrectomy (488)	Renal functional outcomes	Not reported	41.6 months
Funahashi, 2014[53]	Retrospective	Partial nephrectomy (58)	Renal functional outcomes	Not reported	Not reported
Kreshover, 2013[54]	Retrospective Cohort	Partial nephrectomy (360)	Oncologic efficacy	Not reported	34 months
Wah, 2014[55]	Retrospective	Thermal ablation (165)	Oncologic efficacy ,Renal functional	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative	46.1 months

			outcomes ,Overall survival	outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	
Seideman, 2013[56]	Retrospective	Thermal ablation (199)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	Not reported
Ma, 2014[57]	Retrospective	Thermal ablation (52)	Oncologic efficacy ,Renal functional outcomes	Not reported	60 months
Autorino, 2014[58]	Retrospective Cohort	Partial nephrectomy (65)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	15.7 months
Seklehner, 2013[59]	Retrospective	Thermal ablation (40)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2 year
Lee, 2014[60]	Retrospective	Partial nephrectomy (369)	Renal functional outcomes	Not reported	1 year
Golan, 2014[61]	Retrospective	Partial nephrectomy (206)	Renal functional outcomes	Not reported	7 months
Sea, 2013[62]	Retrospective	Partial nephrectomy (119)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	9 months
Yang, 2014[63]	Retrospective	Thermal ablation (51)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	32 months
Kobayashi, 2013[64]	Retrospective	Partial nephrectomy (99)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Qi, 2013[65]	Retrospective	Partial nephrectomy (51)	Renal functional outcomes	Not reported	Not reported
Ioffe, 2013[66]	Retrospective	Partial nephrectomy (118)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Porpiglia, 2013[67]	Retrospective	Partial nephrectomy (206)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Schmit, 2013[68]	Retrospective	Thermal ablation (189)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	18 months

Mathieu, 2013[69]	Retrospective	Partial nephrectomy (240)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Krane, 2013[70]	Retrospective case series	Partial nephrectomy (233)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	27 months
Mir, 2013[71]	Retrospective	Partial nephrectomy (92)	Renal functional outcomes	Not reported	Not reported
Alyami, 2013[72]	case series	Partial nephrectomy (52)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Khalifeh, 2013[73]	Retrospective Cohort	Partial nephrectomy (943)	Oncologic efficacy	Not reported	17.3 months
Mehrazin, 2013[74]	Retrospective	Partial nephrectomy (322)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	25 months
Allen, 2013[75]	case series	Thermal ablation (38)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2.8 year
Zhang, 2014[76]	Retrospective	Partial nephrectomy (245)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Khalifeh, 2013[77]	case series	Partial nephrectomy (134)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	3 year
Eyraud, 2013[78]	Retrospective	Partial nephrectomy (364)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	7 months
Breen, 2013[79]	Retrospective	Thermal ablation (147)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	20 months
Masson-Lecomte, 2013[80]	Retrospective Cohort	Partial nephrectomy (220)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	26 months
Kiziloz, 2013[81]	Retrospective	Partial	,Renal functional	Harms and peri-operative outcome -Give an adequate	1month

	cohort	nephrectomy (283)	outcomes	description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	
Gorin, 2013[82]	case series	Partial nephrectomy (257)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Karam, 2013[83]	case series	Thermal ablation (150)	Oncologic efficacy ,Overall survival	Not reported	40.1 months
Ching, 2013[84]	Restrospective Cohort	Partial nephrectomy (282)	Renal functional outcomes	Not reported	175 months
Osawa, 2013[85]	Retrospective cohort	Partial nephrectomy (71)	Renal functional outcomes	Not reported	92 months
Tanagho, 2013[86]	Prospective cohort	Partial nephrectomy (886)	Renal functional outcomes	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	1month
Balageas, 2013[87]	Retrospective cohort	Thermal ablation (62)	Oncologic efficacy, Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	78 months
Chen, 2013[88]	Retrospective Cohort	Thermal ablation (96)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	16 months
Campero, 2012[89]	retro single surg	Partial nephrectomy (100)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	42 months
Springer, 2013[90]	Retrospective	Radical nephrectomy(56)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	14 months
Pertia, 2012[91]	Retrospective, cT1b	Partial nephrectomy (57)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	70 months
Simhan, 2013[92]	Retrospective	Partial nephrectomy (97)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	24 months
Hung, 2013[93]	Retrospective	Partial nephrectomy (534)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Erdem, 2013[94]	Prospective cohort study	Partial nephrectomy (66)	Renal functional outcomes	Not reported	Not reported

Hillyer, 2013[95]	Retrospective, solitary kidney	Partial nephrectomy (26)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	6 months
Kim, 2013[96]	Retrospective	Thermal ablation (124)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	30 months
Kaczmarek, 2013[97]	Retrospective, matched off-clamp	Partial nephrectomy (886)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	21 months
Cai, 2012[98]	Retrospective	Radical nephrectomy(1147)	Oncologic efficacy ,Overall survival	Not reported	61 months
Shao, 2013[99]	Retrospective cohort	Partial nephrectomy (82)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	31 months
Blute, 2013[100]	Retrospective	Thermal ablation (139)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	24 months
Isac, 2012[101]	Retrospective	Partial nephrectomy (250)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Yap, 2013[102]	Retrospective cohort study	Radical nephrectomy(1651)	Oncologic efficacy ,Overall survival	Not reported	10 year
Akaihata, 2013[103]	Retrospective cohort study	Radical nephrectomy(95)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	Not reported
Guillotreau, 2012[104]	Prospective cohort study	Partial nephrectomy (355)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	10 months
Long, 2012[105]	Retrospective Cohort	Partial nephrectomy (381)	Renal functional outcomes	Not reported	3.1 months
Abaza, 2013[106]	Retrospective Cohort	Partial nephrectomy (150)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,	8.5 months
Sejima, 2013[107]	Retrospective cohort study	Radical nephrectomy(92)	Oncologic efficacy ,Overall survival	Not reported	5 year
Okhunov,	Retrospective	Thermal ablation	Not reported	Harms and peri-operative outcome -Give an adequate	Not reported

2012[108]	cohort study	(210)		description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	
Bylund, 2012[109]	Retrospective cohort study	Partial nephrectomy (162)	Renal functional outcomes	Not reported	Not reported
Kim, 2012[110]	case series	Thermal ablation (47)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	49.6 months
Png, 2013[111]	Retrospective cohort study	Partial nephrectomy (83)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	3 months
Ficarra, 2012[112]	Retrospective Cohort	Partial nephrectomy (49)	Oncologic efficacy ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	12 months
Psutka, 2013[113]	Retrospective cohort study	Thermal ablation (185)	Oncologic efficacy ,Overall survival	Not reported	13 year
Sandhu, 2013[114]	Retrospective Cohort	Partial nephrectomy (39)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Sankin, 2012[115]	Retrospective cohort study	Partial nephrectomy (32)	Renal functional outcomes	Not reported	Not reported
Tanagho, 2012[116]	Retrospective cohort study	Thermal ablation (62)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	89.4 months
Buethe, 2012[117]	Retrospective cohort study	Partial nephrectomy (42)	Renal functional outcomes	Not reported	6 months
Kim, 2012[118]	Retrospective cohort study	Partial nephrectomy (65)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2 year
Long, 2013[119]	Retrospective cohort study	Partial nephrectomy (177)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Favaretto, 2013[120]	Retrospective cohort study	Partial nephrectomy (150)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Not reported	70 months
Simmons, 2012[121]	Retrospective Cohort	Partial nephrectomy (299)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	1.7 year
Shao, 2012[122]	Retrospective cohort study	Partial nephrectomy (125)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic	27 months

				complications ,Non-urologic complications	
Berg, 2012[123]	Retrospective cohort study	Partial nephrectomy (44)	Renal functional outcomes	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,	45 months
Tugcu, 2011[124]	retro single surgeon	Partial nephrectomy (49)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	11 months
Takagi, 2012[125]	Retrospective cohort	Partial nephrectomy (195)	Renal functional outcomes	Not reported	Not reported
Tsivian, 2012[126]	Retrospective cohort	Partial nephrectomy (147)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Mayer, 2012[127]	Retrospective cohort	Partial nephrectomy (67)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	Not reported
Kyllo, 2012[128]	Retrospective cohort	Partial nephrectomy (124)	Oncologic efficacy	Not reported	29 months
Tanagho, 2012[129]	case series	Partial nephrectomy (42)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	3.3 months
Reyes, 2013[130]	Retrospective	Thermal ablation (39)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	24 months
Novak, 2012[131]	Retrospective cohort	Partial nephrectomy (57)	Renal functional outcomes	Not reported	6 months
Jack, 2012[132]	Retrospective	Partial nephrectomy (50)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	36 months
Kong, 2012[133]	Retrospective cohort	Partial nephrectomy (195)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	Not reported
Tatsugami, 2012[134]	Retrospective	Partial nephrectomy (51)	Renal functional outcomes	Not reported	3 months
Sobey, 2012[135]	Retrospective	Partial nephrectomy (145)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	17 months
Porpiglia, 2012[136]	Retrospective	Partial nephrectomy (54)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative	4 year

				outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	
Thompson, 2012[137]	Retrospective cohort	Partial nephrectomy (362)	Renal functional outcomes	Not reported	1.6 year
Kruck, 2012[138]	Retrospective cohort	Partial nephrectomy (81)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Parker, 2012[139]	Prospective cohort	Partial nephrectomy (172)	,Quality of life ,	Not reported	12 months
Ficarra, 2012[140]	Retrospective cohort	Partial nephrectomy (349)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Saito, 2012[141]	Retrospective	Partial nephrectomy (1375)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	26 months
Funahashi, 2012[142]	Retrospective	Partial nephrectomy (32)	Renal functional outcomes	Not reported	6 months
Tsivian, 2012[143]	Retrospective cohort	Thermal ablation (172)	Oncologic efficacy	Not reported	12 months
Duffey, 2012[144]	case series	Thermal ablation (116)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	2704 months
Wehrenberg-Klee, 2012[145]	Retrospective cohort	Thermal ablation (48)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	1 year
Erdeljan, 2011[146]	Retrospective	Thermal ablation (30)	Oncologic efficacy ,Overall survival	Not reported	Not reported
Wang, 2011[147]	Retrospective	Partial nephrectomy (74)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	31 months
Kim, 2011[148]	case series	Thermal ablation (49)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	31.7 months
Mufarrij, 2011[149]	Retrospective	Partial nephrectomy (100)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	7.2 months
Hyams, 2011[150]	Retrospective	Partial nephrectomy (998)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,	20 months
Lifshitz, 2011[151]	Retrospective cohort	Partial nephrectomy (184)	Renal functional outcomes	Not reported	15 months
Minervini, 2012[152]	Prospective cohort	Partial nephrectomy (200)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,	Not reported

Porpiglia, 2012[153]	case series	Partial nephrectomy (51)	Renal functional outcomes	Not reported	12 months
Wheat, 2013[154]	Retrospective cohort	Partial nephrectomy (329)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	Not reported
Godoy, 2011[155]	Retrospective cohort	Partial nephrectomy (75)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,	Not reported
Caceres, 2011[156]	Retrospective cohort	Partial nephrectomy (60)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	31 months
Simhan, 2011[157]	Retrospective Cohort	Partial nephrectomy (390)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Halachmi, 2011[158]	case series	Partial nephrectomy (229)	Oncologic efficacy	Not reported	45 months
Cha, 2013[159]	Retrospective cohort study	Partial nephrectomy (53)	Renal functional outcomes	Not reported	52.3 months
Song, 2011[160]	Retrospective cohort	Partial nephrectomy (116)	Renal functional outcomes	Not reported	Not reported
Zagoria, 2011[161]	Retrospective cohort	Thermal ablation (41)	Oncologic efficacy	Not reported	56 months
Mues, 2011[162]	case series	Partial nephrectomy (100)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	8 months
Pouliot, 2011[163]	Restrospective Cohort	Partial nephrectomy (182)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Rosenberg, 2011[164]	Retrospective cohort	Thermal ablation (107)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	9.3 months
Lane, 2011[165]	Retrospective cohort	Partial nephrectomy (1132)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	1.5 year
Choi, 2010[166]	Retrospective cohort study	Partial nephrectomy (44)	Renal functional outcomes	Not reported	3 months
Becker, 2011[167]	Retrospective cohort	Partial nephrectomy (91)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	28 months
White, 2011[168]	Restrospective Cohort	Partial nephrectomy (112)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Arai, 2011[169]	Retrospective cohort	Partial nephrectomy (32)	Renal functional outcomes	Not reported	Not reported

Mottrie, 2013[170]	Retrospective cohort study	Partial nephrectomy (62)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Ji, 2011[171]	Prospective cohort	Thermal ablation (106)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	32 months
Tsivian, 2011[172]	Retrospective cohort study	Partial nephrectomy (111)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	18.7 months
Muramaki, 2011[173]	Retrospective cohort study	Radical nephrectomy(710)	Oncologic efficacy	Not reported	36 months
Minervini, 2011[174]	Prospective Cohort	Partial nephrectomy (164)	Oncologic efficacy ,Overall survival	Not reported	38 months
Hayn, 2011[175]	Retrospective Cohort	Partial nephrectomy (141)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Davis, 2012[176]	Retrospective Cohort	Thermal ablation (36)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	12 months
Dulabon, 2011[177]	Prospective cohort study	Partial nephrectomy (446)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	45 months
Coffin, 2011[178]	Retrospective cohort study	Partial nephrectomy (155)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	289 months
Kong, 2011[179]	Retrospective cohort study	Thermal ablation (63)	Oncologic efficacy ,Overall survival	Not reported	34 months
Schmit, 2010[180]	Retrospective cohort study	Thermal ablation (45)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading , ,Non-urologic complications	38 months
Clark, 2011[181]	Retrospective Cohort	Partial nephrectomy (1228)	Renal functional outcomes	Not reported	1 year
Wszolek, 2011[182]	Retrospective cohort study	Partial nephrectomy (104)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	10 year
Beemster, 2011[183]	Retrospective cohort study	Thermal ablation (92)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Not reported	30.2 months

Porpiglia, 2011[184]	case series	Partial nephrectomy (100)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Smith, 2011[185]	case series	Partial nephrectomy (308)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Samplaski, 2010[186]	case series	Partial nephrectomy (131)	Renal functional outcomes	Not reported	Not reported
Marszalek, 2011[187]	Retrospective cohort	Partial nephrectomy (105)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Ferakis, 2010[188]	case series	Thermal ablation (31)	Oncologic efficacy	Not reported	61 months
Dente, 2010[189]	Prospective cohort	Partial nephrectomy (96)	Renal functional outcomes	Not reported	1month
Montag, 2011[190]	case series	Partial nephrectomy (640)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Non-urologic complications	Not reported
Thompson, 2010[191]	case series	Partial nephrectomy (362)	Renal functional outcomes	Not reported	1.6 year
Pettus, 2010[192]	Retrospective cohort	Thermal ablation (62)	Renal functional outcomes	Not reported	1 year
Atwell, 2010[193]	Retrospective cohort	Thermal ablation (92)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Non-urologic complications	26 months
Lyrdal, 2010[194]	Retrospective cohort	Thermal ablation (41)	Renal functional outcomes	Not reported	27 months
Lin, 2010[195]	Retrospective cohort	Partial nephrectomy (45)	Renal functional outcomes	Not reported	Not reported
Rodriguez, 2011[196]	case series	Thermal ablation (113)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	1 year
Waldert, 2010[197]	case series	Partial nephrectomy (240)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Guazzoni, 2010[198]	Retrospective cohort	Thermal ablation (123)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	24 months
Tracy, 2010[199]	Retrospective Cohort	Thermal ablation (215)	Oncologic efficacy	Not reported	3 year
Netsch, 2010[200]	case series	Partial nephrectomy (329)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Non-urologic complications	23 months

Colli, 2011[201]	case series	Partial nephrectomy (141)	Renal functional outcomes	Not reported	6 months
Karellas, 2010[202]	Retrospective Cohort	Partial nephrectomy (34)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	17 months
Forsberg, 2010[203]	Retrospective Cohort	Partial nephrectomy (89)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	79 months
Beemster, 2010[204]	Prospective cohort	Thermal ablation (57)	,Quality of life ,	Not reported	Not reported
Ko, 2010[205]	case series	Thermal ablation (39)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	23.5 months
Msezane, 2010[206]	case series	Partial nephrectomy (184)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	20 months
Aguilera Bazan, 2010[207]	Retrospective Cohort	Partial nephrectomy (38)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Ham, 2010[208]	Prospective	Thermal ablation (37)	Oncologic efficacy	Not reported	Not reported
Mottrie, 2010[209]	Prospective	Partial nephrectomy (62)	Renal functional outcomes	Not reported	Not reported
Schmit, 2010[210]	Retrospective Cohort	Thermal ablation (108)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Non-urologic complications	Not reported
Park, 2010[211]	Retrospective Cohort	Partial nephrectomy (35)	Renal functional outcomes	Not reported	Not reported
Huber, 2010[212]	Retrospective Cohort	Partial nephrectomy (196)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Non-urologic complications	Not reported
Jeon, 2010[213]	Retrospective Cohort	Partial nephrectomy (376)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Shikanov, 2010[214]	Retrospective Cohort	Partial nephrectomy (401)	Renal functional outcomes	Not reported	Not reported
Kundu, 2010[215]	Retrospective Cohort	Partial nephrectomy (118)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,	Not reported
Porpiglia, 2010[216]	Retrospective Cohort	Partial nephrectomy (63)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Kava, 2010[217]	Retrospective Cohort	Partial nephrectomy (163)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported

Benway, 2010[218]	Retrospective Cohort	Partial nephrectomy (183)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Roos, 2010[219]	Retrospective cohort study	Partial nephrectomy (851)	Oncologic efficacy ,Renal functional outcomes	Not reported	24.1 year
Aron, 2010[220]	Retrospective Cohort	Thermal ablation (80)	Oncologic efficacy	Not reported	Not reported
Scoll, 2010[221]	Retrospective Cohort	Partial nephrectomy (100)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Yoost, 2010[222]	Retrospective cohort	Thermal ablation (35)	Oncologic efficacy	Not reported	13 months
Lifshitz, 2010[223]	Prospective cohort study	Partial nephrectomy (184)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Non-urologic complications	30 months
Lifshitz, 2010[224]	Retrospective Cohort	Partial nephrectomy (184)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Patel, 2010[225]	Retrospective Cohort	Partial nephrectomy (71)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Tsivian, 2010[226]	Retrospective Cohort	Thermal ablation (163)	Oncologic efficacy	Not reported	Not reported
Zheng, 2009[227]	Prospective	Partial nephrectomy (56)	Renal functional outcomes	Not reported	Not reported
Gill, 2010[228]	Retrospective Cohort	Partial nephrectomy (800)	Renal functional outcomes	Not reported	3.4 year
Lebed, 2010[229]	Retrospective cohort study	Partial nephrectomy (36)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	51 months
Malcolm, 2010[230]	Retrospective Cohort	Thermal ablation (62)	Renal functional outcomes	Not reported	30 months
Corcoran, 2009[231]	Retrospective cohort study	Partial nephrectomy (105)	Oncologic efficacy ,Renal functional outcomes, Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	80 months
Hiraoka, 2009[232]	case series	Thermal ablation (40)	Oncologic efficacy	Not reported	16 months

Thomas, 2009[233]	Retrospective Cohort	Partial nephrectomy (832)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Rouach, 2010[234]	Retrospective cohort	Partial nephrectomy (305)	Oncologic efficacy	Not reported	80 months
Ficarra, 2009[235]	Retrospective	Partial nephrectomy (164)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Gupta, 2009[236]	case series	Thermal ablation (151)	Oncologic efficacy ,Overall survival	Not reported	18 months
Ku, 2009[237]	Retrospective cohort	Radical nephrectomy(102)	Oncologic efficacy ,Overall survival	Not reported	58.5 months
Laguna, 2009[238]	case series	Thermal ablation (144)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Srivastava, 2009[239]	Retrospective Cohort	Partial nephrectomy (102)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Non-urologic complications	Not reported
Stern, 2009[240]	Retrospective Cohort	Thermal ablation (63)	Oncologic efficacy ,Renal functional outcomes	Not reported	Not reported
Godoy, 2009[241]	Retrospective Cohort	Partial nephrectomy (101)	Renal functional outcomes	Not reported	6 months
La Rochelle, 2009[242]	Retrospective Cohort	Partial nephrectomy (84)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	40 months
Badger, 2009[243]	case series	Thermal ablation (27)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	22 months
Carrafiello, 2008[244]	Prospective	Thermal ablation (26)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	6 months
Joniau, 2009[245]	case series	Partial nephrectomy (67)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Not reported	40.1 months
Li, 2008[246]	case series	Partial nephrectomy (115)	Oncologic efficacy ,Overall survival	Not reported	65 months
Peycelon, 2009[247]	case series	Partial nephrectomy (61)	Oncologic efficacy ,Overall survival	Not reported	70.7 months
Nadu, 2009[248]	Retrospective cohort	Partial nephrectomy (212)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	1.5 months

Celia, 2008[249]	cohort	Partial nephrectomy (592)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	3 year
Kefer, 2008[250]	case control	Partial nephrectomy (94)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	1month
Lane, 2008[251]	case series	Partial nephrectomy (1169)	Renal functional outcomes	Not reported	1.5 year
Stein, 2008[252]	case series	Thermal ablation (30)	Oncologic efficacy	Not reported	25.2 months
Iida, 2008[253]	case series	Partial nephrectomy (131)	Renal functional outcomes	Not reported	41 months
Crispen, 2008[254]	case series	Partial nephrectomy (798)	Oncologic efficacy ,Overall survival	Not reported	5.4 year
Okegawa, 2008[255]	Retrospective	Radical nephrectomy(53 vs 47)	Oncologic efficacy	Not reported	34 months
Georgiades, 2008[256]	case series	Thermal ablation (46)	Oncologic efficacy ,Renal functional outcomes	Not reported	7 months
Veltri, 2009[257]	Prospective	Thermal ablation (71)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	24.4 months
Pyo, 2008[258]	Retrospective cohort	Partial nephrectomy (110)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	35 months
Weizer, 2008[259]	Retrospective cohort	Partial nephrectomy (174)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	14 months
Simmons, 2009[260]	Retrospective cohort	Partial nephrectomy (425)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
McClean, 2009[261]	Retrospective cohort	Partial nephrectomy (46)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	17.2 months
Lehman, 2008[262]	Retrospective cohort	Thermal ablation (44)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	Not reported
Yossepowitch, 2008[263]	Retrospective cohort	Partial nephrectomy (1344)	Oncologic efficacy	Not reported	Not reported
Desai, 2008[264]	Retrospective cohort	Partial nephrectomy (50)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	56.4 months
Turna, 2008[265]	Retrospective cohort	Partial nephrectomy (507)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	Not reported

Li, 2008[266]	Retrospective cohort	Partial nephrectomy (115)	,Overall survival	Not reported	65 months
Colombo, 2008[267]	Retrospective cohort	Partial nephrectomy (585)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	25 months
Wright, 2007[268]	Retrospective cohort	Thermal ablation (32)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	18 months
Nguyen, 2008[269]	Retrospective cohort	Partial nephrectomy (100)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	3 months
Pahernik, 2008[270]	Retrospective cohort	Partial nephrectomy (474)	,Overall survival	Not reported	4.7 year
Porpiglia, 2008[271]	Retrospective cohort	Partial nephrectomy (90)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Polascik, 2007[272]	Retrospective cohort	Thermal ablation (26)	,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	24 months
Bandi, 2008[273]	Retrospective cohort	Radical nephrectomy(75)	,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	41 months
Carey, 2007[274]	Retrospective cohort	Thermal ablation (85)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	11 months
Denzinger, 2007[275]	Retrospective cohort	Partial nephrectomy (91)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	48 months
Hemal, 2007[276]	Retrospective cohort	Radical nephrectomy(143)	,Quality of life ,	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	56 months
Zagoria, 2007[277]	Retrospective	Thermal ablation (104)	Oncologic efficacy	Not reported	14 months
Pettus, 2007[278]	Retrospective	Partial nephrectomy (742)	Renal functional outcomes	Not reported	19 months
Nadu, 2007[279]	Retrospective	Partial nephrectomy (140)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Simmons, 2007[280]	Retrospective	Partial nephrectomy (200)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Senga, 2007[281]	Retrospective	Partial nephrectomy (469)	Oncologic efficacy	Not reported	48 months

Atwell, 2007[282]	case series	Thermal ablation (40)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	9 months
Zorn, 2007[283]	case series	Partial nephrectomy (84)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	13 months
Weld, 2007[284]	case series	Thermal ablation (81)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	45.7 months
Littrup, 2007[285]	cases series	Thermal ablation (49)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	1.6 year
Adamakis, 2007[286]	Retrospective	Partial nephrectomy (42)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	32 months
Brown, 2007[287]	case series	Partial nephrectomy (60)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	14.2 months
Patard, 2007[288]	Retrospective	Partial nephrectomy (1048)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	36 months
Pertia, 2006[289]	Retrospective	Partial nephrectomy (30)	Oncologic efficacy ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	71 months
Gupta, 2007[290]	Retrospective	Partial nephrectomy (36)	Oncologic efficacy ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	52 months
Lane, 2007[291]	case series	Partial nephrectomy (60)	Oncologic efficacy ,Renal functional outcomes	Not reported	5.7 year
Kwon, 2007[292]	Retrospective	Partial nephrectomy (777)	Oncologic efficacy	Not reported	22 months
Salagierski, 2006[293]	Retrospective	Thermal ablation (42)	,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	14 months
Matin, 2006[294]	Retrospective	Thermal ablation (616)	Oncologic efficacy ,Overall survival	Not reported	2 year
Yossepowitch, 2006[295]	Retrospective	Partial nephrectomy (70)	Renal functional outcomes	Not reported	1 year
Schwartz, 2006[296]	case series	Thermal ablation (85)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	10 months

Davol, 2006[297]	case series	Thermal ablation (48)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	64 months
Carini, 2006[298]	case series	Partial nephrectomy (232)	Oncologic efficacy ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	76 months
Venkatesh, 2006[299]	Retrospective	Partial nephrectomy (123)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Pahernik, 2006[300]	Retrospective cohort	Partial nephrectomy (504)	Oncologic efficacy ,Overall survival	Not reported	6.77 year
Carini, 2006[301]	Retrospective cohort	Partial nephrectomy (71)	Oncologic efficacy ,Overall survival	Not reported	74 months
Berdjis, 2006[302]	case series	Partial nephrectomy (121)	Oncologic efficacy	Not reported	49.3 months
Becker, 2006[303]	Retrospective	Partial nephrectomy (368)	Oncologic efficacy ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	6.2 year
Weld, 2006[304]	case series	Partial nephrectomy (60)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	25.3 months
Frank, 2006[305]	Retrospective	Partial nephrectomy (363)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Pasticier, 2006[306]	Retrospective	Partial nephrectomy (127)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Wille, 2006[307]	Retrospective	Partial nephrectomy (44)	Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	15 months
Moinzadeh, 2006[308]	Retrospective	Partial nephrectomy (480)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	3 year
Orvieto, 2005[309]	Retrospective	Partial nephrectomy (41)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	7.5 months
Permpongkosol, 2005[310]	Retrospective	Radical nephrectomy(121)	Oncologic efficacy ,Overall survival	Not reported	73 months

Thompson, 2005[311]	Retrospective	Partial nephrectomy (823)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	Not reported
Gill, 2005[312]	Retrospective	Partial nephrectomy (25)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Ng, 2005[313]	Retrospective	Partial nephrectomy (163)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Wright, 2005[314]	Retrospective	Partial nephrectomy (51)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Gervais, 2005[315]	Retrospective	Thermal ablation (85)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Gervais, 2005[316]	Retrospective	Thermal ablation (85)	Oncologic efficacy ,Overall survival	Not reported	2.3 year
Cheung, 2005[317]	single retro	Radical nephrectomy(100)	Oncologic efficacy ,Overall survival	Not reported	30 months
Lapini, 2005[318]	Retrospective	Partial nephrectomy (107)	Oncologic efficacy ,Overall survival	Not reported	88 months
Gill, 2005[319]	Retrospective	Thermal ablation (56)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	3 year
Link, 2005[320]	Retrospective	Partial nephrectomy (223)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	37.7 months
Salama, 2005[321]	Retrospective	Radical nephrectomy(115)	Oncologic efficacy	Not reported	7.5 year
Mullerad, 2005[322]	Retrospective	Partial nephrectomy (118)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	38.8 months
Desai, 2005[323]	Retrospective	Partial nephrectomy (179)	Renal functional outcomes	Not reported	5 months
Seifman, 2004[324]	Retrospective	Partial nephrectomy (36)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	2 year
Lee, 2004[325]	Retrospective	Radical nephrectomy(100)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative	24 months

				outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	
Ramani, 2005[326]	case series	Partial nephrectomy (200)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Cestari, 2004[327]	case series	Thermal ablation (37)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	20.5 months
Bhayani, 2004[328]	case series	Partial nephrectomy (118)	Renal functional outcomes	Not reported	28 months
Allaf, 2004[329]	case series	Partial nephrectomy (48)	Oncologic efficacy Not reported	Not reported	3 year
Bove, 2004[330]	Retrospective	Partial nephrectomy (103)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Matsumoto, 2004[331]	Retrospective	Thermal ablation (64)	Oncologic efficacy	Not reported	6 months
Kane, 2004[332]	case series	Partial nephrectomy (27)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Diblasio, 2004[333]	case series	Partial nephrectomy (154)	Renal functional outcomes	Not reported	Not reported
Elmore, 2003[334]	Retrospective	Radical nephrectomy(544)	Oncologic efficacy	Not reported	74 months
Kuriki, 2003[335]	case series	Radical nephrectomy(185)	Oncologic efficacy	Not reported	108 months
Zigeuner, 2003[336]	case series	Partial nephrectomy (114)	Oncologic efficacy	Not reported	80 months
Patel, 2003[337]	case series	Radical nephrectomy(60)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	11 months
Lundstam, 2003[338]	case series	Partial nephrectomy (87)	Oncologic efficacy ,Overall survival	Not reported	61 months
Kural, 2003[339]	case series	Partial nephrectomy (76)	Oncologic efficacy ,Renal functional outcomes ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	37.1 months
Franks, 2003[340]	case series	Partial nephrectomy (45)	Oncologic efficacy ,Renal functional	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative	34 months

			outcomes ,Overall survival	outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	
Mayo-Smith, 2003[341]	case series	Thermal ablation (32)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	9 months
Zucchi, 2003[342]	case series	Partial nephrectomy (63)	Oncologic efficacy	Not reported	39 months
Desai, 2003[343]	case series	Partial nephrectomy (64)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	9.5 months
McKiernan, 2002[344]	case series	Partial nephrectomy (292)	Oncologic efficacy	Not reported	25.3 months
Castilla, 2002[345]	case series	Partial nephrectomy (69)	Oncologic efficacy	Not reported	8.5 year
Minervini, 2002[346]	case series	Radical nephrectomy(213)	Oncologic efficacy	Not reported	52 months
Russo, 2002[347]	case series	Partial nephrectomy (39)	Oncologic efficacy ,Renal functional outcomes	Not reported	30 months
Fryczkowski, 2001[348]	case series	Partial nephrectomy (53)	Oncologic efficacy	Not reported	Not reported
Lau, 2002[349]	case series	Radical nephrectomy()	Oncologic efficacy	Not reported	9.4 year
Gill, 2002[350]	case series	Partial nephrectomy (50)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	7.2 months
Piper, 2001[351]	Retrospective cohort study	Partial nephrectomy (62)	Oncologic efficacy ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	60 months
Sutherland, 2002[352]	case series	Partial nephrectomy (44)	Oncologic efficacy	Not reported	49 months
Jeschke, 2001[353]	case series	Partial nephrectomy (51)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	34.2 months
Igarashi, 2001[354]	case series	Radical nephrectomy(333)	Oncologic efficacy	Not reported	63 months
Fryczkowski, 2000[355]	case series	Partial nephrectomy (53)	Oncologic efficacy	Not reported	63.8 months

Rukstalis, 2001[356]	case series	Thermal ablation (29)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	16 months
Gill, 2000[357]	case series	Thermal ablation (32)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	16.2 months
Filipas, 2000[358]	Retrospective	Partial nephrectomy (180)	Oncologic efficacy ,Renal functional outcomes, Overall survival	Study reports final health outcomes AND Harms/peri-operative outcomes	4.7 year
Black, 2000[359]	case series	Partial nephrectomy (311)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	5.2 year
Fergany, 2000[360]	case series	Partial nephrectomy (107)	Oncologic efficacy ,Renal functional outcomes	Not reported	10 year
Herr, 1999[361]	Retrospective	Partial nephrectomy (70)	Oncologic efficacy ,Overall survival	Not reported	10 year
Ono, 1999[362]	Retrospective cohort	Radical nephrectomy(60)	Oncologic efficacy	Study reports final health outcomes AND Harms/peri-operative outcomes	24 months
Cadeddu, 1998[363]	Retrospective cohort	Radical nephrectomy(157)	Oncologic efficacy	Not reported	15 months
Van Poppel, 1998[364]	Retrospective cohort	Partial nephrectomy (76)	Oncologic efficacy	Not reported	75 months
Ljungberg, 1998[365]	Retrospective cohort	Radical nephrectomy(89)	Oncologic efficacy ,Renal functional outcomes	Not reported	10 year
Ono, 1997[366]	Retrospective	Radical nephrectomy(25)	Oncologic efficacy ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	22 months
Hafez, 1997[367]	Retrospective	Partial nephrectomy (327)	Oncologic efficacy ,Overall survival	Not reported	55 months
Hsi R.S., 2014[368]	Retrospective	Partial nephrectomy (51)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	6.5 months
Fardoun T., 2014[369]	Retrospective	Partial nephrectomy (199)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Tomaszewski J.J., 2014[370]	Retrospective	Partial nephrectomy (255)	Not reported	Only Harms -Primary objective of the study is to assess the complications ,Urologic complications ,Non-urologic complications	62 months

Alesawi A., 2014[371]	Retrospective	Partial nephrectomy (25)	Renal functional outcomes	Not reported	12 months
Petros F., 2012[372]	Retrospective	Partial nephrectomy (445)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	10 months
Best S.L., 2012[373]	Retrospective	Thermal ablation (159)	Oncologic efficacy	Not reported	54 months
Spana G., 2011[374]	Retrospective	Partial nephrectomy (450)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
White M.A., 2011[375]	Retrospective	Partial nephrectomy (164)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	8 months
Naeem N., 2011[376]	Retrospective	Partial nephrectomy (97)	Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	10 months
Schmit G.D., 2010[377]	Retrospective	Thermal ablation (108)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	15 months
Park S.-W., 2010[378]	Retrospective	Partial nephrectomy (62)	Renal functional outcomes	Not reported	43 months
Jeon S.H., 2009[379]	Retrospective	Radical nephrectomy(150)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Hiraoka K., 2009[380]	Retrospective	Thermal ablation (40)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	16 months
Ritchie R.W., 2009[381]	Retrospective	Radical nephrectomy(118)	Not reported	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	Not reported
Bandi G., 2008[382]	Retrospective	Partial nephrectomy (75)	Oncologic efficacy ,Overall survival	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	46 months
Polascik T.J., 2007[383]	Retrospective	Thermal ablation (26)	Oncologic efficacy ,Renal functional outcomes ,Overall	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic	21 months

			survival	complications ,Non-urologic complications	
Wille A.H., 2007[384]	Retrospective	Partial nephrectomy (80)	Oncologic efficacy ,Renal functional outcomes	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	28 months
Salagierska-Barwinska A., 2007[385]	Retrospective	Thermal ablation (55)	Oncologic efficacy	Harms and peri-operative outcome -Give an adequate description of how complications and peri-operative outcomes were assessed /clavien grading ,Urologic complications ,Non-urologic complications	25 months
Lee D.-G., 2006[386]	case series	Radical nephrectomy(147)	Oncologic efficacy	Not reported	54.9 months
Marszalek M., 2004[387]	case series	Partial nephrectomy (129)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	34 months
Seklehner S., 2013[388]	Retrospective cohort	Thermal ablation (44)	Oncologic efficacy ,Renal functional outcomes	Study reports final health outcomes AND Harms/peri-operative outcomes	2 year
Kim E.H., 2012[389]	Retrospective cohort	Thermal ablation (124)	Oncologic efficacy ,Renal functional outcomes	Not reported	30 months

Reference List

1. Larcher A, Fossati N, Mistretta F *et al*. Long-term oncologic outcomes of laparoscopic renal cryoablation as primary treatment for small renal masses. Urol Oncol 2014. PMID: 25301741

2. Larson JA, Kaouk J, Stifelman MD *et al*. Non-modifiable factors and complications contribute to length of stay in Robot-Assisted Partial Nephrectomy. J Endourol 2014. PMID: 25286232

3. Sandberg JM, Krane LS, Hemal AK. A Nonrandomized Prospective Comparison of Robotic-assisted Partial Nephrectomy in the Elderly to a Younger Cohort: An Analysis of 339 Patients With Intermediate-term Follow-up. Urology 2014; 84(4):838-43. PMID: 25260445

4. Takagi T, Mir MC, Campbell RA *et al*. Assessment of Outcomes in Partial Nephrectomy Incorporating Detailed Functional Analysis. Urology 2014. PMID: 25239254

5. Miyake H, Furukawa J, Hinata N, Muramaki M, Tanaka K, Fujisawa M. Significant impact of R.E.N.A.L. nephrometry score on changes in postoperative renal function early after robot-assisted partial nephrectomy. Int J Clin Oncol 2014 . PMID: 25224963

6. Keehn A, Srivastava A, Maiman R *et al*. The Relationship Between Visceral Obesity and the Clinicopathologic Features of Patients with Small Renal Masses. J Endourol 2014. PMID: 25203393

7. Zargar H, Akca O, Ramirez D *et al*. THE IMPACT OF EXTENDED WARM ISCHEMIA TIME ON LATE RENAL FUNCTION AFTER ROBOTIC

PARTIAL NEPHRECTOMY. J Endourol 2014. PMID: 25203268

8. Kuru TH, Zhu J, Popeneciu IV *et al*. Volumetry may predict early renal function after nephron sparing surgery in solitary kidney patients. Springerplus 2014; 3:488. PMID: 25202653

9. Maddox M, Mandava S, Liu J, Boonjindasup A, Lee BR. Robotic Partial Nephrectomy for Clinical Stage T1b Tumors: Intermediate Oncologic and Functional Outcomes. Clin Genitourin Cancer 2014. PMID: 25176501

10. Johnson S, Pham KN, See W, Begun FP, Langenstroer P. Laparoscopic cryoablation for clinical stage T1 renal masses: long-term oncologic outcomes at the Medical College of Wisconsin. Urology 2014; 84(3):613-8. PMID: 25168540

11. Rodriguez-Faba O, Palou J, Rosales A *et al*. Prospective study of ultrasound-guided percutaneous renal cryotherapy: Case selection as an optimization factor for a technique. Actas Urol Esp 2014. PMID: 25124045

12. McClure TD, Chow DS, Tan N, Sayre JA, Pantuck AJ, Raman SS. Intermediate Outcomes and Predictors of Efficacy in the Radiofrequency Ablation of 100 Pathologically Proven Renal Cell Carcinomas. J Vasc Interv Radiol 2014. PMID: 25081202

13. Yap SA, Finelli A, Urbach DR, Tomlinson GA, Alibhai SM. Partial Nephrectomy for the Treatment of Renal Cell Carcinoma and the Risk of End Stage Renal Disease. BJU Int 2014. PMID: 25065448

14. Curtiss KM, Ball MW, Gorin MA, Harris KT, Pierorazio PM, Allaf ME. Perioperative Outcomes of Robotic Partial Nephrectomy for Intrarenal Tumors. J Endourol 2014. PMID: 24983384

15. Cheema Z, Alsinnawi M, Casey RG, Corr J. A single United Kingdom center experience of open partial nephrectomy using regional ischemia. Can J Urol 2014; 21(3):7277-82. PMID: 24978357

16. Tomaszewski JJ, Smaldone MC, Cung B *et al*. Internal validation of the renal pelvic score: a novel marker of renal pelvic anatomy that predicts urine leak after partial nephrectomy. Urology 2014; 84(2):351-7. PMID: 24975712

17. Richards KA, Negron E, Cohn JA, Steinberg Z, Eggener SE, Shalhav AL. The Impact of Body Mass Index on Renal Functional Outcomes Following Minimally Invasive Partial Nephrectomy. J Endourol 2014. PMID: 24935823

18. Tomaszewski JJ, Smaldone MC, Mehrazin R *et al*. Anatomic complexity quantitated by nephrometry score is associated with prolonged warm ischemia time during robotic partial nephrectomy. Urology 2014; 84(2):340-4. PMID: 24925833

19. Porpiglia F, Bertolo R, Amparore D *et al*. Evaluation of functional outcomes following laparoscopic partial nephrectomy by using renal scintigraphy: "clamped" versus "clampless". BJU Int 2014. PMID: 24913695

20. Hu JC, Treat E, Filson CP *et al*. Technique and Outcomes of Robot-assisted Retroperitoneoscopic Partial Nephrectomy: A Multicenter Study. Eur Urol 2014; 66(3):542-9. PMID: 24857539

21. Mukkamala A, He C, Weizer AZ *et al*. Long-term renal functional outcomes ofminimally invasive partial nephrectomy for renal cell carcinoma. Urol Oncol 2014. PMID: 24846342

22. Aguilera Bazan A, Banuelos B, Alonso-Dorrego JM, Diez J, Cisneros J, De la Pena Barthel J. Oncological outcomes of nephron sparing nephrectomy. 17-year analysis. Arch Esp Urol 2014; 67(3):237-42. PMID: 24840588

23. Eggener SE, Clark MA, Shikanov S *et al*. Impact of warm versus cold ischemia on renal function following partial nephrectomy. World J Urol 2014. PMID: 24817142

24. Choo SH, Lee SY, Sung HH *et al*. Transperitoneal versus retroperitoneal robotic partial nephrectomy: matched-pair comparisons by nephrometry scores. World J Urol 2014. PMID: 24817141

25. Schmit GD, Schenck LA, Thompson RH *et al*. Predicting renal cryoablation complications: new risk score based on tumor size and location and patient history. Radiology 2014; 272(3):903-10. PMID: 24814178

26. Tay MH, Thamboo TP, Wu FM *et al*. High R.e.N.a.L. Nephrometry scores are associated with pathologic upstaging of clinical t1 renal-cell carcinomas in radical nephrectomy specimens: implications for nephron-sparing surgery. J Endourol 2014; 28(9):1138-42. PMID: 24810993

27. Wahafu W, Ma X, Li HZ *et al*. Evolving renorrhaphy technique for retroperitoneal laparoscopic partial nephrectomy: single-surgeon series. Int J Urol 2014; 21(9):865-73. PMID: 24780100

28. Yeon JS, Son SJ, Lee YJ *et al*. The nephrometry score: is it effective for predicting perioperative outcome during robot-assisted partial nephrectomy? Korean J Urol 2014; 55(4):254-9. PMID: 24741414

29. Mukkamala A, Allam CL, Ellison JS *et al*. Tumor enucleation vs sharp excision in minimally invasive partial nephrectomy: technical benefit without impact on functional or oncologic outcomes. Urology 2014; 83(6):1294-9. PMID: 24713137

30. Bessede T, Bigot P, Bernhard JC *et al*. Are warm ischemia and ischemia time still predictive factors of poor renal function after partial nephrectomy in the setting of elective indication? World J Urol 2014. PMID: 24700310

31. Peyronnet B, Baumert H, Mathieu R *et al*. Early unclamping technique during robot-assisted laparoscopic partial nephrectomy can minimise warm ischaemia without increasing morbidity. BJU Int 2014. PMID: 24690155

32. Leslie S, Gill IS, de Castro Abreu AL *et al*. Renal Tumor Contact Surface Area: A Novel Parameter for Predicting Complexity and Outcomes of Partial Nephrectomy. Eur Urol 2014. PMID: 24680360

33. Park DS, Hwang JH, Kang MH, Oh JJ. Association between R.E.N.A.L. nephrometry score and perioperative outcomes following open partial nephrectomy under cold ischemia. Can Urol Assoc J 2014; 8(3-4):E137-41. PMID: 24678352

34. Zeccolini G, Del Biondo D, Cicero C, Casarin A, Guarise A, Celia A. Comparison of Contrast-Enhanced Ultrasound Scan (CEUS) and MRI in the follow-

up of cryoablation for small renal tumors. Experience on 25 cases. Urologia 2014; 81(Suppl. 23):1-8. PMID: 24665032

35. Pignot G, Mejean A, Bernhard JC *et al*. The use of partial nephrectomy: results from a contemporary national prospective multicenter study. World J Urol 2014. PMID: 24663965

36. Schauer I, Theimer O, Klatte T, Waldert M, Klingler HC, Margreiter M. Use of self-retaining barbed sutures decreases cold ischemia time in open nephron-sparing surgery. Wien Klin Wochenschr 2014; 126(11-12):329-34. PMID: 24652018

37. Borghesi M, Della Mora L, Brunocilla E *et al*. Warm ischemia time and postoperative complications after partial nephrectomy for renal cell carcinoma. Actas Urol Esp 2014; 38(5):313-8. PMID: 24565512

38. Wiener S, Kiziloz H, Dorin RP, Finnegan K, Shichman SS, Meraney A. Predictors of postoperative decline in estimated glomerular filtration rate in patients undergoing robotic partial nephrectomy. J Endourol 2014; 28(7):807-13. PMID: 24548077

39. Curry D, Yassin M, Thwaini A *et al*. Radiofrequency ablation of renal cell carcinoma: a follow up of outcomes. Can J Urol 2014; 21(1):7135-40. PMID: 24529016

40. Harris KT, Ball MW, Gorin MA, Curtiss KM, Pierorazio PM, Allaf ME. Transperitoneal robot-assisted partial nephrectomy: a comparison of posterior and anterior renal masses. J Endourol 2014; 28(6):655-9. PMID: 24422597

41. Mukkamala A, He C, Weizer AZ *et al*. Long-term oncologic outcomes of minimally invasive partial nephrectomy for renal-cell carcinoma. J Endourol 2014; 28(6):649-54. PMID: 24405274

42. Georgiades CS, Rodriguez R. Efficacy and Safety of Percutaneous Cryoablation for Stage 1A/B Renal Cell Carcinoma: Results of a Prospective, Single-Arm, 5-Year Study. Cardiovasc Intervent Radiol 2014. PMID: 24385225

43. Takagi T, Mir MC, Campbell RA *et al*. Predictors of Precision of Excision and Reconstruction in Partial Nephrectomy. J Urol 2013. PMID: 24373802

44. Chang X, Ji C, Zhao X *et al*. The application of R.E.N.A.L. nephrometry scoring system in predicting the complications after laparoscopic renal radiofrequency ablation. J Endourol 2014; 28(4):424-9. PMID: 24364623

45. Veltri A, Gazzera C, Busso M *et al*. T1a as the Sole Selection Criterion for RFA of Renal Masses: Randomized Controlled Trials versus Surgery Should Not Be Postponed. Cardiovasc Intervent Radiol 2014; 37(5):1292-8. PMID: 24337348

46. Ploussard G, Haddad R, Kovac E, Richard P, Anidjar M, Bladou F. Robot-assisted laparoscopic partial nephrectomy: Early single Canadian institution experience. Can Urol Assoc J 2013; 7(9-10):348-54. PMID: 24319515

47. Lagerveld BW, Brenninkmeijer M, van der Zee JA, van Haarst EP. Can RENAL and PADUA nephrometry indices predict complications of laparoscopic cryoablation for clinical stage T1 renal tumors? J Endourol 2014; 28(4):464-71. PMID: 24228738

48. Bigot P, Hetet JF, Bernhard JC *et al*. Nephron-sparing surgery for renal tumors measuring more than 7 cm: morbidity, and functional and oncological outcomes. Clin Genitourin Cancer 2014 ; 12(1):e19-27. PMID: 24210610

49. Sea JC, Bahler CD, Mendonsa E, Lucas SM, Sundaram CP. Comparison of measured renal tumor size versus R.E.N.A.L. nephrometry score in predicting patient outcomes after robot-assisted laparoscopic partial nephrectomy. J Endourol 2013; 27(12):1471-6. PMID: 24205980

50. Ramirez D, Ma YB, Bedir S, Antonelli JA, Cadeddu JA, Gahan JC. Laparoscopic radiofrequency ablation of small renal tumors: long-term oncologic outcomes. J Endourol 2014; 28(3):330-4 . PMID: 24156661

51. Hakky TS, Baumgarten AS, Allen B *et al*. Zonal NePhRO scoring system: a superior renal tumor complexity classification model. Clin Genitourin Cancer 2014; 12(1):e13-8. PMID: 24120084

52. George AK, Herati AS, Rais-Bahrami S, Waingankar N, Kavoussi LR. Laparoscopic partial nephrectomy for hilar tumors: oncologic and renal functional outcomes. Urology 2014; 83(1):111-5. PMID: 24119677

53. Funahashi Y, Kato M, Yoshino Y, Fujita T, Sassa N, Gotoh M. Comparison of renal ischemic damage during laparoscopic partial nephrectomy with artery-vein and artery-only clamping. J Endourol 2014; 28(3):306-11. PMID: 24099438

54. Kreshover JE, Richstone L, Kavoussi LR. Renal cell recurrence for T1 tumors after laparoscopic partial nephrectomy. J Endourol 2013; 27(12):1468-70. PMID: 24074156

55. Wah TM, Irving HC, Gregory W, Cartledge J, Joyce AD, Selby PJ. Radiofrequency ablation (RFA) of renal cell carcinoma (RCC): experience in 200 tumours. BJU Int 2014; 113(3):416-28. PMID: 24053769

56. Seideman CA, Gahan J, Weaver M *et al*. Renal tumour nephrometry score does not correlate with the risk of radiofrequency ablation complications. BJU Int 2013; 112(8):1121-4. PMID: 24053576

57. Ma Y, Bedir S, Cadeddu JA, Gahan JC. Long-term outcomes in healthy adults after radiofrequency ablation of T1a renal tumours. BJU Int 2014; 113(1):51-5. PMID: 24053553

58. Autorino R, Khalifeh A, Laydner H *et al*. Robot-assisted partial nephrectomy (RAPN) for completely endophytic renal masses: a single institution experience. BJU Int 2014; 113(5):762-8. PMID: 24053421

59. Seklehner S, Fellner H, Engelhardt PF, Schabauer C, Riedl C. Percutaneous radiofrequency ablation of renal tumors: a single-center experience. Korean J Urol 2013; 54(9):580-6. PMID: 24044090

60. Lee JW, Kim H, Choo M *et al*. Different methods of hilar clamping during partial nephrectomy: Impact on renal function. Int J Urol 2014; 21(3):232-6. PMID: 24033600

61. Golan S, Patel AR, Eggener SE, Shalhav AL. The volume of nonneoplastic parenchyma in a minimally invasive partial nephrectomy specimen: predictive

factors and impact on renal function. J Endourol 2014; 28(2):196-200. PMID: 24033335

62. Sea JC, Bahler CD, Lucas SM, Mendonsa E, Sundaram C. COMPARISON OF MEASURED RENAL TUMOR SIZE VERSUS R.E.N.A.L. NEPHROMETRY SCORE IN PREDICITING PATIENT OUTCOMES FOLLOWING ROBOT ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY. J Endourol 2013. PMID: 24011227

63. Yang R, Lian H, Zhang G *et al*. Laparoscopic radiofrequency ablation with intraoperative contrast-enhanced ultrasonography for T1bN0M0 renal tumors: initial functional and oncologic outcomes. J Endourol 2014; 28(1):4-9. PMID: 23998802

64. Kobayashi K, Saito T, Kitamura Y *et al*. The RENAL nephrometry score and the PADUA classification for the prediction of perioperative outcomes in patients receiving nephron-sparing surgery: feasible tools to predict intraoperative conversion to nephrectomy. Urol Int 2013; 91(3):261-8. PMID: 23988749

65. Qi J, Yu Y, Huang T *et al*. Predictors of postoperative renal functional damage after nephron-sparing surgery . World J Surg Oncol 2013; 11:216. PMID: 23987305

66. Ioffe E, Hakimi AA, Oh SK *et al*. Effect of visceral obesity on minimally invasive partial nephrectomy. Urology 2013; 82(3):612-8. PMID: 23987153

67. Porpiglia F, Bertolo R, Amparore D, Fiori C. Margins, ischaemia and complications rate after laparoscopic partial nephrectomy: impact of learning curve and tumour anatomical characteristics. BJU Int 2013; 112(8):1125-32. PMID: 23937616

68. Schmit GD, Thompson RH, Boorjian SA *et al*. Percutaneous renal cryoablation in obese and morbidly obese patients. Urology 2013; 82(3):636-41. PMID: 23890665

69. Mathieu R, Verhoest G, Droupy S *et al*. Predictive factors of complications after robot-assisted laparoscopic partial nephrectomy: a retrospective multicentre study. BJU Int 2013; 112(4):E283-9. PMID: 23879913

70. Krane LS, Manny TB, Mufarrij PW, Hemal AK. Does experience in creating a robot-assisted partial nephrectomy (RAPN) programme in an academic centre impact outcomes or complication rate? BJU Int 2013; 112(2):207-15. PMID: 23795787

71. Mir MC, Campbell RA, Sharma N *et al*. Parenchymal volume preservation and ischemia during partial nephrectomy: functional and volumetric analysis. Urology 2013; 82(2):263-8. PMID: 23791213

72. Alyami FA, Rendon RA. Laparoscopic partial nephrectomy for >4 cm renal masses. Can Urol Assoc J 2013; 7(5-6):E281-6. PMID: 23766830

73. Khalifeh A, Kaouk JH, Bhayani S *et al*. Positive surgical margins in robot-assisted partial nephrectomy: a multi-institutional analysis of oncologic outcomes (leave no tumor behind). J Urol 2013; 190(5):1674-9. PMID: 23764077

74. Mehrazin R, Palazzi KL, Kopp RP *et al*. Impact of tumour morphology on renal function decline after partial nephrectomy. BJU Int 2013; 111(8):E374-82. PMID: 23714649

75. Allen BC, Chen MY, Childs DD, Zagoria RJ. Imaging-guided radiofrequency ablation of cystic renal neoplasms. AJR Am J Roentgenol 2013; 200(6):1365-9. PMID: 23701077

76. Zhang ZY, Tang Q, Li XS *et al*. Clinical analysis of the PADUA and the RENAL scoring systems for renal neoplasms: a retrospective study of 245 patients undergoing laparoscopic partial nephrectomy. Int J Urol 2014; 21(1):40-4. PMID: 23675903

77. Khalifeh A, Autorino R, Eyraud R *et al*. Three-year oncologic and renal functional outcomes after robot-assisted partial nephrectomy. Eur Urol 2013; 64(5):744-50. PMID: 23639721

78. Eyraud R, Long JA, Snow-Lisy D *et al*. Robot-assisted partial nephrectomy for hilar tumors: perioperative outcomes. Urology 2013; 81(6):1246-51. PMID: 23601446

79. Breen DJ, Bryant TJ, Abbas A *et al*. Percutaneous cryoablation of renal tumours: outcomes from 171 tumours in 147 patients. BJU Int 2013; 112(6):758-65. PMID: 23581293

80. Masson-Lecomte A, Yates DR, Bensalah K *et al*. Robot-assisted laparoscopic nephron sparing surgery for tumors over 4 cm: operative results and preliminary oncologic outcomes from a multicentre French study. Eur J Surg Oncol 2013; 39(7):799-803. PMID: 23566551

81. Kiziloz H, Dorin R, Finnegan KT, Shichman S, Meraney A. The impact of body mass index on perioperative outcomes in robot-assisted laparoscopic partial nephrectomy. J Endourol 2013; 27 (8):1000-7. PMID: 23547917

82. Gorin MA, Mullins JK, Pierorazio PM, Jayram G, Allaf ME. Increased intra-abdominal fat predicts perioperative complications following minimally invasive partial nephrectomy. Urology 2013; 81(6):1225-30. PMID: 23541439

83. Karam JA, Ahrar K, Vikram R *et al*. Radiofrequency ablation of renal tumours with clinical, radiographical and pathological results. BJU Int 2013; 111(6):997-1005. PMID: 23510233

84. Ching CB, Lane BR, Campbell SC, Li J, Fergany AF. Five to 10-year followup of open partial nephrectomy in a solitary kidney. J Urol 2013; 190(2):470-4. PMID: 23499747

85. Osawa T, Harada H, Oba K, Seki T, Togashi M. Clinical factor affecting the recovery of kidney function in clinically localized renal cell carcinoma patients who underwent nephron-sparing surgery. Hokkaido Igaku Zasshi 2013; 88(1):15-20. PMID: 23461068

86. Tanagho YS, Kaouk JH, Allaf ME *et al*. Perioperative complications of robot-assisted partial nephrectomy: analysis of 886 patients at 5 United States centers. Urology 2013; 81(3):573-9. PMID: 23452807

87. Balageas P, Cornelis F, Le Bras Y *et al*. Ten-year experience of percutaneous image-guided radiofrequency ablation of malignant renal tumours in high-risk patients. Eur Radiol 2013; 23(7):1925-32. PMID: 23443351

88. Chen Y, Huang J, Xia L *et al*. Monitoring laparoscopic radiofrequency renal lesions in real time using contrast-enhanced ultrasonography: an open-label,

randomized, comparative pilot trial. J Endourol 2013; 27(6):697-704. PMID: 23442174

89. Campero JM, Ramos CG, Valdevenito R, Mercado A, Fulla J. Laparoscopic partial nephrectomy: A series of one hundred cases performed by the same surgeon. Urol Ann 2012; 4(3):162-5. PMID: 23248523

90. Springer C, Inferrera A, Kawan F, Schumann A, Fornara P, Greco F. Laparoendoscopic single-site versus conventional laparoscopic radical nephrectomy for renal cell cancer in patients with increased comorbidities and previous abdominal surgery: preliminary results of a single-centre retrospective study. World J Urol 2013; 31(1):213-8. PMID: 23242034

91. Pertia A, Managadze L, Chkhotua A. The value of nephron-sparing surgery for the treatment of renal cell carcinoma 4 to 7 cm in size. Georgian Med News 2012; (212): 7-12. PMID: 23221132

92. Simhan J, Canter DJ, Sterious SN *et al*. Pathological concordance and surgical outcomes of sporadic synchronous unilateral multifocal renal masses treated with partial nephrectomy. J Urol 2013; 189(1):43-7. PMID: 23164383

93. Hung AJ, Cai J, Simmons MN, Gill IS. "Trifecta" in partial nephrectomy. J Urol 2013; 189(1):36-42. PMID: 23164381

94. Erdem S, Tefik T, Mammadov A *et al*. The use of self-retaining barbed suture for inner layer renorrhaphy significantly reduces warm ischemia time in laparoscopic partial nephrectomy: outcomes of a matched-pair analysis. J Endourol 2013; 27(4):452-8. PMID: 23157211

95. Hillyer SP, Bhayani SB, Allaf ME *et al*. Robotic partial nephrectomy for solitary kidney: a multi-institutional analysis. Urology 2013; 81(1):93-7. PMID: 23153935

96. Kim EH, Tanagho YS, Bhayani SB, Saad NE, Benway BM, Figenshau RS. Percutaneous cryoablation of renal masses: Washington University experience of treating 129 tumours. BJU Int 2013; 111(6):872-9. PMID: 23145500

97. Kaczmarek BF, Tanagho YS, Hillyer SP *et al*. Off-clamp robot-assisted partial nephrectomy preserves renal function: a multi-institutional propensity score analysis. Eur Urol 2013; 64(6):988-93. PMID: 23122834

98. Cai M, Wei J, Zhang Z *et al*. Impact of age on the cancer-specific survival of patients with localized renal cell carcinoma: martingale residual and competing risks analysis. PLoS One 2012; 7(10):e48489. PMID: 23119034

99. Shao P, Tang L, Li P *et al*. Application of a vasculature model and standardization of the renal hilar approach in laparoscopic partial nephrectomy for precise segmental artery clamping. Eur Urol 2013; 63(6):1072-81. PMID: 23116655

100. Blute ML Jr, Okhunov Z, Moreira DM *et al*. Image-guided percutaneous renal cryoablation: preoperative risk factors for recurrence and complications. BJU Int 2013; 111(4 Pt B):E181-5. PMID: 23107011

101. Isac WE, Autorino R, Hillyer SP, Hernandez AV, Stein RJ, Kaouk JH. The impact of body mass index on surgical outcomes of robotic partial nephrectomy. BJU Int 2012; 110(11 Pt C):E997-E1002. PMID: 23106799

102. Yap SA, Alibhai SM, Abouassaly R, Timilshina N, Margel D, Finelli A. Ipsilateral adrenalectomy at the time of radical nephrectomy impacts overall survival. BJU Int 2013; 111(3 Pt B):E54-8. PMID: 23039377

103. Akaihata H, Haga N, Yanagida T *et al*. Does body habitus of patients affect operative difficulty during retroperitoneal laparoscopic radical nephrectomy? J Endourol 2013; 27(2):208-13. PMID: 23039311

104. Guillotreau J, Yakoubi R, Long JA *et al*. Robotic partial nephrectomy for small renal masses in patients with pre-existing chronic kidney disease. Urology 2012; 80(4):845-51. PMID: 23021665

105. Long JA, Lee B, Eyraud R *et al*. Robotic partial nephrectomy: imperative vs elective indications. Urology 2012; 80(4):833-7. PMID: 23021664

106. Abaza R, Prall D. Drain placement can be safely omitted after the majority of robotic partial nephrectomies. J Urol 2013; 189(3):823-7. PMID: 23009869

107. Sejima T, Iwamoto H, Masago T *et al*. Oncological and functional outcomes after radical nephrectomy for renal cell carcinoma: a comprehensive analysis of prognostic factors. Int J Urol 2013; 20(4):382-9. PMID: 23003206

108. Okhunov Z, Shapiro EY, Moreira DM *et al*. R.E.N.A.L. nephrometry score accurately predicts complications following laparoscopic renal cryoablation. J Urol 2012; 188(5):1796-800. PMID: 22999696

109. Bylund JR, Gayheart D, Fleming T *et al*. Association of tumor size, location, R.E.N.A.L., PADUA and centrality index score with perioperative outcomes and postoperative renal function. J Urol 2012; 188(5):1684-9. PMID: 22998902

110. Kim SD, Yoon SG, Sung GT. Radiofrequency ablation of renal tumors: four-year follow-up results in 47 patients. Korean J Radiol 2012; 13(5):625-33. PMID: 22977331

111. Png KS, Bahler CD, Milgrom DP, Lucas SM, Sundaram CP. The role of R.E.N.A.L. nephrometry score in the era of robot-assisted partial nephrectomy. J Endourol 2013; 27(3):304-8. PMID: 22967057

112. Ficarra V, Bhayani S, Porter J *et al*. Robot-assisted partial nephrectomy for renal tumors larger than 4 cm: results of a multicenter, international series. World J Urol 2012; 30(5):665-70. PMID: 22965742

113. Psutka SP, Feldman AS, McDougal WS, McGovern FJ, Mueller P, Gervais DA. Long-term oncologic outcomes after radiofrequency ablation for T1 renal cell carcinoma. Eur Urol 2013; 63(3):486-92. PMID: 22959191

114. Sandhu GS, Kim EH, Tanagho YS, Bhayani SB, Figenshau RS. Robot-assisted partial nephrectomy: off-clamp technique. J Endourol 2013; 27(1):4-7. PMID: 22957660

115. Sankin A, Sfakianos JP, Schiff J, Sjoberg D, Coleman JA. Assessing renal function after partial nephrectomy using renal nuclear scintigraphy and estimated glomerular filtration rate. Urology 2012; 80(2):343-6. PMID: 22857751

116. Tanagho YS, Roytman TM, Bhayani SB *et al*. Laparoscopic cryoablation of renal masses: single-center long-term experience. Urology 2012; 80 (2):307-14. PMID: 22857748

117. Buethe DD, Moussly S, Lin HY *et al*. Is the R.E.N.A.L. nephrometry scoring system predictive of the functional efficacy of nephron sparing surgery in the solitary kidney? J Urol 2012; 188(3):729-35. PMID: 22819418

118. Kim EH, Tanagho YS, Sandhu GS, Bhayani SB, Figenshau RS. Off-clamp robot-assisted partial nephrectomy for complex renal tumors. J Endourol 2012; 26(9):1177-82. PMID: 22788753

119. Long JA, Arnoux V, Fiard G *et al*. External validation of the RENAL nephrometry score in renal tumours treated by partial nephrectomy. BJU Int 2013; 111(2):233-9. PMID: 22788546

120. Favaretto RL, Sanchez-Salas R, Benoist N *et al*. Oncologic outcomes after laparoscopic partial nephrectomy: mid-term results. J Endourol 2013; 27(1):52-7. PMID: 22788241

121. Simmons MN, Hillyer SP, Lee BH, Fergany AF, Kaouk J, Campbell SC. Diameter-axial-polar nephrometry: integration and optimization of R.E.N.A.L. and centrality index scoring systems. J Urol 2012; 188(2):384-90. PMID: 22698624

122. Shao P, Tang L, Li P *et al*. Precise segmental renal artery clamping under the guidance of dual-source computed tomography angiography during laparoscopic partial nephrectomy. Eur Urol 2012; 62(6):1001-8. PMID: 22695243

123. Berg WT, Rich CR, Badalato GM *et al*. The first assistant sparing technique robot-assisted partial nephrectomy decreases warm ischemia time while maintaining good perioperative outcomes. J Endourol 2012; 26(11):1448-53. PMID: 22691152

124. Tugcu V, Bitkin A, Sonmezay E, Polat H, Ilbey YO, Tasci AI. Transperitoneal versus retroperitoneal laparoscopic partial nephrectomy: initial experience. Arch Ital Urol Androl 2011; 83 (4):175-80. PMID: 22670314

125. Takagi T, Kondo T, Iizuka J *et al*. Predictors for postoperative renal function after open partial nephrectomy: including postoperative biomarkers. Int J Urol 2012; 19(9):823-8. PMID: 22568789

126. Tsivian M, Ulusoy S, Abern M, Wandel A, Sidi AA, Tsivian A. Renal mass anatomic characteristics and perioperative outcomes of laparoscopic partial nephrectomy: a critical analysis. J Endourol 2012; 26(10):1307-13. PMID: 22563868

127. Mayer WA, Godoy G, Choi JM, Goh AC, Bian SX, Link RE. Higher RENAL Nephrometry Score is predictive of longer warm ischemia time and collecting system entry during laparoscopic and robotic-assisted partial nephrectomy. Urology 2012; 79(5):1052-6. PMID: 22546382

128. Kyllo RL, Tanagho YS, Kaouk JH *et al*. Prospective multi-center study of oncologic outcomes of robot-assisted partial nephrectomy for pT1 renal cell carcinoma. BMC Urol 2012; 12:11. PMID: 22546073

129. Tanagho YS, Bhayani SB, Kim EH, Sandhu GS, Vaughn NP, Figenshau RS. Off-clamp robot-assisted partial nephrectomy: initial Washington University

experience. J Endourol 2012; 26(10):1284-9. PMID: 22524453

130. Reyes J, Canter D, Putnam S *et al*. Thermal ablation of the small renal mass: case selection using the R.E.N.A.L.-Nephrometry Score. Urol Oncol 2013; 31(7):1292-7. PMID: 22521770

131. Novak R, Mulligan D, Abaza R. Robotic partial nephrectomy without renal ischemia. Urology 2012; 79 (6):1296-301. PMID: 22503763

132. Jack GS, Lua M, Chan Y, Bolton DM. Integration of laparoscopic partial nephrectomy into an Australian public hospital: three-year follow-up of our initial 50 cases. BJU Int 2012; 109 Suppl 3:35-9. PMID: 22458491

133. Kong W, Zhang J, Dong B *et al*. Application of a standardized anatomical classification in a Chinese partial nephrectomy series. Int J Urol 2012; 19 (6):551-8. PMID: 22462720

134. Tatsugami K, Tanaka S, Ohtsubo S *et al*. Causes of diminished renal function in the affected kidney after partial nephrectomy. BJU Int 2012; 110(8 Pt B):E357-61. PMID: 22416962

135. Sobey S, Hakimi AA, Faleck D, Ghavamian R. Minimally invasive heminephrectomy: feasibility and outcomes. J Endourol 2012; 26(7):866-70. PMID: 22360474

136. Porpiglia F, Fiori C, Bertolo R *et al*. Long-term functional evaluation of the treated kidney in a prospective series of patients who underwent laparoscopic partial nephrectomy for small renal tumors. Eur Urol 2012; 62 (1):130-5. PMID: 22349568

137. Thompson RH, Lane BR, Lohse CM *et al*. Renal function after partial nephrectomy: effect of warm ischemia relative to quantity and quality of preserved kidney. Urology 2012; 79(2):356-60. PMID: 22310752

138. Kruck S, Anastasiadis AG, Walcher U, Stenzl A, Herrmann TR, Nagele U. Laparoscopic partial nephrectomy: risk stratification according to patient and tumor characteristics. World J Urol 2012; 30(5):639-46. PMID: 22270261

139. Parker PA, Swartz R, Fellman B *et al*. Comprehensive assessment of quality of life and psychosocial adjustment in patients with renal tumors undergoing open, laparoscopic and nephron sparing surgery. J Urol 2012; 187(3):822-6. PMID: 22245327

140. Ficarra V, Bhayani S, Porter J *et al*. Predictors of warm ischemia time and perioperative complications in a multicenter, international series of robot-assisted partial nephrectomy. Eur Urol 2012; 61(2):395-402. PMID: 22079308

141. Saito H, Matsuda T, Tanabe K *et al*. Surgical and oncologic outcomes of laparoscopic partial nephrectomy: a Japanese multi-institutional study of 1375 patients. J Endourol 2012; 26(6):652-9. PMID: 22077693

142. Funahashi Y, Hattori R, Yamamoto T, Sassa N, Fujita T, Gotoh M. Effect of warm ischemia on renal function during partial nephrectomy: assessment with new 99mTc-mercaptoacetyltriglycine scintigraphy parameter. Urology 2012; 79(1):160-4. PMID: 22070892

143. Tsivian M, Kim CY, Caso JR, Rosenberg MD, Nelson RC, Polascik TJ. Contrast enhancement on computed tomography after renal cryoablation: an evidence of treatment failure? J Endourol 2012; 26(4):330-5. PMID: 22070179

144. Duffey B, Nguyen V, Lund E, Koopmeiners JS, Hulbert J, Anderson JK. Intermediate-term outcomes after renal cryoablation: results of a multi-institutional study. J Endourol 2012; 26(1):15-20. PMID: 22050505

145. Wehrenberg-Klee E, Clark TW, Malkowicz SB *et al*. Impact on renal function of percutaneous thermal ablation of renal masses in patients with preexisting chronic kidney disease. J Vasc Interv Radiol 2012; 23(1):41-5. PMID: 22019179

146. Erdeljan P, Dhar M, Wignall G, Kozak R, Pautler SE. Thermal ablation of small renal masses: intermediate outcomes from a Canadian center. Can J Urol 2011; 18(5):5903-7. PMID: 22018153

147. Wang H, Gao ZL, Lin CH *et al*. Laparoscopic partial nephrectomy for T1a renal tumors is safe and feasible. Chin Med J (Engl) 2011; 124(15):2243-7. PMID: 21933551

148. Kim JH, Kim TH, Kim SD, Lee KS, Sung GT. Radiofrequency ablation of renal tumors: our experience. Korean J Urol 2011; 52(8):531-7. PMID: 21927699

149. Mufarrij PW, Krane LS, Rajamahanty S, Hemal AK. Does nephrometry scoring of renal tumors predict outcomes in patients selected for robot-assisted partial nephrectomy? J Endourol 2011; 25 (10):1649-53. PMID: 21851270

150. Hyams ES, Pierorazio P, Proteek O *et al*. Iatrogenic vascular lesions after minimally invasive partial nephrectomy: a multi-institutional study of clinical and renal functional outcomes. Urology 2011; 78(4):820-6. PMID: 21813164

151. Lifshitz DA, Shikanov SA, Razmaria AA *et al*. Clinical and histologic predictors of renal function decline after laparoscopic partial nephrectomy. J Endourol 2011; 25(9):1435-41. PMID: 21797760

152. Minervini A, Vittori G, Lapini A *et al*. Morbidity of tumour enucleation for renal cell carcinoma (RCC): results of a single-centre prospective study. BJU Int 2012; 109(3):372-7; discussion 378. PMID: 21794068

153. Porpiglia F, Fiori C, Bertolo R *et al*. The effects of warm ischaemia time on renal function after laparoscopic partial nephrectomy in patients with normal contralateral kidney. World J Urol 2012; 30(2):257-63. PMID: 21769680

154. Wheat JC, Roberts WW, Hollenbeck BK, Wolf JS Jr, Weizer AZ. Complications of laparoscopic partial nephrectomy. Urol Oncol 2013; 31(1):57-62. PMID: 21719322

155. Godoy G, Katz DJ, Adamy A, Jamal JE, Bernstein M, Russo P. Routine drain placement after partial nephrectomy is not always necessary. J Urol 2011; 186(2):411-5. PMID: 21683403

156. Caceres F, Nunez-Mora C, Cabrera PM, Garcia-Mediero JM, Garcia-Tello A, Angulo JC. [Laparoscopic partial nephrectomy]. Actas Urol Esp 2011;

35(8):487-93. PMID: 21641090

157. Simhan J, Smaldone MC, Tsai KJ *et al*. Objective measures of renal mass anatomic complexity predict rates of major complications following partial nephrectomy. Eur Urol 2011; 60(4):724-30. PMID: 21621910

158. Halachmi S, Moskovitz B, Farfara R, Nativ O. Predictors and mechanisms of oncological failure following nephron-sparing surgery for renal cancer. Isr Med Assoc J 2011; 13(3):166-71. PMID: 21608338

159. Cha EK, Ng CK, Jeun B *et al*. Preoperative radiographic parameters predict long-term renal impairment following partial nephrectomy. World J Urol 2013; 31(4):817-22. PMID: 21604019

160. Song C, Park S, Jeong IG *et al*. Followup of unilateral renal function after laparoscopic partial nephrectomy. J Urol 2011; 186(1):53-8. PMID: 21571327

161. Zagoria RJ, Pettus JA, Rogers M, Werle DM, Childs D, Leyendecker JR. Long-term outcomes after percutaneous radiofrequency ablation for renal cell carcinoma. Urology 2011; 77(6):1393-7. PMID: 21492910

162. Mues AC, Okhunov Z, Haramis G, Landman J. Contemporary experience with laparoscopic partial nephrectomy. J Laparoendosc Adv Surg Tech A 2011; 21(4):323-7. PMID: 21486150

163. Pouliot F, Pantuck A, Imbeault A *et al*. Multivariate analysis of the factors involved in loss of renal differential function after laparoscopic partial nephrectomy: a role for warm ischemia time. Can Urol Assoc J 2011; 5(2):89-95. PMID: 21470531

164. Rosenberg MD, Kim CY, Tsivian M *et al*. Percutaneous cryoablation of renal lesions with radiographic ice ball involvement of the renal sinus: analysis of hemorrhagic and collecting system complications. AJR Am J Roentgenol 2011; 196(4):935-9. PMID: 21427348

165. Lane BR, Gill IS, Fergany AF, Larson BT, Campbell SC. Limited warm ischemia during elective partial nephrectomy has only a marginal impact on renal functional outcomes. J Urol 2011; 185(5):1598-603. PMID: 21419452

166. Choi JD, Park JW, Choi JY *et al*. Renal damage caused by warm ischaemia during laparoscopic and robot-assisted partial nephrectomy: an assessment using Tc 99m-DTPA glomerular filtration rate. Eur Urol 2010; 58(6):900-5. PMID: 21414862

167. Becker F, Roos FC, Janssen M *et al*. Short-term functional and oncologic outcomes of nephron-sparing surgery for renal tumours >/= 7 cm. Eur Urol 2011; 59(6):931-7. PMID: 21371812

168. White MA, Haber GP, Autorino R *et al*. Outcomes of robotic partial nephrectomy for renal masses with nephrometry score of >/=7. Urology 2011; 77 (4):809-13. PMID: 21333338

169. Arai Y, Kaiho Y, Saito H *et al*. Renal hypothermia using ice-cold saline for retroperitoneal laparoscopic partial nephrectomy: evaluation of split renal function with technetium-99m-dimercaptosuccinic acid renal scintigraphy. Urology 2011; 77(4):814-8. PMID: 21333332

170. Mottrie A, Schatteman P, De Wil P, De Troyer B, Novara G, Ficarra V. Validation of the preoperative aspects and dimensions used for an anatomical (PADUA) score in a robot-assisted partial nephrectomy series. World J Urol 2013; 31(4):799-804. PMID: 21286726

171. Ji C, Li X, Zhang S *et al*. Laparoscopic radiofrequency ablation of renal tumors: 32-month mean follow-up results of 106 patients. Urology 2011; 77 (4):798-802. PMID: 21256566

172. Tsivian A, Tsivian M, Benjamin S, Sidi AA. Laparoscopic partial nephrectomy for multiple tumours: feasibility and analysis of peri-operative outcomes. BJU Int 2011; 108(8):1330-4. PMID: 21199286

173. Muramaki M, Miyake H, Sakai I *et al*. Age at diagnosis as a powerful predictor for disease recurrence after radical nephrectomy in Japanese patients with pT1 renal cell carcinoma. Int J Urol 2011; 18(2):121-5. PMID: 21166889

174. Minervini A, Serni S, Tuccio A *et al*. Local recurrence after tumour enucleation for renal cell carcinoma with no ablation of the tumour bed: results of a prospective single-centre study. BJU Int 2011; 107(9):1394-9. PMID: 21166766

175. Hayn MH, Schwaab T, Underwood W, Kim HL. RENAL nephrometry score predicts surgical outcomes of laparoscopic partial nephrectomy. BJU Int 2011; 108(6):876-81. PMID: 21166761

176. Davis K, Kielar A, Jafari K . Effectiveness of ultrasound-guided radiofrequency ablation in the treatment of 36 renal cell carcinoma tumours compared with published results of using computed tomography guidance. Can Assoc Radiol J 2012; 63(3 Suppl):S23-32. PMID: 21145195

177. Dulabon LM, Kaouk JH, Haber GP *et al*. Multi-institutional analysis of robotic partial nephrectomy for hilar versus nonhilar lesions in 446 consecutive cases. Eur Urol 2011; 59(3):325-30. PMID: 21144643

178. Coffin G, Hupertan V, Taksin L *et al*. Impact of elective versus imperative indications on oncologic outcomes after open nephron-sparing surgery for the treatment of sporadic renal cell carcinomas. Ann Surg Oncol 2011; 18 (4):1151-7. PMID: 21136181

179. Kong WT, Zhang WW, Guo HQ *et al*. Application of contrast-enhanced ultrasonography after radiofrequency ablation for renal cell carcinoma: is it sufficient for assessment of therapeutic response? Abdom Imaging 2011; 36 (3):342-7. PMID: 21107560

180. Schmit GD, Atwell TD, Leibovich BC *et al*. Percutaneous cryoablation of anterior renal masses: technique, efficacy, and safety. AJR Am J Roentgenol 2010; 195(6):1418-22. PMID: 21098204

181. Clark MA, Shikanov S, Raman JD *et al*. Chronic kidney disease before and after partial nephrectomy. J Urol 2011; 185(1):43-8. PMID: 21074205

182. Wszolek MF, Kenney PA, Lee Y, Libertino JA. Comparison of hilar clamping and non-hilar clamping partial nephrectomy for tumours involving a solitary kidney. BJU Int 2011; 107(12):1886-92. PMID: 21070570

183. Beemster PW, Barwari K, Mamoulakis C, Wijkstra H, de la Rosette JJ, Laguna MP. Laparoscopic renal cryoablation using ultrathin 17-gauge cryoprobes: mid-term oncological and functional results. BJU Int 2011; 108(4):577-82. PMID: 21044249

184. Porpiglia F, Fiori C, Bertolo R, Scarpa RM. Does tumour size really affect the safety of laparoscopic partial nephrectomy? BJU Int 2011; 108(2):268-73. PMID: 21044241

185. Smith GL, Kenney PA, Lee Y, Libertino JA. Non-clamped partial nephrectomy: techniques and surgical outcomes. BJU Int 2011; 107(7):1054-8. PMID: 21040369

186. Samplaski MK, Hernandez A, Gill IS, Simmons MN. C-index is associated with functional outcomes after laparoscopic partial nephrectomy. J Urol 2010; 184(6):2259-63. PMID: 21036370

187. Marszalek M, Chromecki T, Al-Ali BM *et al*. Laparoscopic partial nephrectomy: a matched-pair comparison of the transperitoneal versus the retroperitoneal approach. Urology 2011; 77(1):109-13. PMID: 20970830

188. Ferakis N, Bouropoulos C, Granitsas T, Mylona S, Poulias I. Long-term results after computed-tomography-guided percutaneous radiofrequency ablation for small renal tumors. J Endourol 2010; 24(12):1909-13. PMID: 20946062

189. Dente D, Paniccia T, Petrone D *et al*. Open partial nephrectomy with no clamping of the pedicule: a good surgical option in treatment of renal cancer. Minerva Urol Nefrol 2010; 62(4):341-6. PMID: 20944534

190. Montag S, Rais-Bahrami S, Seideman CA *et al*. Delayed haemorrhage after laparoscopic partial nephrectomy: frequency and angiographic findings. BJU Int 2011; 107(9):1460-6. PMID: 20831568

191. Thompson RH, Lane BR, Lohse CM *et al*. Every minute counts when the renal hilum is clamped during partial nephrectomy. Eur Urol 2010; 58(3):340-5. PMID: 20825756

192. Pettus JA, Werle DM, Saunders W *et al*. Percutaneous radiofrequency ablation does not affect glomerular filtration rate. J Endourol 2010; 24(10):1687-91. PMID: 20818985

193. Atwell TD, Callstrom MR, Farrell MA *et al*. Percutaneous renal cryoablation: local control at mean 26 months of followup. J Urol 2010; 184(4):1291-5. PMID: 20719341

194. Lyrdal D, Andersson M, Hellstrom M, Sternal J, Lundstam S. Ultrasound-guided percutaneous radiofrequency ablation of small renal tumors: Clinical results and radiological evolution during follow-up. Acta Radiol 2010; 51(7):808-18. PMID: 20707665

195. Lin YS, Chung HJ, Lin AT *et al*. Laparoscopic partial nephrectomy: Taipei veterans general hospital experience. J Chin Med Assoc 2010; 73(7):364-8. PMID: 20688302

196. Rodriguez R, Cizman Z, Hong K, Koliatsos A, Georgiades C. Prospective analysis of the safety and efficacy of percutaneous cryoablation for pT1NxMx biopsy-proven renal cell carcinoma. Cardiovasc Intervent Radiol 2011; 34(3):573-8. PMID: 20628879

197. Waldert M, Waalkes S, Klatte T *et al*. External validation of the preoperative anatomical classification for prediction of complications related to nephron-

sparing surgery. World J Urol 2010; 28(4):531-5. PMID: 20607246

198. Guazzoni G, Cestari A, Buffi N *et al*. Oncologic results of laparoscopic renal cryoablation for clinical T1a tumors: 8 years of experience in a single institution. Urology 2010; 76(3):624-9. PMID: 20579705

199. Tracy CR, Raman JD, Donnally C, Trimmer CK, Cadeddu JA. Durable oncologic outcomes after radiofrequency ablation: experience from treating 243 small renal masses over 7.5 years. Cancer 2010; 116(13):3135-42. PMID: 20564644

200. Netsch C, Bruning R, Bach T, Gross AJ. Management of renal artery pseudoaneurysm after partial nephrectomy. World J Urol 2010; 28(4):519-24. PMID: 20563584

201. Colli J, Martin B, Purcell M, Kim YI, Busby EJ. Surgical factors affecting return of renal function after partial nephrectomy. Int Urol Nephrol 2011; 43(1):131-7. PMID: 20526891

202. Karellas ME, O'Brien MF, Jang TL, Bernstein M, Russo P. Partial nephrectomy for selected renal cortical tumours of >/= 7 cm. BJU Int 2010; 106(10):1484-7. PMID: 20518765

203. Forsberg AM, Uvelius B, Wullt B. Open partial nephrectomy for renal cell cancer in a medium patient volume centre: is high quality possible? Scand J Urol Nephrol 2010; 44(4):204-11. PMID: 20459372

204. Beemster PW, Wijkstra H, de la Rosette JJ, Zwinderman AH, Pes MP. Quality of life and perceived pain after laparoscopic-assisted renal cryoablation . J Endourol 2010; 24(5):713-9. PMID: 20443715

205. Ko YH, Choi H, Kang SG *et al*. Efficacy of laparoscopic renal cryoablation as an alternative treatment for small renal mass in patients with poor operability: experience from the Korean single center. J Laparoendosc Adv Surg Tech A 2010; 20(4):339-45. PMID: 20438310

206. Msezane L, Chang A, Shikanov S *et al*. Laparoscopic nephron-sparing surgery in the management of angiomyolipoma: a single center experience. J Endourol 2010; 24(4):583-7. PMID: 20423289

207. Aguilera Bazan A, Perez Utrilla M, Giron de Francisco M, Reinoso Elbers J, Cisneros Ledo J, De la Pena Barthel J. [Laparoscopic nephron-sparing surgery. 5 years' experience]. Actas Urol Esp 2010; 34(3):238-41. PMID: 20416240

208. Ham BK, Kang SG, Choi H, Ko YH, Kang SH, Cheon J. The impact of renal tumor size on the efficacy of laparoscopic renal cryoablation. Korean J Urol 2010; 51(3):171-7. PMID: 20414392

209. Mottrie A, De Naeyer G, Schatteman P, Carpentier P, Sangalli M, Ficarra V. Impact of the learning curve on perioperative outcomes in patients who underwent robotic partial nephrectomy for parenchymal renal tumours. Eur Urol 2010; 58(1):127-32. PMID: 20399002

210. Schmit GD, Atwell TD, Callstrom MR *et al*. Percutaneous cryoablation of renal masses >or=3 cm: efficacy and safety in treatment of 108 patients. J Endourol 2010; 24(8):1255-62. PMID: 20380510

211. Park SW, Jung SG, Lee W, Chung MK. Changes in renal function after nephron-sparing surgery in patients with a normal contralateral kidney. Int J Urol 2010; 17(5):457-61. PMID: 20370846

212. Huber J, Pahernik S, Hallscheidt P *et al*. Risk factors and clinical management of haemorrhage after open nephron-sparing surgery. BJU Int 2010; 106(10):1488-93. PMID: 20367634

213. Jeon HG, Lee SR, Kim KH *et al*. Benign lesions after partial nephrectomy for presumed renal cell carcinoma in masses 4 cm or less: prevalence and predictors in Korean patients. Urology 2010; 76(3):574-9. PMID: 20303148

214. Shikanov S, Lifshitz D, Chan AA *et al*. Impact of ischemia on renal function after laparoscopic partial nephrectomy: a multicenter study. J Urol 2010; 183(5):1714-8. PMID: 20299052

215. Kundu SD, Thompson RH, Kallingal GJ, Cambareri G, Russo P. Urinary fistulae after partial nephrectomy. BJU Int 2010; 106(7):1042-4. PMID: 20230384

216. Porpiglia F, Fiori C, Piechaud T *et al*. Laparoscopic partial nephrectomy for large renal masses: results of a European survey. World J Urol 2010; 28(4):525-9. PMID: 20204379

217. Kava BR, De Los Santos R, Ayyathurai R *et al*. Contemporary open partial nephrectomy is associated with diminished procedure-specific morbidity despite increasing technical challenges: a single institutional experience. World J Urol 2010; 28(4):507-12. PMID: 20119642

218. Benway BM, Bhayani SB, Rogers CG *et al*. Robot-assisted partial nephrectomy: an international experience. Eur Urol 2010; 57(5):815-20. PMID: 20116163

219. Roos FC, Pahernik S, Brenner W, Thuroff JW. Imperative and elective indications for nephron-sparing surgery for renal tumors: long-term oncological follow-up. Aktuelle Urol 2010; 41 Suppl 1:S70-6. PMID: 20094960

220. Aron M, Kamoi K, Remer E, Berger A, Desai M, Gill I. Laparoscopic renal cryoablation: 8-year, single surgeon outcomes. J Urol 2010; 183(3):889-95. PMID: 20089263

221. Scoll BJ, Uzzo RG, Chen DY *et al*. Robot-assisted partial nephrectomy: a large single-institutional experience. Urology 2010; 75(6):1328-34. PMID: 20080290

222. Yoost TR, Clarke HS, Savage SJ. Laparoscopic cryoablation of renal masses: which lesions fail? Urology 2010; 75(2):311-4. PMID: 20018355

223. Lifshitz DA, Shikanov SA, Deklaj T *et al*. Laparoscopic partial nephrectomy: a single-center evolving experience. Urology 2010; 75(2):282-7. PMID: 19962732

224. Lifshitz DA, Shikanov SA, Deklaj T, Katz MH, Zorn KC, Shalhav AL. Laparoscopic partial nephrectomy for tumors larger than 4 cm: a comparative study . J Endourol 2010; 24(1):49-55. PMID: 19958147

225. Patel MN, Krane LS, Bhandari A *et al*. Robotic partial nephrectomy for renal tumors larger than 4 cm. Eur Urol 2010; 57(2):310-6. PMID: 19945213

226. Tsivian M, Lyne JC, Mayes JM, Mouraviev V, Kimura M, Polascik TJ. Tumor size and endophytic growth pattern affect recurrence rates after laparoscopic renal cryoablation. Urology 2010; 75 (2):307-10. PMID: 19942265

227. Zheng JH, Xu YF, Peng B *et al*. Retroperitoneal laparoscopic partial nephrectomy for renal-cell carcinoma in a solitary kidney: report of 56 cases. J Endourol 2009; 23(12):1971-4. PMID: 19916753

228. Gill IS, Kamoi K, Aron M, Desai MM. 800 Laparoscopic partial nephrectomies: a single surgeon series. J Urol 2010; 183(1):34-41. PMID: 19913256

229. Lebed B, Jani SD, Kutikov A, Iffrig K, Uzzo RG. Renal masses herniating into the hilum: technical considerations of the "ball-valve phenomenon" during nephron-sparing surgery. Urology 2010; 75(3):707-10. PMID: 19854478

230. Malcolm JB, Logan JE, Given RW *et al*. Renal functional outcomes after cryoablation of small renal masses . J Endourol 2010; 24(3):479-82. PMID: 19839780

231. Corcoran AT, Hayn MH, Gibbons EP, Mori R, Hrebinko R, Davies BJ. Partial nephrectomy without hilar control or cooling: longitudinal data over 5 years. Can J Urol 2009; 16(5):4820-5. PMID: 19796457

232. Hiraoka K, Kawauchi A, Nakamura T, Soh J, Mikami K, Miki T. Radiofrequency ablation for renal tumors: our experience. Int J Urol 2009; 16(11):869-73. PMID: 19735313

233. Thomas AA, Aron M, Hernandez AV, Lane BR, Gill IS. Laparoscopic partial nephrectomy in octogenarians. Urology 2009; 74(5):1042-6. PMID: 19683799

234. Rouach Y, Delongchamps N, Timsit MO *et al*. Capsular involvement in patients undergoing partial nephrectomy for localized renal cell carcinoma: an adverse pathological finding? BJU Int 2010; 105(5):616-9. PMID: 19681891

235. Ficarra V, Novara G, Secco S *et al*. Preoperative aspects and dimensions used for an anatomical (PADUA) classification of renal tumours in patients who are candidates for nephron-sparing surgery. Eur Urol 2009; 56(5):786-93. PMID: 19665284

236. Gupta A, Raman JD, Leveillee RJ *et al*. General anesthesia and contrast-enhanced computed tomography to optimize renal percutaneous radiofrequency ablation: multi-institutional intermediate-term results. J Endourol 2009; 23 (7):1099-105. PMID: 19530948

237. Ku JH, Moon KC, Kwak C, Kim HH. External validation of an international multicenter study to predict survival in Korean patients with pT2N0M0 renal cell carcinoma. Urology 2009; 74 (2):359-63. PMID: 19501879

238. Laguna MP, Beemster P, Kumar V *et al*. Perioperative morbidity of laparoscopic cryoablation of small renal masses with ultrathin probes: a European multicentre experience. Eur Urol 2009; 56(2):355-61. PMID: 19467771

239. Srivastava A, Gupta M, Singh P *et al*. Laparoscopic radical nephrectomy: a journey from T1 to very large T2 tumors. Urol Int 2009; 82(3):330-4. PMID: 19440023

240. Stern JM, Gupta A, Raman JD *et al*. Radiofrequency ablation of small renal cortical tumours in healthy adults: renal function preservation and intermediate oncological outcome. BJU Int 2009; 104(6):786-9. PMID: 19426196

241. Godoy G, Ramanathan V, Kanofsky JA *et al*. Effect of warm ischemia time during laparoscopic partial nephrectomy on early postoperative glomerular filtration rate. J Urol 2009; 181(6):2438-43; discussion 2443-5. PMID: 19371905

242. La Rochelle J, Shuch B, Riggs S *et al*. Functional and oncological outcomes of partial nephrectomy of solitary kidneys. J Urol 2009; 181(5):2037-42; discussion 2043. PMID: 19298974

243. Badger WJ, de Araujo HA, Kuehn DM, Angresen KJ, Winfield HN. Laparoscopic renal tumor cryoablation: appropriate application of real-time ultrasonographic monitoring. J Endourol 2009; 23 (3):427-30. PMID: 19250024

244. Carrafiello G, Lagana D, Ianniello A *et al*. Percutaneous radiofrequency thermal ablation of renal cell carcinoma: is it possible a day-hospital treatment? Int J Surg 2008; 6 Suppl 1:S31-5. PMID: 19200792

245. Joniau S, Vander Eeckt K, Srirangam SJ, Van Poppel H. Outcome of nephron-sparing surgery for T1b renal cell carcinoma. BJU Int 2009; 103(10):1344-8. PMID: 19040528

246. Li QL, Guan HW, Wang FP, Jiang T, Wu HC, Song XS. Significance of margin in nephron sparing surgery for renal cell carcinoma of 4 cm or less. Chin Med J (Engl) 2008; 121(17):1662-5. PMID: 19024095

247. Peycelon M, Hupertan V, Comperat E *et al*. Long-term outcomes after nephron sparing surgery for renal cell carcinoma larger than 4 cm. J Urol 2009; 181(1):35-41. PMID: 19012929

248. Nadu A, Kleinmann N, Laufer M, Dotan Z, Winkler H, Ramon J. Laparoscopic partial nephrectomy for central tumors: analysis of perioperative outcomes and complications. J Urol 2009; 181(1):42-7; discussion 47. PMID: 19012908

249. Celia A, Zeccolini G, Guazzoni G *et al*. Laparoscopic nephron sparing surgery: a multi-institutional European survey of 592 cases. Arch Ital Urol Androl 2008; 80(3):85-91. PMID: 19009862

250. Kefer JC, Desai MM, Fergany A, Novick AC, Gill IS. Outcomes of partial nephrectomy in patients on chronic oral anticoagulant therapy. J Urol 2008; 180(6):2370-4; discussion 2734. PMID: 18930273

251. Lane BR, Babineau DC, Poggio ED *et al*. Factors predicting renal functional outcome after partial nephrectomy. J Urol 2008; 180(6):2363-8; discussion 2368-9. PMID: 18930264

252. Stein AJ, Mayes JM, Mouraviev V, Chen VH, Nelson RC, Polascik TJ. Persistent contrast enhancement several months after laparoscopic cryoablation of

the small renal mass may not indicate recurrent tumor. J Endourol 2008; 22(11):2433-9. PMID: 18928388

253. Iida S, Kondo T, Amano H *et al*. Minimal effect of cold ischemia time on progression to late-stage chronic kidney disease observed long term after partial nephrectomy. Urology 2008; 72(5):1083-8; discussion 1088-9. PMID: 18822449

254. Crispen PL, Boorjian SA, Lohse CM *et al*. Outcomes following partial nephrectomy by tumor size. J Urol 2008; 180(5):1912-7. PMID: 18801543

255. Okegawa T, Noda H, Horie S, Nutahara K, Higashihara E. Comparison of transperitoneal and retroperitoneal laparoscopic nephrectomy for renal cell carcinoma: a single-center experience of 100 cases. Int J Urol 2008; 15(11):957-60. PMID: 18775034

256. Georgiades CS, Hong K, Bizzell C, Geschwind JF, Rodriguez R. Safety and efficacy of CT-guided percutaneous cryoablation for renal cell carcinoma. J Vasc Interv Radiol 2008; 19(9):1302-10. PMID: 18725093

257. Veltri A, Garetto I, Pagano E, Tosetti I, Sacchetto P, Fava C. Percutaneous RF thermal ablation of renal tumors: is US guidance really less favorable than other imaging guidance techniques? Cardiovasc Intervent Radiol 2009; 32(1):76-85. PMID: 18709413

258. Pyo P, Chen A, Grasso M. Retroperitoneal laparoscopic partial nephrectomy: surgical experience and outcomes. J Urol 2008; 180(4):1279-83. PMID: 18707736

259. Weizer AZ, Gilbert SM, Roberts WW, Hollenbeck BK, Wolf JS Jr. Tailoring technique of laparoscopic partial nephrectomy to tumor characteristics. J Urol 2008; 180(4):1273-8. PMID: 18707711

260. Simmons MN, Chung BI, Gill IS. Perioperative efficacy of laparoscopic partial nephrectomy for tumors larger than 4 cm. Eur Urol 2009; 55(1):199-207. PMID: 18684555

261. McClean JM, Kercher KW, Mah NA *et al*. Strategies in the management of renal tumors amenable to partial nephrectomy. Surg Endosc 2009; 23 (9):2161-6. PMID: 18594916

262. Lehman DS, Hruby GW, Phillips CK, McKiernan JM, Benson MC, Landman J. First Prize (tie): Laparoscopic renal cryoablation: efficacy and complications for larger renal masses. J Endourol 2008; 22(6):1123-7. PMID: 18484888

263. Yossepowitch O, Thompson RH, Leibovich BC *et al*. Positive surgical margins at partial nephrectomy: predictors and oncological outcomes. J Urol 2008; 179(6):2158-63. PMID: 18423758

264. Desai PJ, Andrews PE, Ferrigni RG, Castle EP. Laparoscopic partial nephrectomy at the Mayo Clinic Arizona: follow-up surveillance of positive margin disease. Urology 2008; 71(2):283-6. PMID: 18308104

265. Turna B, Frota R, Kamoi K *et al*. Risk factor analysis of postoperative complications in laparoscopic partial nephrectomy. J Urol 2008; 179(4):1289-94; discussion 1294-5. PMID: 18289584

266. Li QL, Cheng L, Guan HW, Zhang Y, Wang FP, Song XS. Safety and efficacy of mini-margin nephron-sparing surgery for renal cell carcinoma 4-cm or less. Urology 2008; 71(5):924-7. PMID: 18267335

267. Colombo JR Jr, Haber GP, Gill IS. Laparoscopic partial nephrectomy in patients with compromised renal function. Urology 2008; 71(6):1043-8. PMID: 18267332

268. Wright AD, Turk TM, Nagar MS, Phelan MW, Perry KT. Endophytic lesions: a predictor of failure in laparoscopic renal cryoablation. J Endourol 2007; 21(12):1493-6. PMID: 18186689

269. Nguyen MM, Gill IS. Halving ischemia time during laparoscopic partial nephrectomy. J Urol 2008; 179(2):627-32; discussion 632. PMID: 18082215

270. Pahernik S, Roos F, Rohrig B, Wiesner C, Thuroff JW. Elective nephron sparing surgery for renal cell carcinoma larger than 4 cm. J Urol 2008; 179(1):71-4; discussion 74. PMID: 17997423

271. Porpiglia F, Volpe A, Billia M, Renard J, Scarpa RM. Assessment of risk factors for complications of laparoscopic partial nephrectomy. Eur Urol 2008; 53(3):590-6. PMID: 17997214

272. Polascik TJ, Nosnik I, Mayes JM, Mouraviev V. Short Term Clinical Outcome after Laparoscopic Cryoablation of the Renal Tumor < or = 3.5 cm. Technol Cancer Res Treat 2007; 6(6):621-4. PMID: 17994792

273. Bandi G, Christian MW, Hedican SP, Moon TD, Nakada SY. Oncological outcomes of hand-assisted laparoscopic radical nephrectomy for clinically localized renal cell carcinoma: a single-institution study with >or=3 years of follow-up. BJU Int 2008; 101(4):459-62. PMID: 17941924

274. Carey RI, Leveillee RJ. First prize: direct real-time temperature monitoring for laparoscopic and CT-guided radiofrequency ablation of renal tumors between 3 and 5 cm. J Endourol 2007; 21 (8):807-13. PMID: 17867933

275. Denzinger S, Ganzer R, Fink A, Wieland WF, Blana A. Open partial nephrectomy for imperative and elective indications comparison of peri-operative data and long-term follow-up. Scand J Urol Nephrol 2007; 41(6):496-500. PMID: 17853016

276. Hemal AK, Kumar A, Gupta NP, Kumar R. Oncologic outcome of 132 cases of laparoscopic radical nephrectomy with intact specimen removal for T1-2N0M0 renal cell carcinoma. World J Urol 2007; 25(6):619-26. PMID: 17786453

277. Zagoria RJ, Traver MA, Werle DM, Perini M, Hayasaka S, Clark PE. Oncologic efficacy of CT-guided percutaneous radiofrequency ablation of renal cell carcinomas. AJR Am J Roentgenol 2007; 189(2):429-36. PMID: 17646471

278. Pettus JA, Sharp DS, Yossepowitch O *et al*. Tumor location does not affect long-term renal function after partial nephrectomy. Urology 2007; 69 (6):1059-63. PMID: 17572186

279. Nadu A, Mor Y, Laufer M *et al*. Laparoscopic partial nephrectomy: single center experience with 140 patients--evolution of the surgical technique and its impact on patient outcomes. J Urol 2007; 178(2):435-9; discussion 438-9. PMID: 17561145

280. Simmons MN, Gill IS. Decreased complications of contemporary laparoscopic partial nephrectomy: use of a standardized reporting system. J Urol 2007; 177(6):2067-73; discussion 2073. PMID: 17509287

281. Senga Y, Ozono S, Nakazawa H *et al*. Surgical outcomes of partial nephrectomy for renal cell carcinoma: a joint study by the Japanese Society of Renal Cancer. Int J Urol 2007; 14(4):284-8. PMID: 17470154

282. Atwell TD, Farrell MA, Callstrom MR *et al*. Percutaneous cryoablation of large renal masses: technical feasibility and short-term outcome. AJR Am J Roentgenol 2007; 188(5):1195-200. PMID: 17449758

283. Zorn KC, Gong EM, Orvieto MA, Gofrit ON, Mikhail AA, Shalhav AL. Impact of collecting-system repair during laparoscopic partial nephrectomy. J Endourol 2007; 21(3):315-20. PMID: 17444778

284. Weld KJ, Figenshau RS, Venkatesh R *et al*. Laparoscopic cryoablation for small renal masses: three-year follow-up. Urology 2007; 69(3):448-51. PMID: 17382142

285. Littrup PJ, Ahmed A, Aoun HD *et al*. CT-guided percutaneous cryotherapy of renal masses. J Vasc Interv Radiol 2007; 18(3):383-92. PMID: 17377184

286. Adamakis I, Koutalellis G, Mitropoulos D, Vourekas S, Constantinides C, Zervas A. Enucleoresection for the elective treatment of small renal cell carcinoma: can it be the treatment of choice? Onkologie 2007; 30(3):97-102. PMID: 17341895

287. Brown GA, Matin SF. Laparoscopic partial nephrectomy: experience in 60 cases. J Endourol 2007; 21(1):71-4. PMID: 17263612

288. Patard JJ, Pantuck AJ, Crepel M *et al*. Morbidity and clinical outcome of nephron-sparing surgery in relation to tumour size and indication. Eur Urol 2007; 52(1):148-54. PMID: 17240036

289. Pertia A, Managadze L. Long-term results of simple enucleation for the treatment of small renal cell carcinoma. Int Braz J Urol 2006; 32(6):640-5; discussion 646-7. PMID: 17201941

290. Gupta NP, Kumar A, Hemal AK, Dogra PN, Seth A, Kumar R. Open nephron-sparing surgery in renal tumors with normal contralateral kidney: A single centre experience of 8 years. Indian J Urol 2007; 23(1):18-22. PMID: 19675755

291. Lane BR, Gill IS. 5-Year outcomes of laparoscopic partial nephrectomy. J Urol 2007; 177(1):70-4; discussion 74. PMID: 17162003

292. Kwon EO, Carver BS, Snyder ME, Russo P. Impact of positive surgical margins in patients undergoing partial nephrectomy for renal cortical tumours . BJU Int 2007; 99(2):286-9. PMID: 17155985

293. Salagierski M, Salagierski M, Salagierska-Barwinska A, Sosnowski M. Percutaneous ultrasound-guided radiofrequency ablation for kidney tumors in patients with surgical risk. Int J Urol 2006; 13(11):1375-9. PMID: 17083386

294. Matin SF, Ahrar K, Cadeddu JA *et al*. Residual and recurrent disease following renal energy ablative therapy: a multi-institutional study. J Urol 2006;

176(5):1973-7. PMID: 17070224

295. Yossepowitch O, Eggener SE, Serio A *et al*. Temporary renal ischemia during nephron sparing surgery is associated with short-term but not long-term impairment in renal function. J Urol 2006; 176(4 Pt 1):1339-43; discussion 1343. PMID: 16952626

296. Schwartz BF, Rewcastle JC, Powell T, Whelan C, Manny T Jr, Vestal JC. Cryoablation of small peripheral renal masses: a retrospective analysis. Urology 2006; 68(1 Suppl):14-8. PMID: 16857455

297. Davol PE, Fulmer BR, Rukstalis DB. Long-term results of cryoablation for renal cancer and complex renal masses. Urology 2006; 68(1 Suppl):2-6. PMID: 16857453

298. Carini M, Minervini A, Masieri L, Lapini A, Serni S. Simple enucleation for the treatment of PT1a renal cell carcinoma: our 20-year experience. Eur Urol 2006; 50(6):1263-8; discussion 1269-71. PMID: 16787695

299. Venkatesh R, Weld K, Ames CD *et al*. Laparoscopic partial nephrectomy for renal masses: effect of tumor location. Urology 2006; 67(6):1169-74; discussion 1174. PMID: 16765174

300. Pahernik S, Roos F, Hampel C, Gillitzer R, Melchior SW, Thuroff JW. Nephron sparing surgery for renal cell carcinoma with normal contralateral kidney: 25 years of experience. J Urol 2006; 175(6):2027-31. PMID: 16697793

301. Carini M, Minervini A, Lapini A, Masieri L, Serni S. Simple enucleation for the treatment of renal cell carcinoma between 4 and 7 cm in greatest dimension: progression and long-term survival. J Urol 2006; 175(6):2022-6; discussion 2026. PMID: 16697790

302. Berdjis N, Hakenberg OW, Zastrow S, Oehlschlager S, Novotny V, Wirth MP. Impact of resection margin status after nephron-sparing surgery for renal cell carcinoma. BJU Int 2006; 97 (6):1208-10. PMID: 16686712

303. Becker F, Siemer S, Hack M, Humke U, Ziegler M, Stockle M. Excellent long-term cancer control with elective nephron-sparing surgery for selected renal cell carcinomas measuring more than 4 cm. Eur Urol 2006; 49(6):1058-63; discussion 1063-4. PMID: 16630686

304. Weld KJ, Venkatesh R, Huang J, Landman J. Evolution of surgical technique and patient outcomes for laparoscopic partial nephrectomy. Urology 2006; 67(3):502-6; discussion 506-7. PMID: 16527568

305. Frank I, Colombo JR Jr, Rubinstein M, Desai M, Kaouk J, Gill IS. Laparoscopic partial nephrectomy for centrally located renal tumors. J Urol 2006; 175(3 Pt 1):849-52. PMID: 16469563

306. Pasticier G, Timsit MO, Badet L *et al*. Nephron-sparing surgery for renal cell carcinoma: detailed analysis of complications over a 15-year period. Eur Urol 2006; 49(3):485-90. PMID: 16443321

307. Wille AH, Tullmann M, Roigas J, Loening SA, Deger S. Laparoscopic partial nephrectomy in renal cell cancer--results and reproducibility by different surgeons in a high volume laparoscopic center. Eur Urol 2006; 49(2):337-42; discussion 342-3. PMID: 16413957

308. Moinzadeh A, Gill IS, Finelli A, Kaouk J, Desai M. Laparoscopic partial nephrectomy: 3-year followup. J Urol 2006; 175(2):459-62. PMID: 16406971

309. Orvieto MA, Chien GW, Tolhurst SR *et al*. Simplifying laparoscopic partial nephrectomy: technical considerations for reproducible outcomes. Urology 2005; 66(5):976-80. PMID: 16286106

310. Permpongkosol S, Chan DY, Link RE *et al*. Long-term survival analysis after laparoscopic radical nephrectomy . J Urol 2005; 174(4 Pt 1):1222-5. PMID: 16145374

311. Thompson RH, Leibovich BC, Lohse CM, Zincke H, Blute ML. Complications of contemporary open nephron sparing surgery: a single institution experience. J Urol 2005; 174(3):855-8. PMID: 16093969

312. Gill IS, Colombo JR Jr, Frank I, Moinzadeh A, Kaouk J, Desai M. Laparoscopic partial nephrectomy for hilar tumors. J Urol 2005; 174(3):850-3; discussion 853-4. PMID: 16093968

313. Ng CS, Gill IS, Ramani AP *et al*. Transperitoneal versus retroperitoneal laparoscopic partial nephrectomy: patient selection and perioperative outcomes. J Urol 2005; 174(3):846-9. PMID: 16093967

314. Wright JL, Porter JR. Laparoscopic partial nephrectomy: comparison of transperitoneal and retroperitoneal approaches. J Urol 2005; 174(3):841-5. PMID: 16093966

315. Gervais DA, Arellano RS, McGovern FJ, McDougal WS, Mueller PR. Radiofrequency ablation of renal cell carcinoma: part 2, Lessons learned with ablation of 100 tumors. AJR Am J Roentgenol 2005; 185(1):72-80. PMID: 15972401

316. Gervais DA, McGovern FJ, Arellano RS, McDougal WS, Mueller PR. Radiofrequency ablation of renal cell carcinoma: part 1, Indications, results, and role in patient management over a 6-year period and ablation of 100 tumors. AJR Am J Roentgenol 2005; 185(1):64-71 . PMID: 15972400

317. Cheung MC, Lee YM, Rindani R, Lau H. Oncological outcome of 100 laparoscopic radical nephrectomies for clinically localized renal cell carcinoma. ANZ J Surg 2005; 75(7):593-6 . PMID: 15972054

318. Lapini A, Serni S, Minervini A, Masieri L, Carini M. Progression and long-term survival after simple enucleation for the elective treatment of renal cell carcinoma: experience in 107 patients. J Urol 2005; 174(1):57-60; discussion 60. PMID: 15947577

319. Gill IS, Remer EM, Hasan WA *et al*. Renal cryoablation: outcome at 3 years. J Urol 2005; 173(6):1903-7. PMID: 15879772

320. Link RE, Bhayani SB, Allaf ME *et al*. Exploring the learning curve, pathological outcomes and perioperative morbidity of laparoscopic partial nephrectomy performed for renal mass. J Urol 2005; 173(5):1690-4. PMID: 15821559

321. Salama ME, Guru K, Stricker H *et al*. pT1 substaging in renal cell carcinoma: validation of the 2002 TNM staging modification of malignant renal epithelial tumors. J Urol 2005; 173(5):1492-5. PMID: 15821466

322. Mullerad M, Kastin A, Adusumilli PS, Moskovitz B, Sabo E, Nativ O. Comparison of nephron-sparing surgery in central versus peripheral renal tumors. Urology 2005; 65(3):467-72. PMID: 15780357

323. Desai MM, Gill IS, Ramani AP, Spaliviero M, Rybicki L, Kaouk JH. The impact of warm ischaemia on renal function after laparoscopic partial nephrectomy. BJU Int 2005; 95(3):377-83. PMID: 15679798

324. Seifman BD, Hollenbeck BK, Wolf JS Jr. Laparoscopic nephron-sparing surgery for a renal mass: 1-year minimum follow-up. J Endourol 2004; 18(8):783-6. PMID: 15659903

325. Lee YM, Cheung MC, Lau H. Laparoscopic radical nephrectomy: oncologic outcome in 100 cases. Ann Acad Med Singapore 2004; 33(5 Suppl):S86. PMID: 15651228

326. Ramani AP, Desai MM, Steinberg AP *et al*. Complications of laparoscopic partial nephrectomy in 200 cases. J Urol 2005; 173(1):42-7. PMID: 15592022

327. Cestari A, Guazzoni G, dell'Acqua V *et al*. Laparoscopic cryoablation of solid renal masses: intermediate term followup. J Urol 2004; 172(4 Pt 1):1267-70. PMID: 15371821

328. Bhayani SB, Rha KH, Pinto PA *et al*. Laparoscopic partial nephrectomy: effect of warm ischemia on serum creatinine. J Urol 2004; 172(4 Pt 1):1264-6. PMID: 15371820

329. Allaf ME, Bhayani SB, Rogers C *et al*. Laparoscopic partial nephrectomy: evaluation of long-term oncological outcome. J Urol 2004; 172(3):871-3. PMID: 15310986

330. Bove P, Bhayani SB, Rha KH, Allaf ME, Jarrett TW, Kavoussi LR. Necessity of ureteral catheter during laparoscopic partial nephrectomy. J Urol 2004; 172(2):458-60. PMID: 15247702

331. Matsumoto ED, Watumull L, Johnson DB *et al*. The radiographic evolution of radio frequency ablated renal tumors. J Urol 2004; 172(1):45-8. PMID: 15201734

332. Kane CJ, Mitchell JA, Meng MV, Anast J, Carroll PR, Stoller ML. Laparoscopic partial nephrectomy with temporary arterial occlusion: description of technique and renal functional outcomes. Urology 2004; 63(2):241-6. PMID: 14972462

333. Diblasio CJ, Snyder ME, Kattan MW, Russo P. Ketorolac: safe and effective analgesia for the management of renal cortical tumors with partial nephrectomy. J Urol 2004; 171(3):1062-5. PMID: 14767271

334. Elmore JM, Kadesky KT, Koeneman KS, Sagalowsky AI. Reassessment of the 1997 TNM classification system for renal cell carcinoma. Cancer 2003; 98(11):2329-34. PMID: 14635066

335. Kuriki O, Ono Y, Kinukawa T *et al*. Laparoscopic radical nephrectomy for renal cell carcinoma. Aktuelle Urol 2003; 34(4):244-6. PMID: 14566674

336. Zigeuner R, Quehenberger F, Pummer K, Petritsch P, Hubmer G. Long-term results of nephron-sparing surgery for renal cell carcinoma in 114 patients: risk factors for progressive disease. BJU Int 2003; 92(6):567-71. PMID: 14511035

337. Patel VR, Leveillee RJ. Hand-assisted laparoscopic nephrectomy for stage T1 and large stage T2 renal tumors. J Endourol 2003; 17(6):379-83. PMID: 12965063

338. Lundstam S, Jonsson O, Lyrdal D, Peeker R, Pettersson S. Nephron-sparing surgery for renal cell carcinoma--long-term results. Scand J Urol Nephrol 2003; 37(4):299-304. PMID: 12944187

339. Kural AR, Demirkesen O, Onal B *et al*. Outcome of nephron-sparing surgery: elective versus imperative indications. Urol Int 2003; 71(2):190-6. PMID: 12890959

340. Franks ME, Hrebinko RL, Konety BR. Surgical enucleation for the treatment of renal tumors. Urol Int 2003; 71(2):184-9. PMID: 12890958

341. Mayo-Smith WW, Dupuy DE, Parikh PM, Pezzullo JA, Cronan JJ. Imaging-guided percutaneous radiofrequency ablation of solid renal masses: techniques and outcomes of 38 treatment sessions in 32 consecutive patients. AJR Am J Roentgenol 2003; 180(6):1503-8. PMID: 12760909

342. Zucchi A, Mearini L, Mearini E, Costantini E, Vivacqua C, Porena M. Renal cell carcinoma: histological findings on surgical margins after nephron sparing surgery. J Urol 2003; 169(3):905-8. PMID: 12576810

343. Desai MM, Gill IS, Kaouk JH, Matin SF, Novick AC. Laparoscopic partial nephrectomy with suture repair of the pelvicaliceal system. Urology 2003; 61(1):99-104. PMID: 12559277

344. McKiernan J, Yossepowitch O, Kattan MW *et al*. Partial nephrectomy for renal cortical tumors: pathologic findings and impact on outcome. Urology 2002; 60(6):1003-9. PMID: 12475658

345. Castilla EA, Liou LS, Abrahams NA *et al*. Prognostic importance of resection margin width after nephron-sparing surgery for renal cell carcinoma. Urology 2002; 60(6):993-7. PMID: 12475656

346. Minervini A, Lilas L, Minervini R, Selli C. Prognostic value of nuclear grading in patients with intracapsular (pT1-pT2) renal cell carcinoma. Long-term analysis in 213 patients. Cancer 2002; 94(10):2590-5. PMID: 12173325

347. Russo P, Goetzl M, Simmons R, Katz J, Motzer R, Reuter V. Partial nephrectomy: the rationale for expanding the indications. Ann Surg Oncol 2002; 9(7):680-7. PMID: 12167583

348. Fryczkowski M, Potyka A, Huk J. Evaluation of organ sparing operation results from planned indications in patients with kidney cancer. Int Urol Nephrol 2001; 32(4):621-7. PMID: 11989552

349. Lau WK, Cheville JC, Blute ML, Weaver AL, Zincke H. Prognostic features of pathologic stage T1 renal cell carcinoma after radical nephrectomy. Urology 2002; 59(4):532-7. PMID: 11927308

350. Gill IS, Desai MM, Kaouk JH *et al*. Laparoscopic partial nephrectomy for renal tumor: duplicating open surgical techniques. J Urol 2002; 167(2 Pt 1):469-7; discussion 475-6. PMID: 11792899

351. Piper NY, Bishoff JT, Magee C *et al*. Is a 1-CM margin necessary during nephron-sparing surgery for renal cell carcinoma? Urology 2001; 58 (6):849-52. PMID: 11744443

352. Sutherland SE, Resnick MI, Maclennan GT, Goldman HB. Does the size of the surgical margin in partial nephrectomy for renal cell cancer really matter? J Urol 2002; 167(1):61-4. PMID: 11743276

353. Jeschke K, Peschel R, Wakonig J, Schellander L, Bartsch G, Henning K. Laparoscopic nephron-sparing surgery for renal tumors. Urology 2001; 58(5):688-92. PMID: 11711341

354. Igarashi T, Tobe T, Nakatsu HO *et al*. The impact of a 4 cm. cutoff point for stratification of T1N0M0 renal cell carcinoma after radical nephrectomy. J Urol 2001; 165(4):1103-6. PMID: 11257647

355. Fryczkowski M, Potyka A, Huk J. Evaluation of organ sparing surgery results in patients with kidney cancer in scheduled operations. Med Sci Monit 2000; 6(6):1098-103. PMID: 11208462

356. Rukstalis DB, Khorsandi M, Garcia FU, Hoenig DM, Cohen JK. Clinical experience with open renal cryoablation. Urology 2001; 57(1):34-9. PMID: 11164139

357. Gill IS, Novick AC, Meraney AM *et al*. Laparoscopic renal cryoablation in 32 patients. Urology 2000; 56(5):748-53. PMID: 11068292

358. Filipas D, Fichtner J, Spix C *et al*. Nephron-sparing surgery of renal cell carcinoma with a normal opposite kidney: long-term outcome in 180 patients. Urology 2000; 56(3):387-92. PMID: 10962300

359. Black P, Filipas D, Fichtner J, Hohenfellner R, Thuroff JW. Nephron sparing surgery for central renal tumors: experience with 33 cases. J Urol 2000; 163(3):737-43. PMID: 10687967

360. Fergany AF, Hafez KS, Novick AC. Long-term results of nephron sparing surgery for localized renal cell carcinoma: 10-year followup. J Urol 2000; 163(2):442-5. PMID: 10647650

361. Herr HW. Partial nephrectomy for unilateral renal carcinoma and a normal contralateral kidney: 10-year followup. J Urol 1999; 161(1):33-4; discussion 34-5. PMID: 10037361

362. Ono Y, Kinukawa T, Hattori R *et al*. Laparoscopic radical nephrectomy for renal cell carcinoma: a five-year experience. Urology 1999; 53(2):280-6. PMID: 9933040

363. Cadeddu JA, Ono Y, Clayman RV *et al*. Laparoscopic nephrectomy for renal cell cancer: evaluation of efficacy and safety: a multicenter experience. Urology 1998; 52(5):773-7. PMID: 9801097

364. Van Poppel H, Bamelis B, Oyen R, Baert L. Partial nephrectomy for renal cell carcinoma can achieve long-term tumor control. J Urol 1998; 160(3 Pt 1):674-8. PMID: 9720519

365. Ljungberg B, Alamdari FI, Holmberg G, Granfors T, Duchek M. Radical nephrectomy is still preferable in the treatment of localized renal cell carcinoma. A long-term follow-up study. Eur Urol 1998; 33(1):79-85. PMID: 9471045

366. Ono Y, Katoh N, Kinukawa T, Matsuura O, Ohshima S. Laparoscopic radical nephrectomy: the Nagoya experience. J Urol 1997; 158(3 Pt 1):719-23. PMID: 9258067

367. Hafez KS, Novick AC, Campbell SC. Patterns of tumor recurrence and guidelines for followup after nephron sparing surgery for sporadic renal cell carcinoma. J Urol 1997; 157(6):2067-70. PMID: 9146581

368. Hsi R.S., Macleod L.C., Gore J.L., Wright J.L., Harper J.D. Comparison of selective parenchymal clamping to hilar clamping during robotic-assisted laparoscopic partial nephrectomy. Urology 2014; 83(2):339-44.

369. Fardoun T., Chaste D., Oger E. *et al*. Predictive factors of hemorrhagic complications after partial nephrectomy. Eur. J. Surg. Oncol. 2014; 40(1):85-9.

370. Tomaszewski J.J., Cung B., Smaldone M.C. *et al*. Renal pelvic anatomy is associated with incidence, grade, and need for intervention for urine leak following partial nephrectomy. Eur. Urol. 2014; 66(5):949-55.

371. Alesawi A., Nadeau G., Bergeron A., Dujardin T., Lacombe L., Caumartin Y. Cystatin C for early detection of acute kidney injury after laparoscopic partial nephrectomy. Urol. Ann. 2014; 6(4):298-304.

372. Petros F., Sukumar S., Haber G.-P. *et al*. Multi-institutional analysis of robot-assisted partial nephrectomy for renal tumors >4 cm versus (less-than or equal to)4 cm in 445 consecutive patients. J. Endourol. 2012; 26(6):642-6.

373. Best S.L., Park S.K., Yaacoub R.F. *et al*. Long-term outcomes of renal tumor radio frequency ablation stratified by tumor diameter: Size matters. J. Urol. 2012; 187(4):1183-9.

374. Spana G., Haber G.-P., Dulabon L.M. *et al*. Complications after robotic partial nephrectomy at centers of excellence: Multi-institutional analysis of 450 cases. J. Urol. 2011; 186(2):417-21.

375. White M.A., Haber G.-P., Autorino R. *et al*. Outcomes of robotic partial nephrectomy for renal masses with nephrometry score of (greater-than or equal to)7. Urology 2011; 77(4):809-13.

376. Naeem N., Petros F., Sukumar S. *et al*. Robot-assisted partial nephrectomy in obese patients. J. Endourol. 2011; 25(1):101-5.

377. Schmit G.D., Atwell T.D., Callstrom M.R. *et al*. Percutaneous cryoablation of renal masses (greater-than or equal to)3cm: Efficacy and safety in treatment of 108 patients. J. Endourol. 2010; 24(8):1255-62.

378. Park S.-W., Jung S.-G., Lee W., Chung M.-K. Changes in renal function after nephron-sparing surgery in patients with a normal contralateral kidney: Original article: Clinical investigation. Int. J. Urol. 2010; 17(5):457-61.

379. Jeon S.H., Han K.-S., Yoo K.H. *et al*. How many cases are necessary to develop competence for laparoscopic radical nephrectomy? J. Endourol. 2009; 23(12):1965-70.

380. Hiraoka K., Kawauchi A., Nakamura T., Soh J., Mikami K., Miki T. Radiofrequency ablation for renal tumors: Our experience: Original Article. Int. J. Urol. 2009; 16(11):869-73.

381. Ritchie R.W., Sullivan M.E., Jones A. Laparoscopic radical nephrectomy for T2 renal cell carcinoma. Br. J. Med. Surg. Urol. 2009; 2(3):117-23.

382. Bandi G., Christian M.W., Hedican S.P., Moon T.D., Nakada S.Y. Oncological outcomes of hand-assisted laparoscopic radical nephrectomy for clinically localized renal cell carcinoma: A single-institution study with (greater-than or equal to)3 years of follow-up. BJU Int. 2008; 101(4):459-62.

383. Polascik T.J., Nosnik I., Mayes J.M., Mouraviev V. Short term clinical outcome after laparoscopic cryoablation of the renal tumor (less-than or equal to) 3.5 cm. Technol. Cancer Res. Treat. 2007; 6(6):621-4.

384. Wille A.H., Deger S., Tullmann M. *et al*. Laparoscopic Partial Nephrectomy in Renal Cell Cancer-Indications, Technique, and Outcome in 80 Patients. Eur. Urol. Suppl. 2007; 6(10):635-40.

385. Salagierska-Barwinska A., Salagierski M., Salagierski M. 4-year experience with percutaneous US-guided radiofrequency ablation of kidney tumors. Pol. J. Radiol. 2007; 72(2):32-5.

386. Lee D.-G., Chang S.-G., Jeon S.H. Optimal size cutoff point for prognostic stratification of localized renal cell carcinoma. Korean J. Urol. 2006; 47(6):601-6.

387. Marszalek M., Ponholzer A., Brossner C., Wachter J., Maier U., Madersbacher S. Elective open nephron-sparing surgery for renal masses: Single-center experience with 129 consecutive patients. Urology 2004; 64(1):38-42.

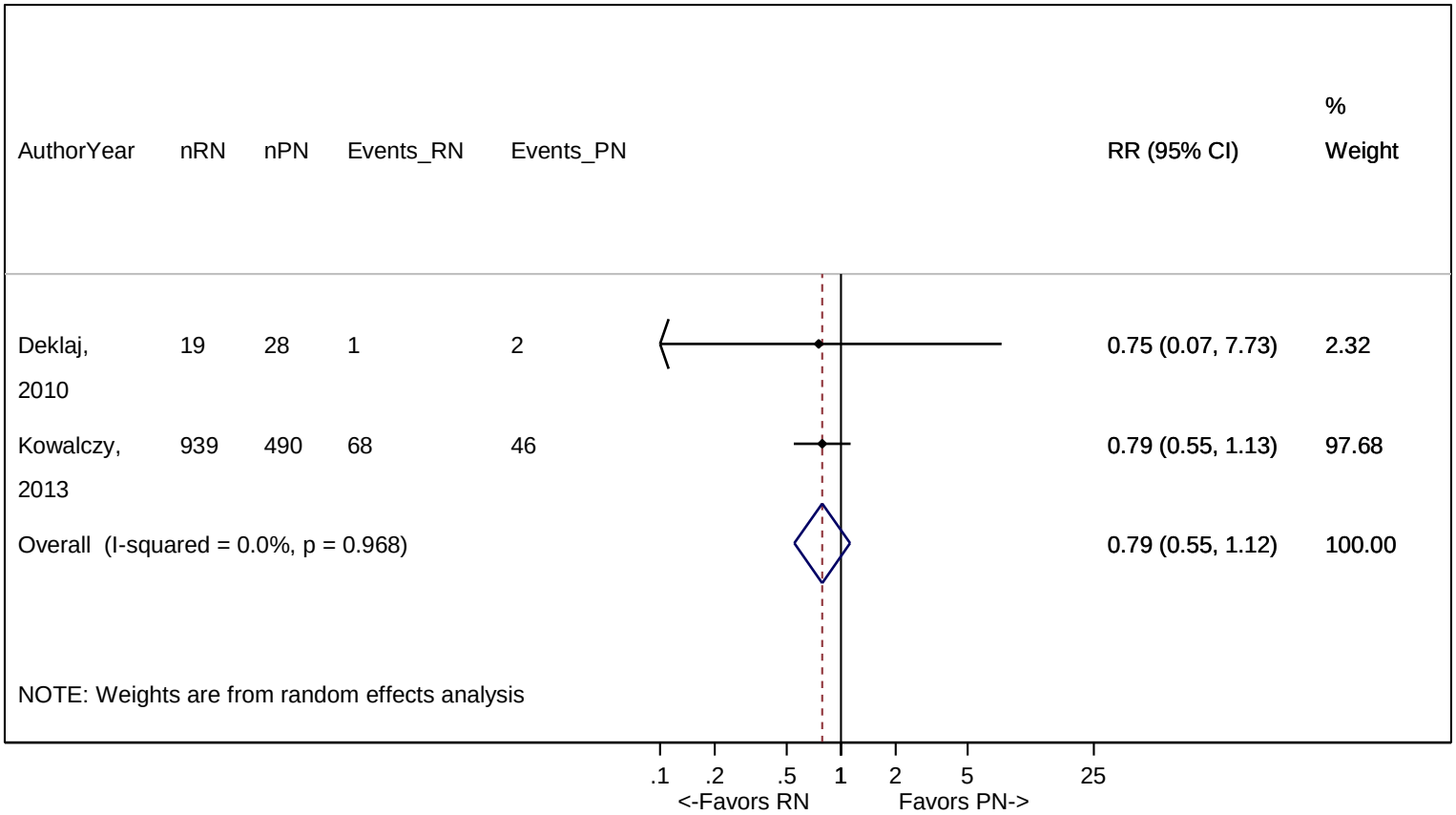
388. Seklehner S., Fellner H., Engelhardt P.F., Schabauer C., and Riedl C. Percutaneous radio frequency ablation of renal tumors: A single-center experience. Korean J. Urol. 2013 :580-586

389. Kim E.H., Tanagho Y.S., Bhayani S.B., Saad N.E., Benway B.M., and Figenshau R.S. Percutaneous cryoablation of renal masses: Experience treating 129 tumors. J. Endourol. 2012 :A122

Appendix F: Meta-Analysis Figures

Harms meta-analysis figures

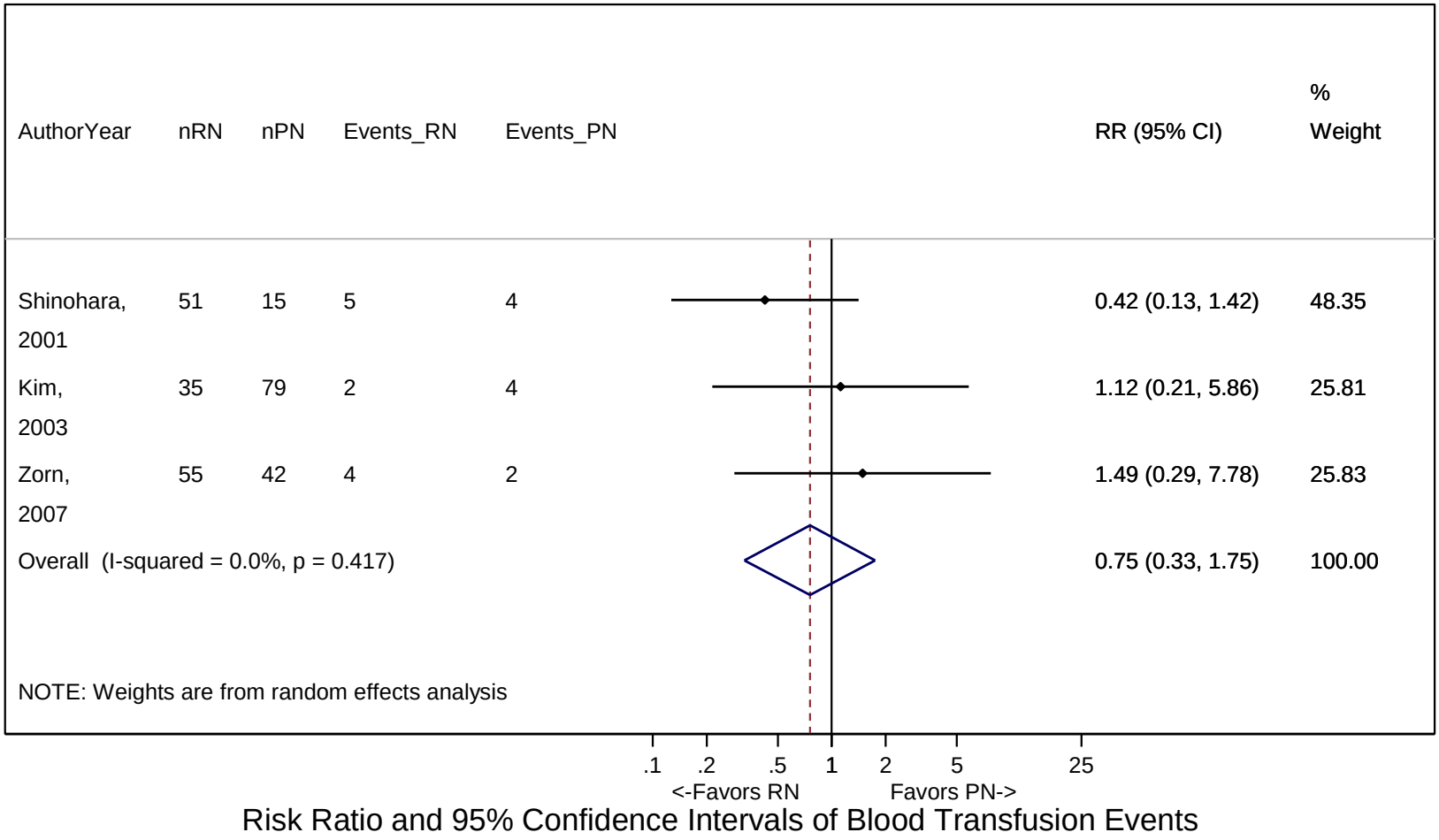
Figure F1: Meta-analysis figure showing blood transfusion events in cT1a patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



Risk Ratio and 95% Confidence Intervals of Blood Transfusion Events

N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

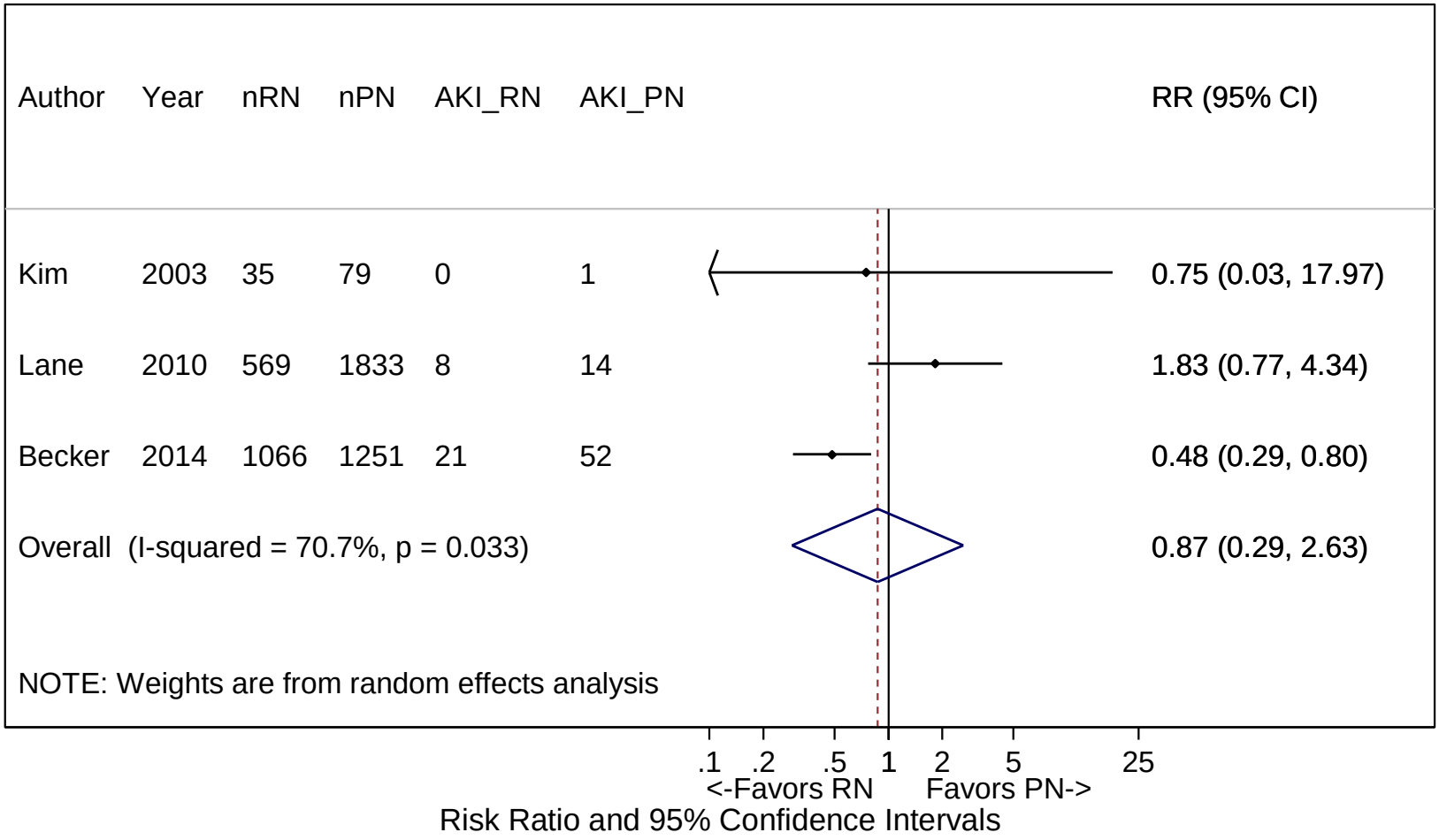
Figure F2: Meta-analysis figure showing blood transfusion events in cT1 patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



Risk Ratio and 95% Confidence Intervals of Blood Transfusion Events

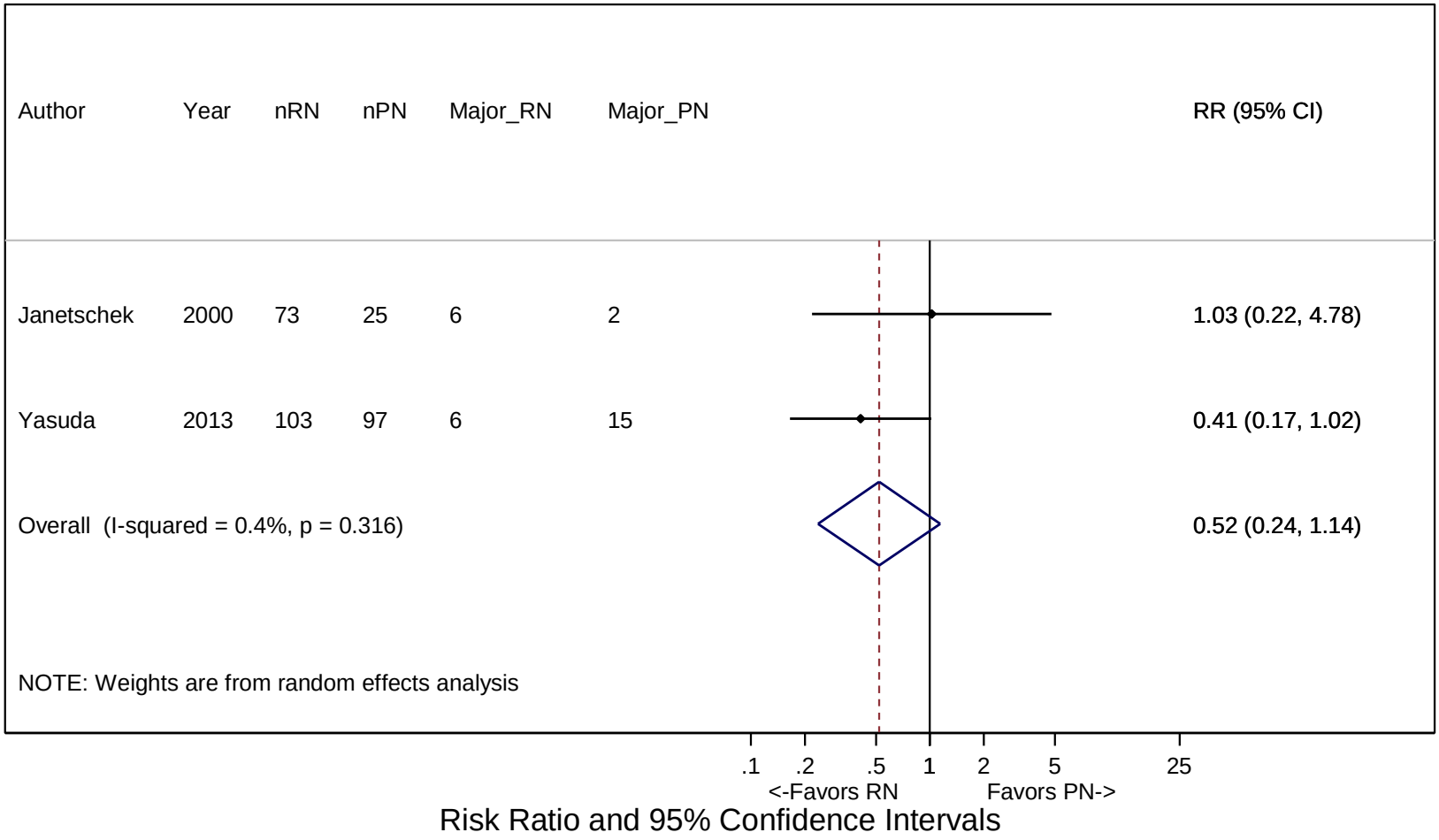
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F3: Meta-analysis figure showing acute kidney injury events in cT1 patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



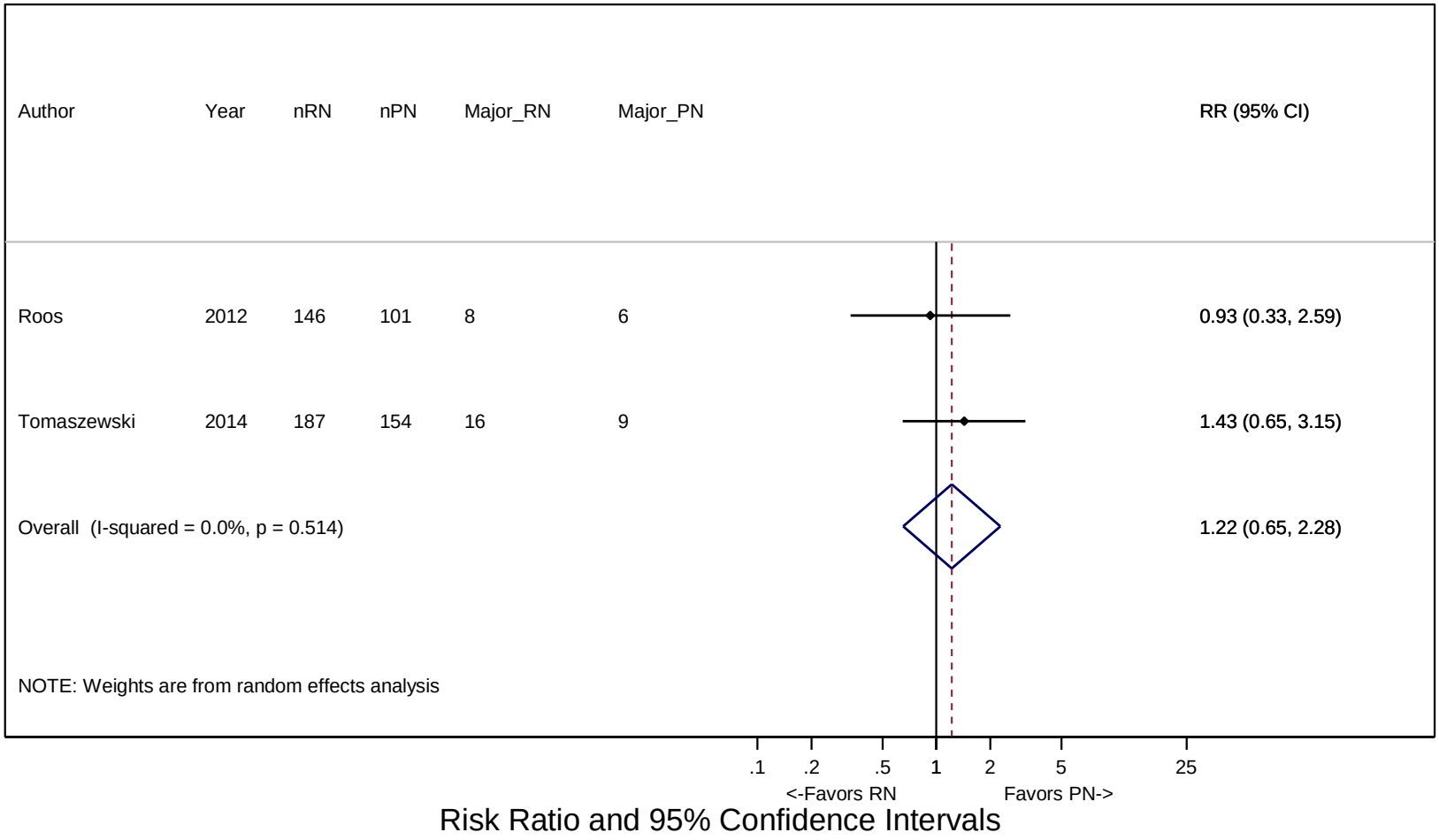
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F4: Meta-analysis figure showing major clavien complication events in cT1 patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



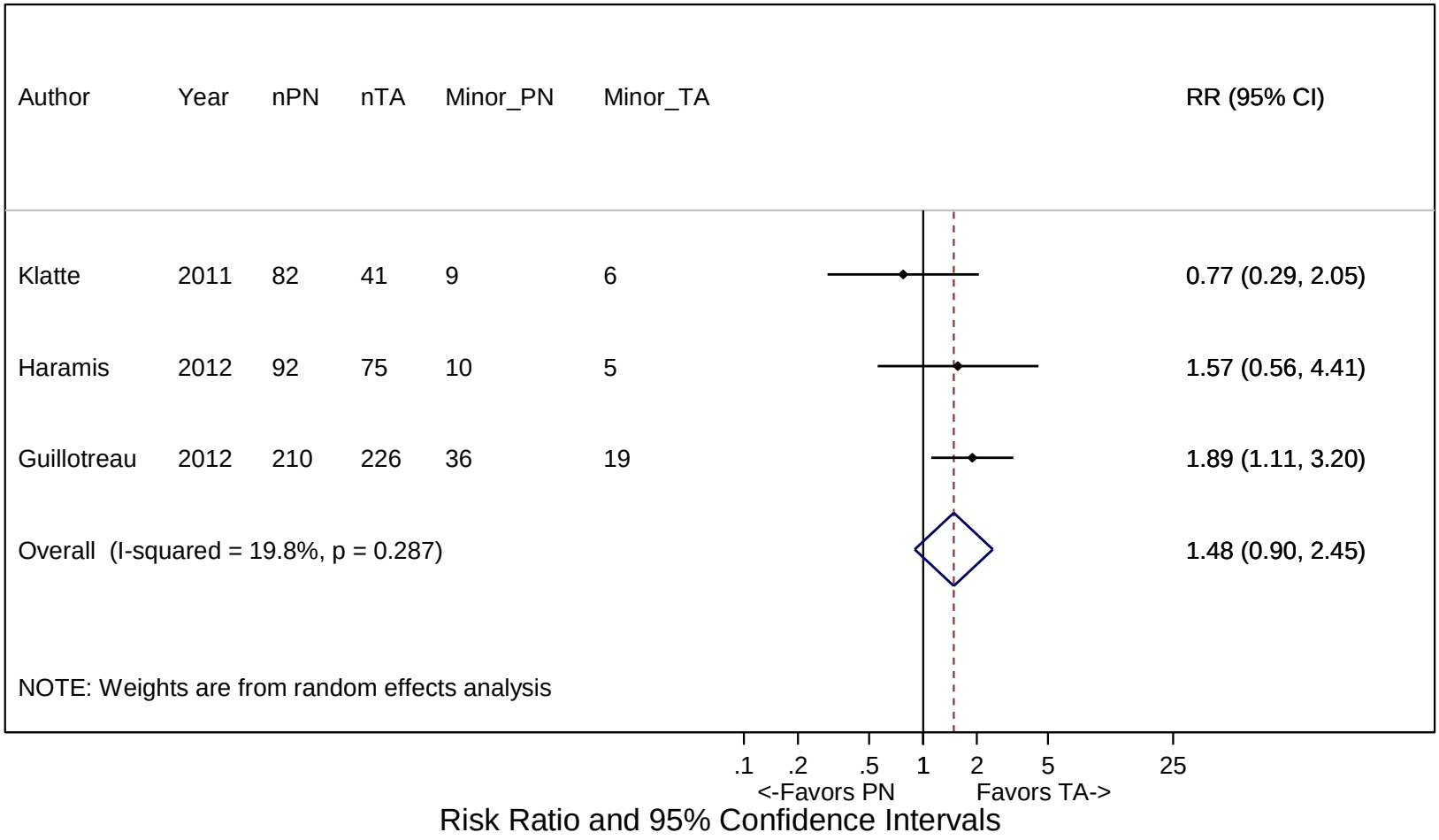
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F5: Meta-analysis figure showing major clavien complication events in cT1b patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



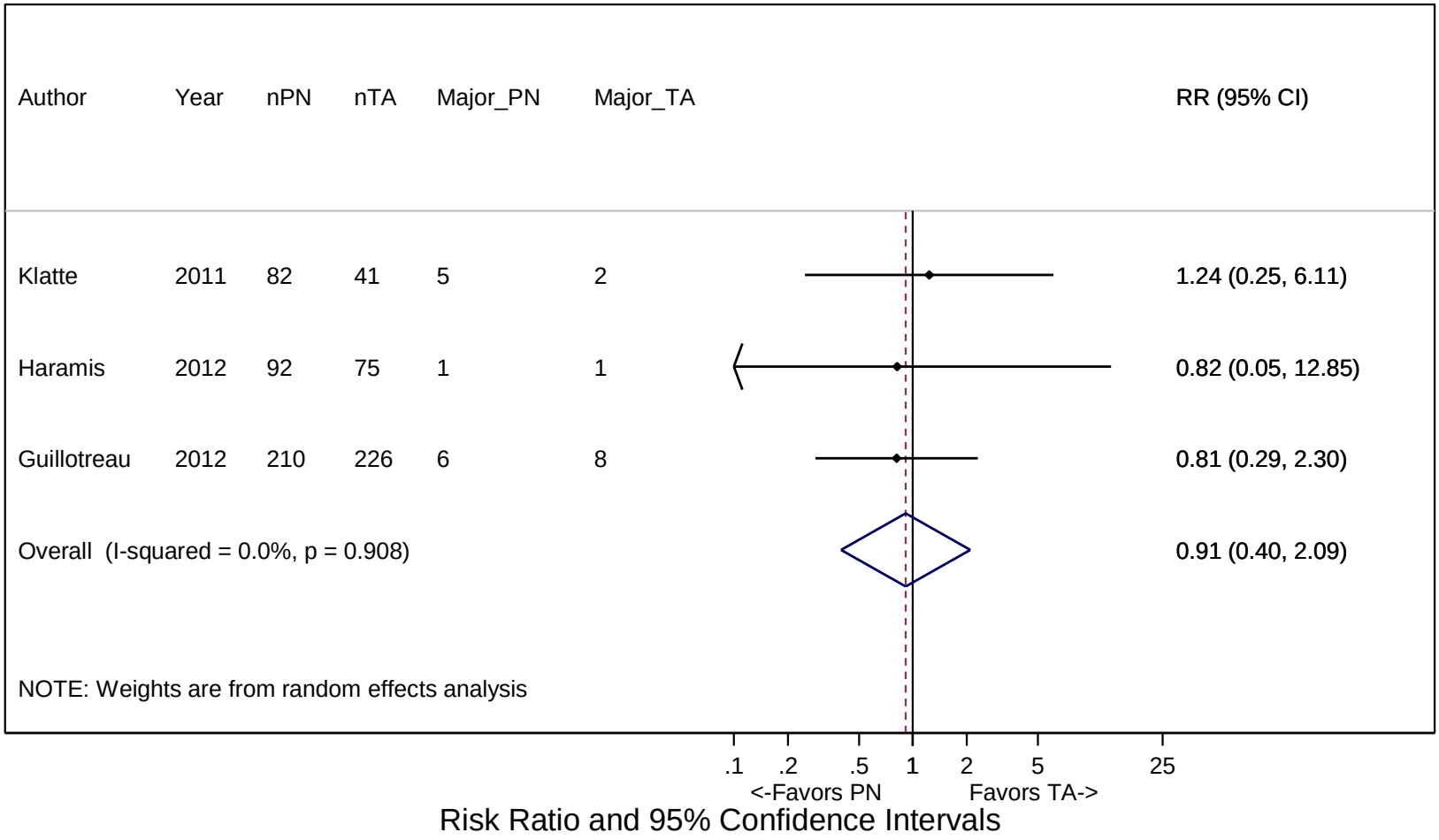
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F6: Meta-analysis figure showing minor clavien complication events in cT1a patients Partial Nephrectomy (PN) vc Thermal Ablation



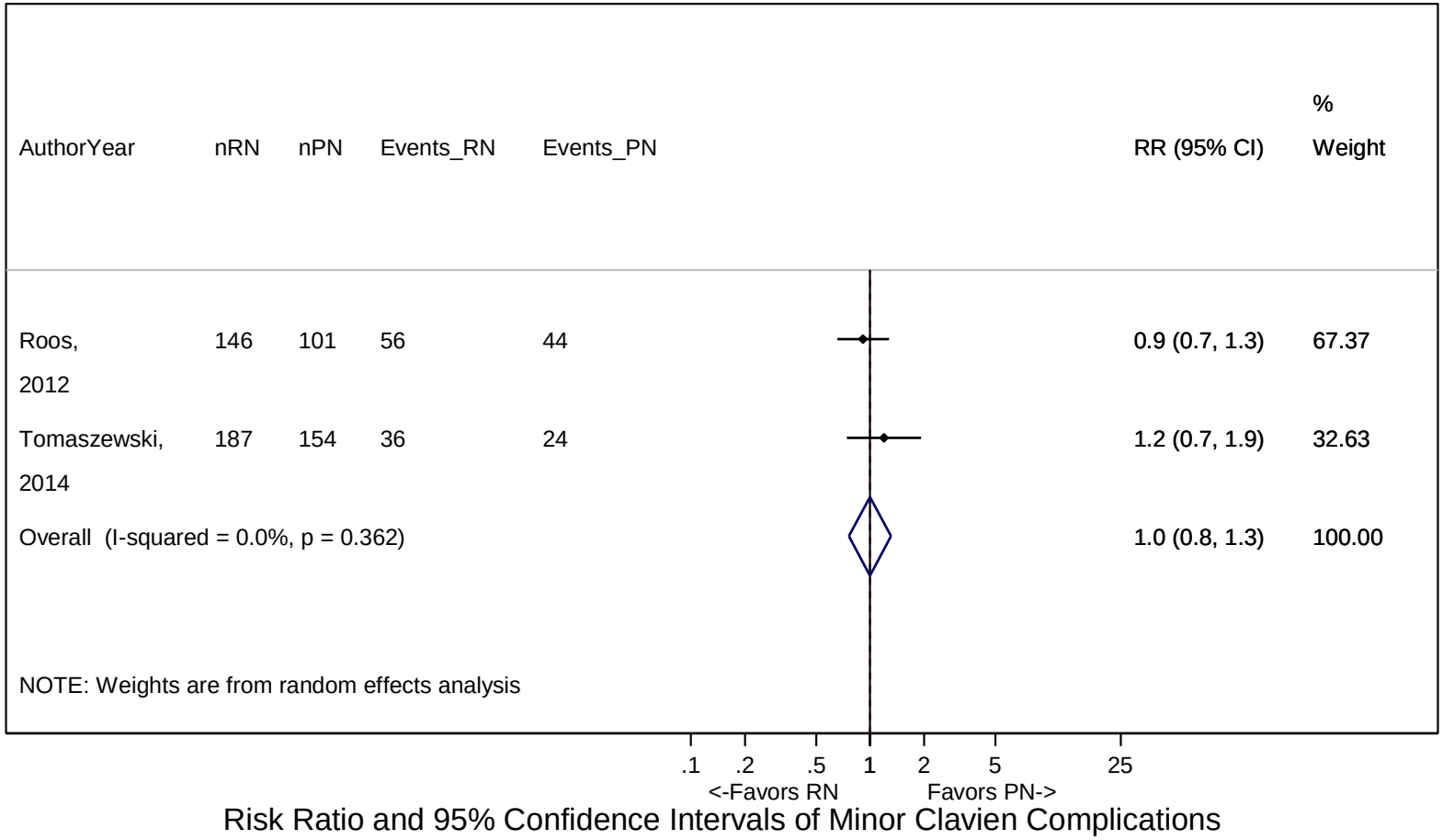
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F7: Meta-analysis figure showing major clavien complication events in cT1a patients Partial Nephrectomy (PN) vc Thermal Ablation



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

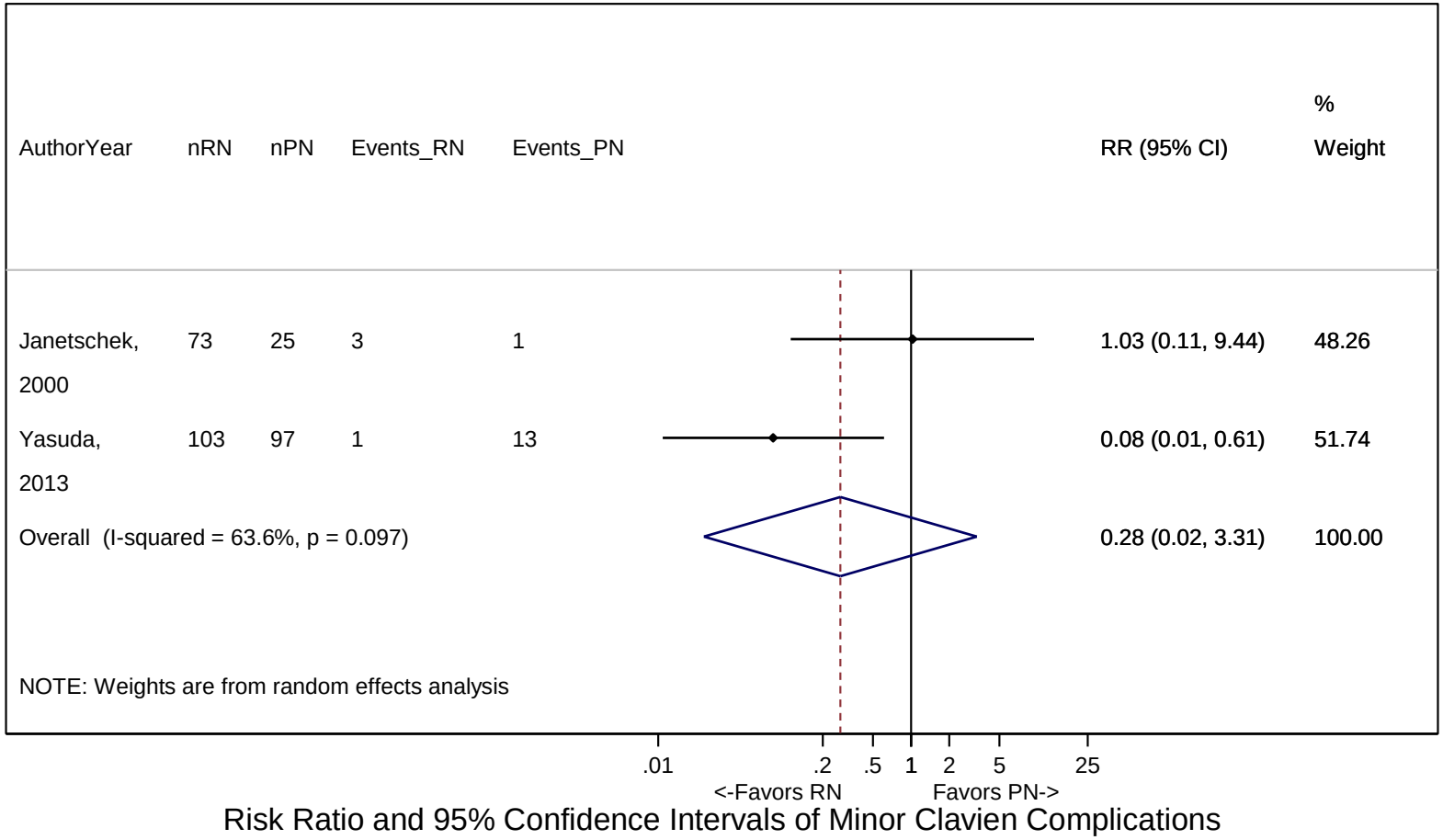
Figure F8: Meta-analysis figure showing incidence of minor clavien complications in cT1b patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



Risk Ratio and 95% Confidence Intervals of Minor Clavien Complications

N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F9: Meta-analysis figure showing incidence of minor clavien complications in cT1 patients Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)

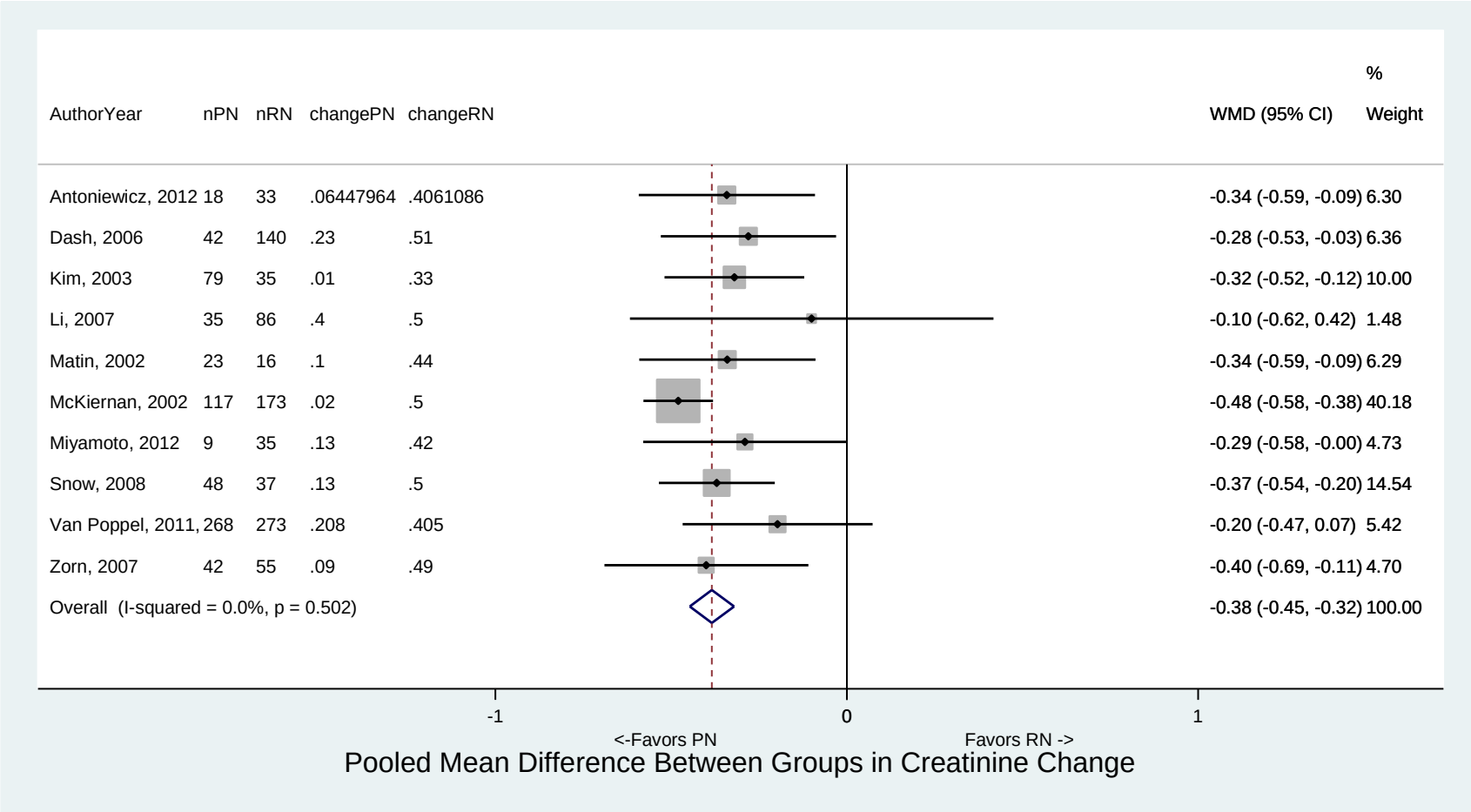


Risk Ratio and 95% Confidence Intervals of Minor Clavien Complications

N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Renal functional outcomes meta-analysis figures

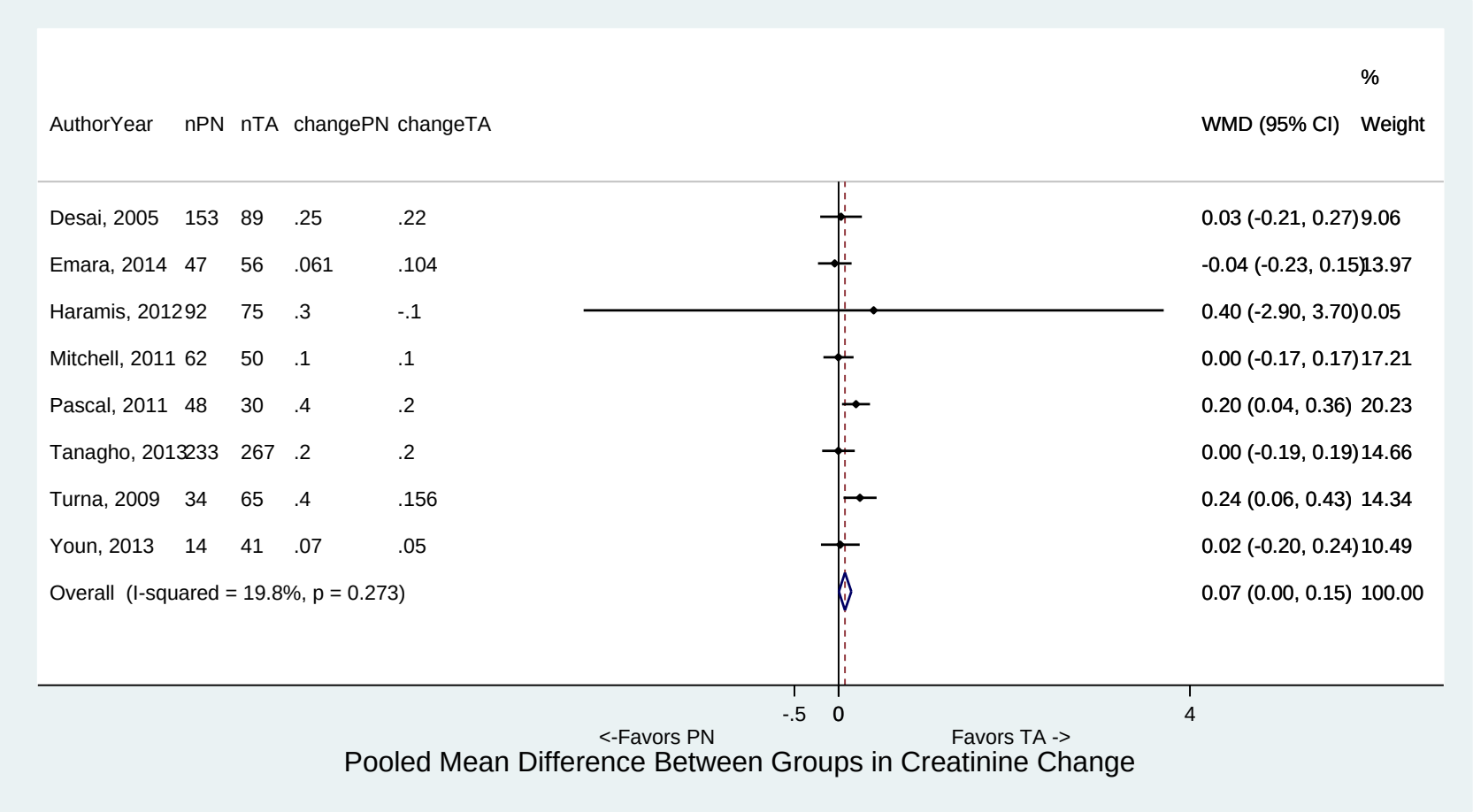
Figure F10: Meta-analysis figure showing mean Change in Creatinine Radical Nephrectomy (RN) vs Partial Nephrectomy (PN)



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference

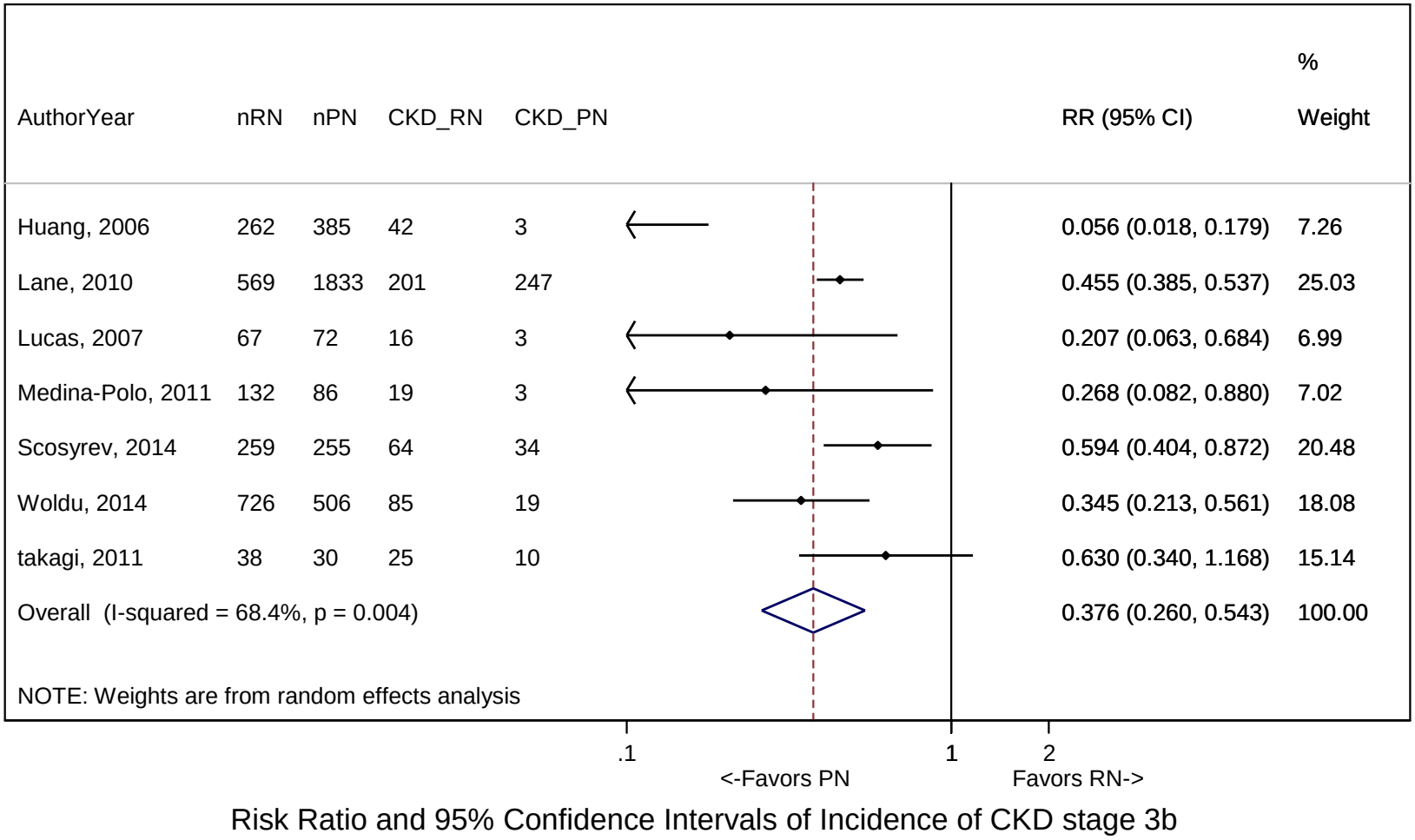
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F11: Meta-analysis figure showing mean change in Creatinine Partial Nephrectomy (PN) vs Thermal Ablation (TA)



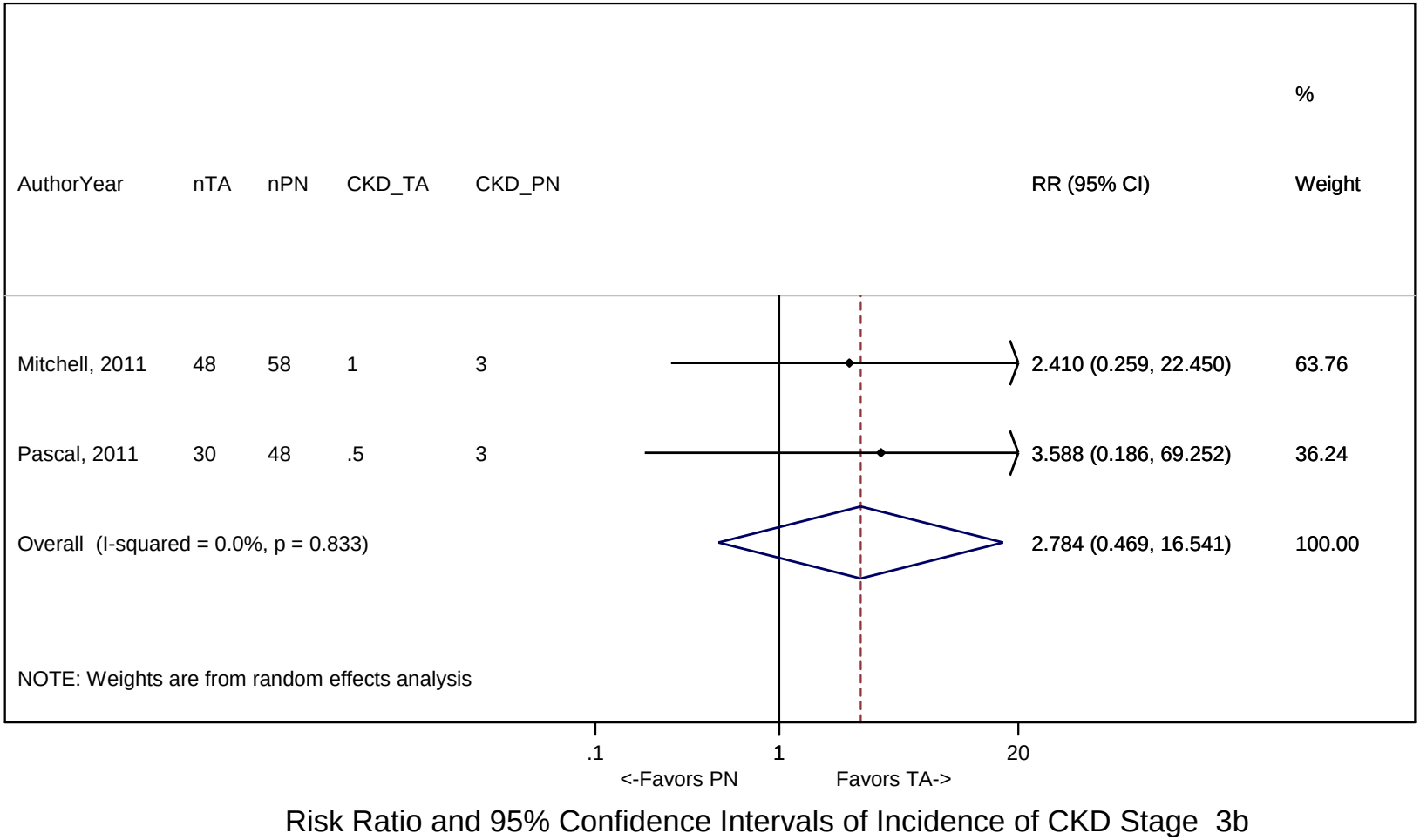
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; WMD=Weighted Mean Difference
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F12: Meta-analysis figure showing incidence of Stage 3b Chronic Kidney Disease (CKD) Radical Nephrectomy (RN) vs partial Nephrectomy



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; CKD=Chronic Kidney Disease; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

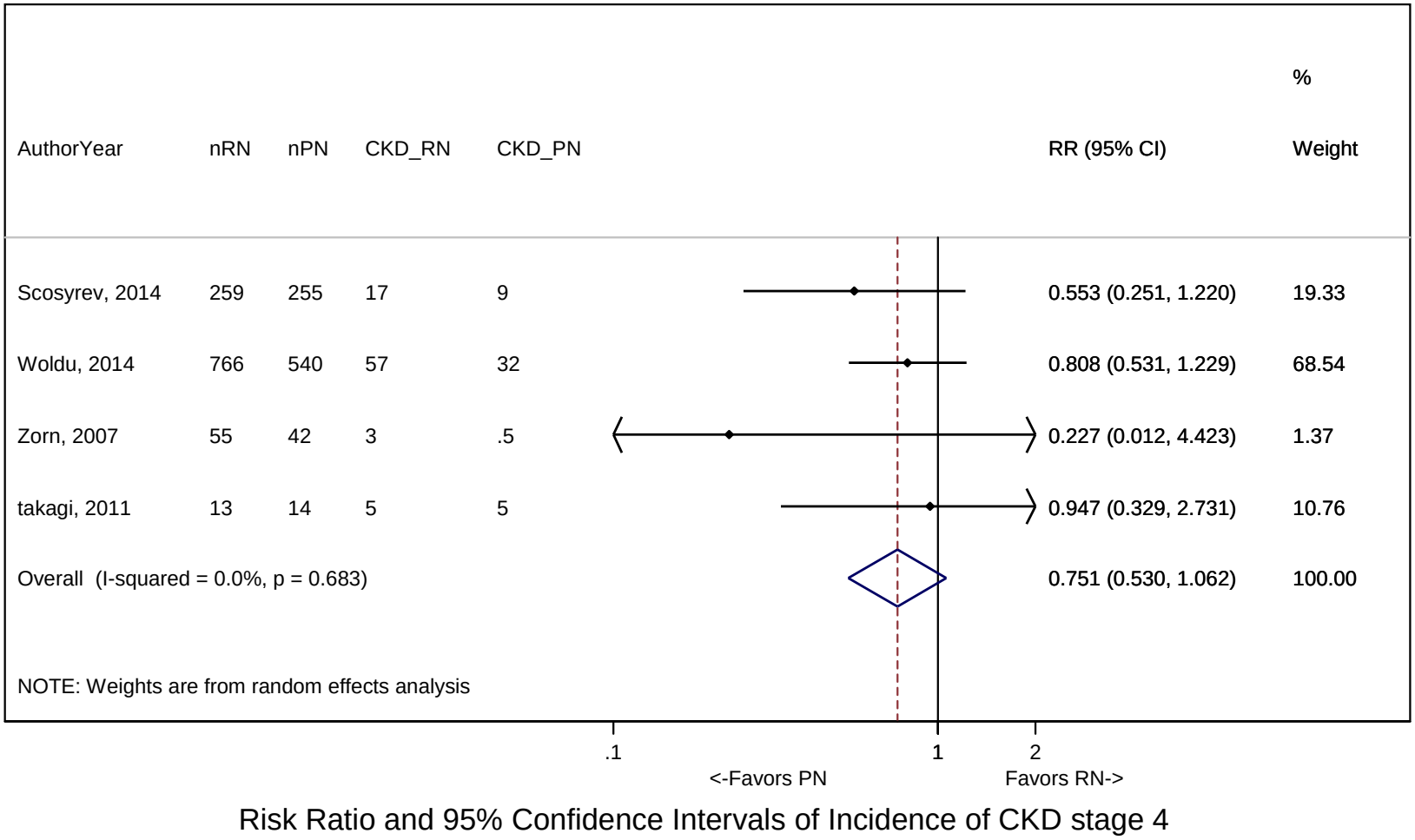
Figure F13: Meta-analysis figure showing incidence of Stage 3b Chronic Kidney Disease (CKD) Thermal Ablation (TA) vs Partial Nephrectomy (PN)



Risk Ratio and 95% Confidence Intervals of Incidence of CKD Stage 3b

N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; CKD=Chronic Kidney Disease; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F14: Meta-analysis figure showing incidence of Stage 4 Chronic Kidney Disease (CKD) Radical Nephrectomy (RN) vs partial Nephrectomy

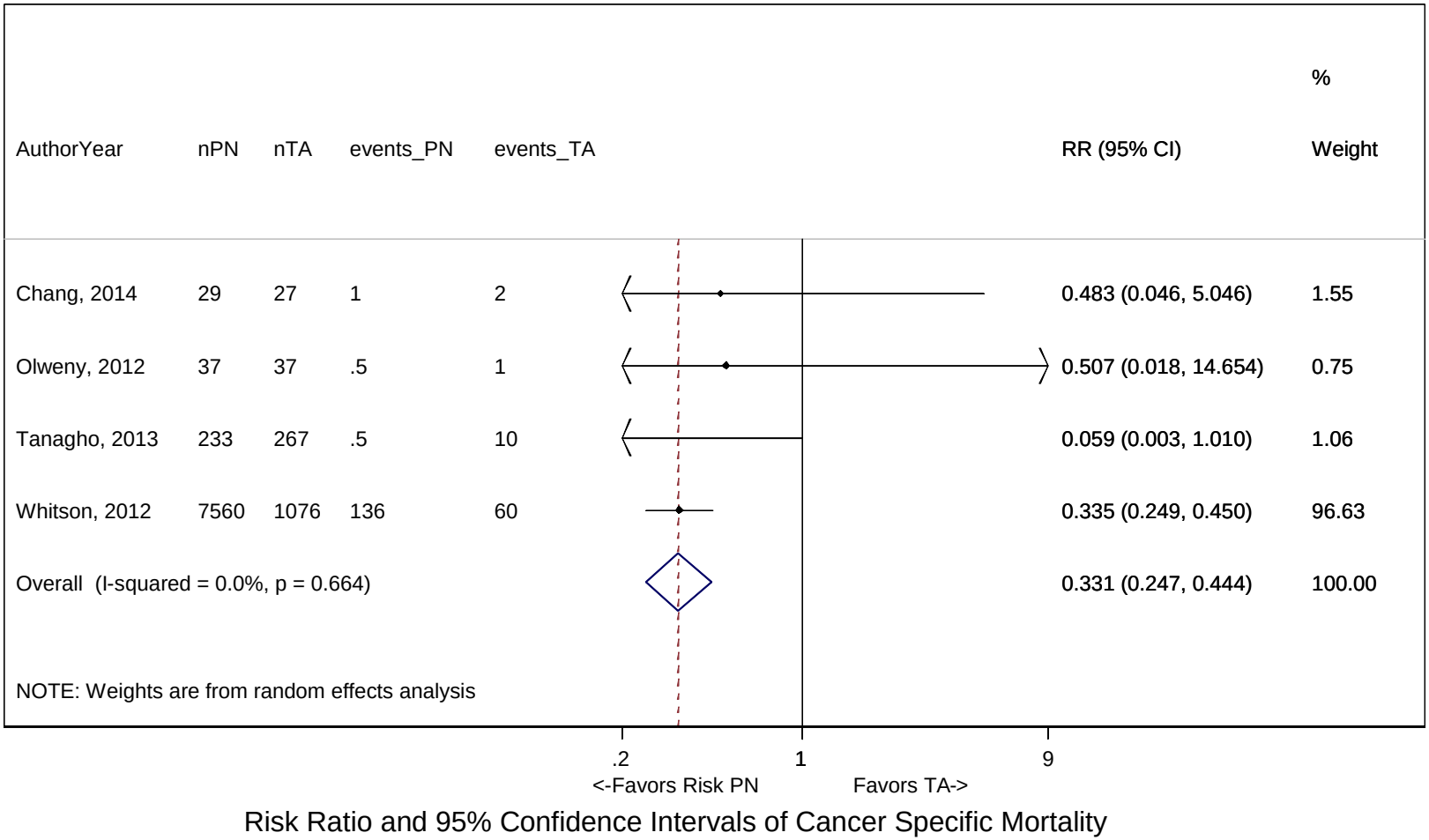


Risk Ratio and 95% Confidence Intervals of Incidence of CKD stage 4

N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; CKD=Chronic Kidney Disease; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Oncologic outcomes meta-analysis figures

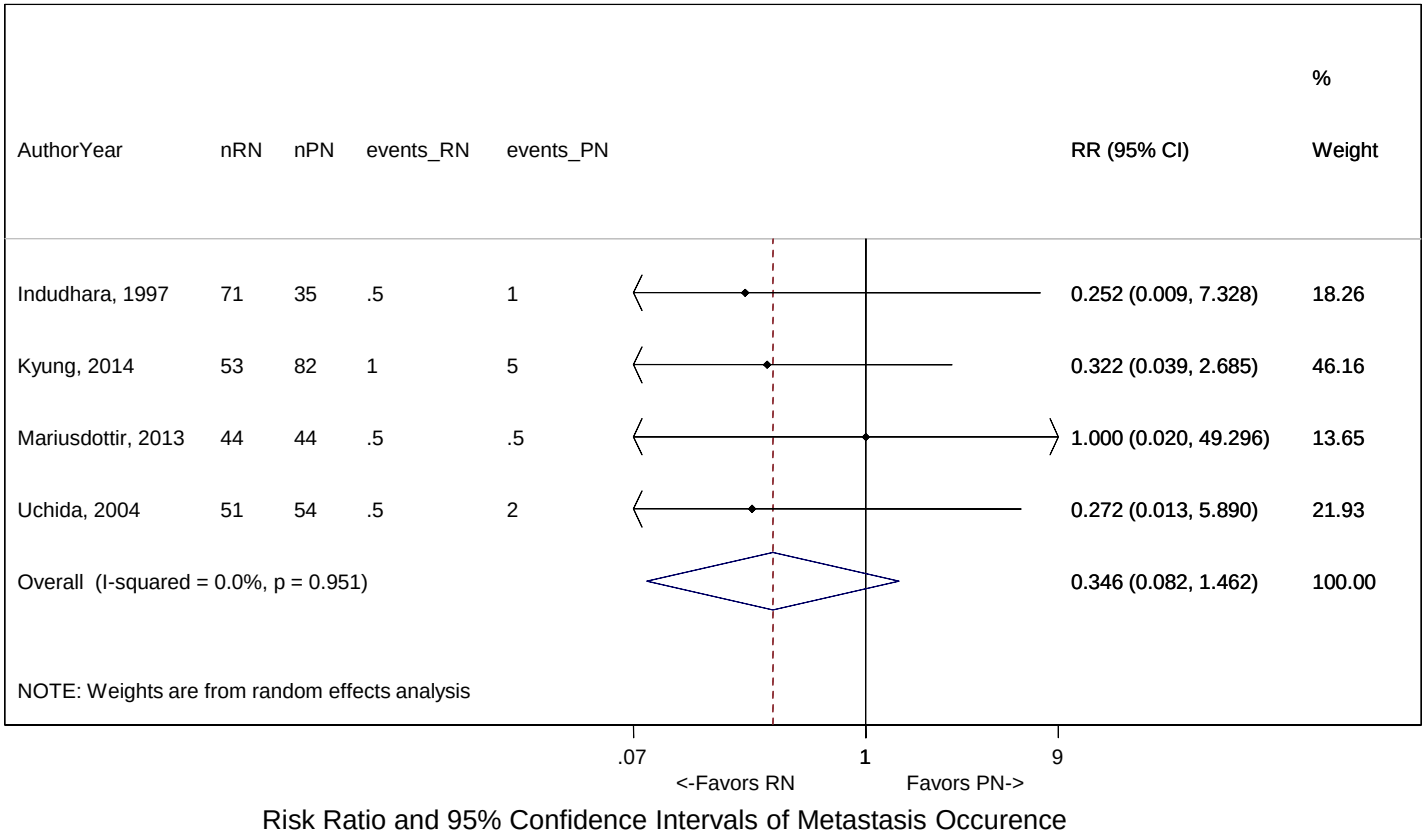
Figure F15: Meta-analysis figure showing incidence of Cancer SpecificMortality at 60monthsPartial Nephrectomy (PN) vs Thermal Ablation (TA)



Risk Ratio and 95% Confidence Intervals of Cancer Specific Mortality

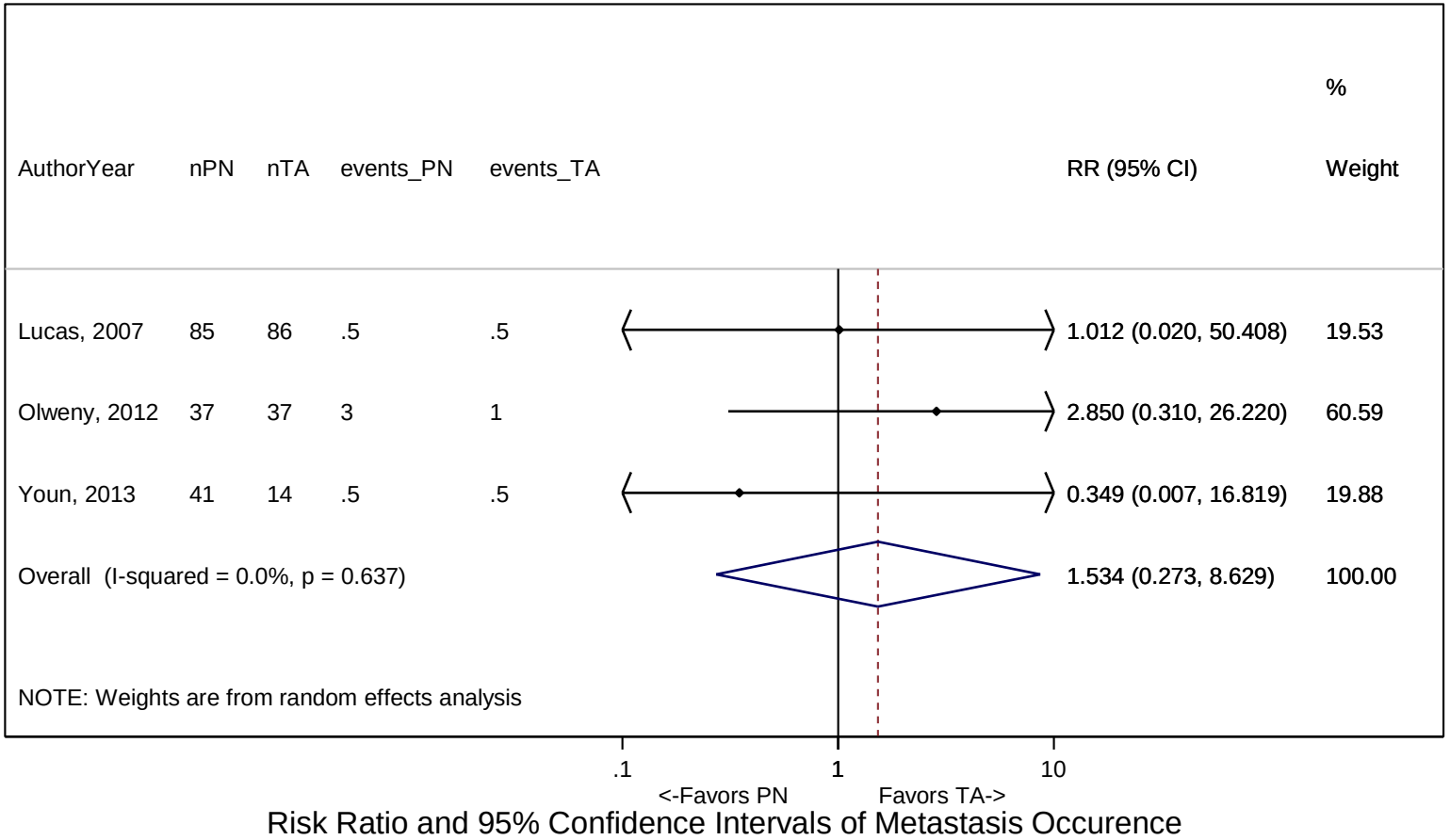
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F16: Meta-analysis figure showing incidence of Metastasis at 50 ± 10monthsRadical Nephrectomy (RN) vs Partial Nephrectomy (PN)



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

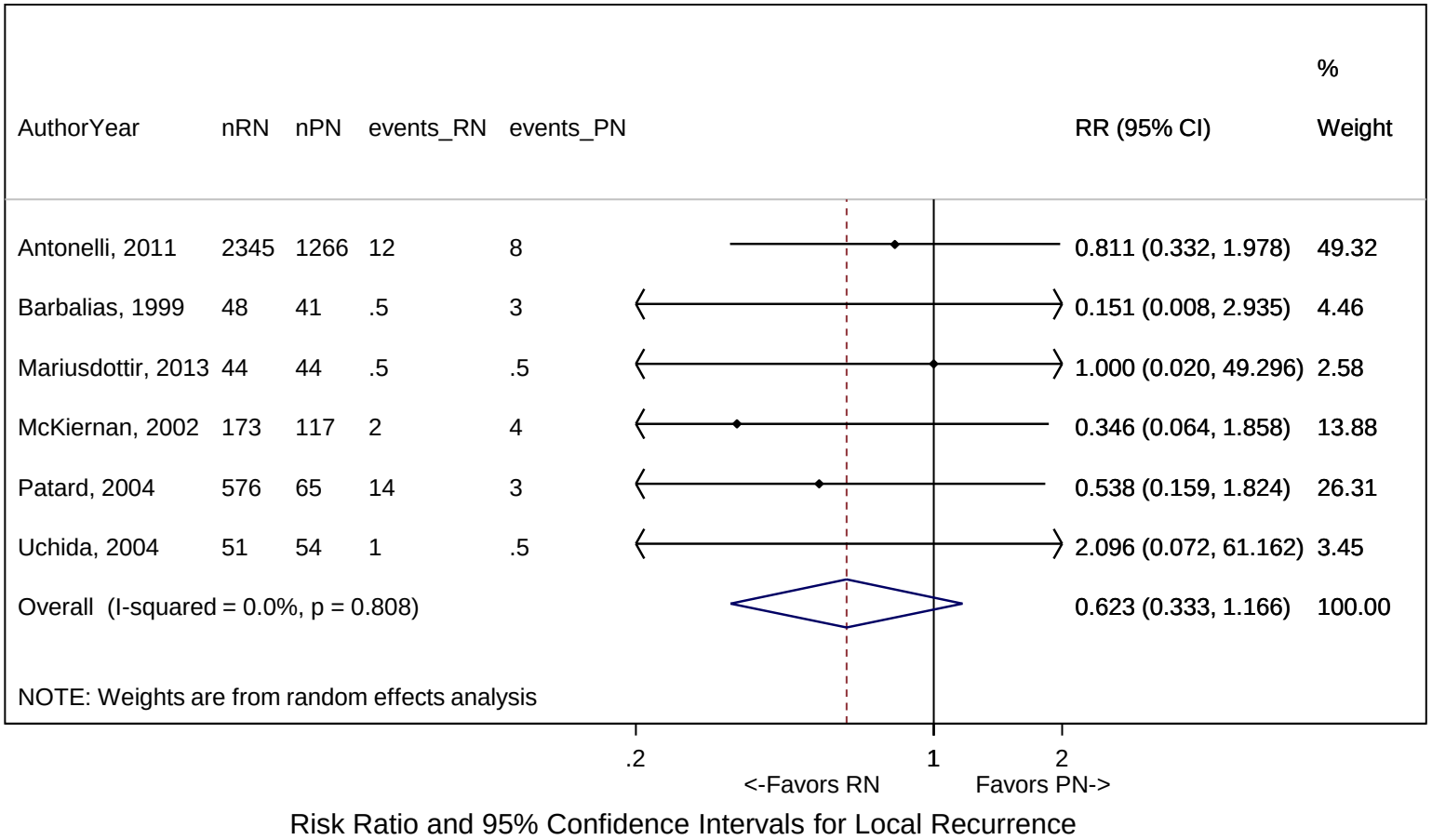
Figure F17: Meta-analysis figure showing incidence of Metastasis 50 ± 10monthsPartial Nephrectomy (PN) vs Thermal Ablation (TA)



Risk Ratio and 95% Confidence Intervals of Metastasis Occurence

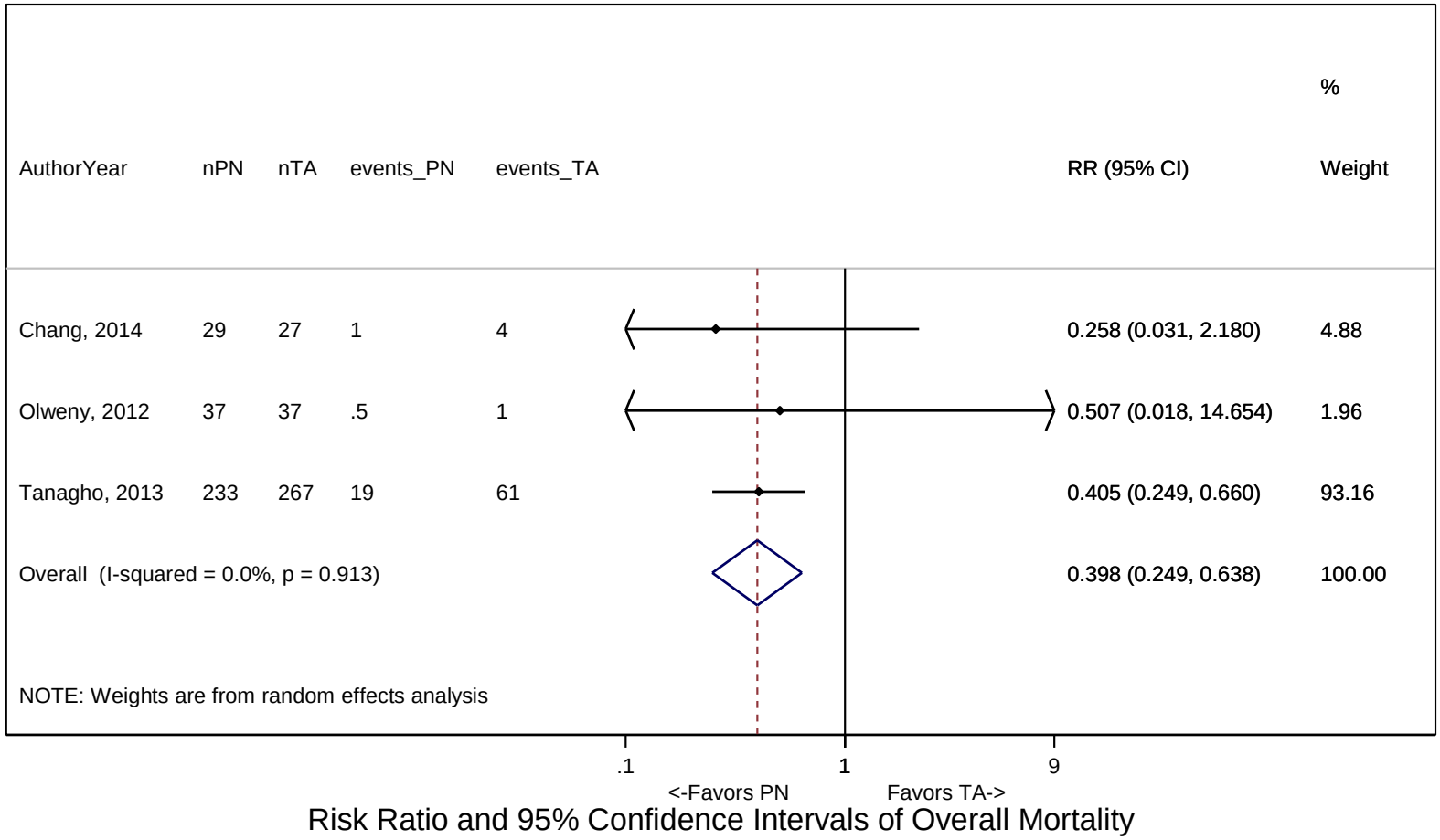
N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F18: Meta-analysis figure showing incidence of Local Recurrence 50 ± 10monthsRadical Nephrectomy (RN) vs Partial Nephrectomy (PN)



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Figure F19: Meta-analysis figure showing incidence of Overall Mortality at 60monthsPartial Nephrectomy (PN) vsThermal Ablation (TA)



N=number; RN=Radical Nephrectomy; PN=Partial Nephrectomy, TA=Thermal Ablation; RR=Risk Ratio
The width of the horizontal lines represents the 95 percent confidence intervals for each study. The diamond at the bottom of the graph indicates the 95 percent confidence interval for the random-effects pooled estimate.

Appendix G: Clinical Trials Report

Clinical Trials Report

Evidence-Based Practice Center
Johns Hopkins University School of Medicine
04/10/2015

Objective: To review ongoing (open and closed to recruitment) trials (listed in the clinicaltrials.gov website that contained either the search term "renal masses" OR "renal cell carcinoma" OR "renal cancer", received from 01/01/1997 to 04/10/2015 and were conducted in those ≥18years of age. Using the preceding search criteria,

Number of Studies found as of 01/21/2015: 1184
Number of Studies relevant to Review: 4

Study ID#	NCT Number	Title	Interventions	Study Types	Study Designs	Outcome Measures
1.	NCT00002473	Kidney-Sparing Surgery Compared With Kidney Removal in Treating Patients With Kidney Cancer	Procedure: conventional surgery	Interventional	Allocation: Randomized Primary Purpose: Treatment	
2.	NCT01608165	A Feasibility Study for a Multicentre Randomised Controlled Trial to Compare Surgery With Needle Ablation Techniques in People With Small Renal Masses (4cm)	Procedure: Surgical treatment for renal mass Patients will be randomised to receive a partial nephrectomy as treatment for their renal cancer mass Procedure: Percutaneous Radiofrequency	Interventional	Allocation: Randomized Intervention Model: Parallel Assignment Masking: Open Label	SF-36 quality of life questionnaire [Time Frame: at 7 days of randomisation and at 3 to 6 months follow up] [Designated as safety issue: No] To review responses and patients willingness to complete this questionnaire over the course of their involvement in the study EQ-5D quality of life questionnaire [Time Frame: Within 7 days of randomisation, and at 3 and 6 months follow up] [Designated as safety issue: No] To review responses and patient's willingess

Study ID#	NCT Number	Title	Interventions	Study Types	Study Designs	Outcome Measures
		(CONSERVE)	ablation Patients may be randomised to undergo a radiofrequency ablation treatment for their renal cancer mass Procedure: Laparascopic or percutaneous cryoablation Patients may be randomised to undergo cryoablation as treatment for their renal cancer mass			to complete this questionnaire during the course of their involvement in the study FACT-G quality of life questionnaire [Time Frame: Within 7 days, and 3 and 6 month follow-up] [Designated as safety issue: No] To review response and patients willingness to complete this questionnaire during the course of their involvement in the study Hospital anxiety and depression questionnaire [Time Frame: Within 7 days, and 3 and 6 month follow up] [Designated as safety issue: No] To review response and patients willingness to complete this questionnaire during the course of their involvement in the study Differences in results in pre and post treatment CT scans [Time Frame: at 1, 3 and 6 months after surgery] [Designated as safety issue: No] The timing of these CT scans is dependent on the treatment arm the patient is randomised to. Effectiveness of treatment by a renal biopsy assessment [Time Frame: 6 months post treatment] [Designated as safety issue: No] This renal biopsy is only applicable to patients undergoing ablative treatment Response within qualitative interviews for patients who decline randomisation [Time Frame: Two to six weeks after recruitment interaction] [Designated as safety issue: No] Response within qualitative interviews following treatment [Time Frame: Eight to sixteen weeks after treatment] [Designated as safety issue: No]
3.	NCT02326558	Comparison of Microwave Ablation-Assisted Enucleation and Conventional Laparoscopic	Procedure: laparoscopic microwave ablation-assisted enucleation Procedure: conventional laparoscopic	Interventional	Allocation: Randomized Endpoint Classification: Safety/Efficacy Study Intervention Model: Parallel	Absolute change in glomerular filtration rate (GFR) of the affected kidney [Time Frame: baseline and 6 months] [Designated as safety issue: Yes] measured by renal scintigraphy Absolute change in eGFR of the affected kidney [Time Frame: baseline, 1 month and 6 months] [Designated as safety issue: Yes]

Study ID#	NCT Number	Title	Interventions	Study Types	Study Designs	Outcome Measures
		Nephron-Sparing Surgery in the Treatment of T1a Renal Cell Carcinoma	nephron-sparing surgery Device: Microwave generator and ablation antenna		Assignment Masking: Open Label Primary Purpose: Treatment	absolute change in total GFR [Time Frame: baseline and 6 months] [Designated as safety issue: Yes] measured by renal scintigraphy Blood loss [Time Frame: during surgery] [Designated as safety issue: Yes] Operation time [Time Frame: during surgery] [Designated as safety issue: Yes] Surgical margin [Time Frame: 1 month] [Designated as safety issue: Yes] assessed according to the pathology report of the operation specimen Postoperative complications [Time Frame: up to 6 months] [Designated as safety issue: Yes]; Number of participants with postoperative complications graded by Clavien- Dindo system Progression-free survival [Time Frame: 12 months, 3 years and 5 years] [Designated as safety issue: Yes]
4.	NCT02346435	The Delayed Intervention and Surveillance for Small Renal Masses (DISSRM) Registry	NA	Observational	Time Perspective: Prospective	Disease-specific survival [Time Frame: 5 years] [Designated as safety issue: Yes] Safety and Efficacy of active surveillance and delayed intervention for the SRM, measured by disease-free survival at 5-years. Objective Safety and Tolerability of Percutaneous Renal Biopsy [Time Frame: 5 years] [Designated as safety issue: Yes] Measured by observed total (minor and major) complications compared to historical complication rates for this procedure. Quality-of-life outcomes for patients undergoing AS versus definitive therapy. [Time Frame: 5 years] [Designated as safety issue: No] Measured by SF12 Questionnaire at enrollment, 6 and 12 months and annually thereafter. To determine objective selection criteria for active surveillance. [Time Frame: 5 years] [Designated as safety issue: No] Demographic (i.e. age, sex, race), clinical (i.e. comorbidities, medications, family history) and imaging characteristics (i.e. tumor size, enhancement patterns, tumor complexity) will

Study ID#	NCT Number	Title	Interventions	Study Types	Study Designs	Outcome Measures
						be used to determine patients most suitable for active surveillance.