Effective Health Care

Treatment of Degenerative Meniscus Tears

Topic #: 0680

Nomination Date: 06/09/2016

Nominator: American Academy of Orthopaedic Surgeons

Date: July 2016

Summaries of Nomination and Findings

Nomination: The nominator is interested in the comparative effectiveness of operative versus non-operative interventions for degenerative meniscus tears. Outcomes of interest include patient-reported knee function, quality of life, time to total knee arthroplasty, and outcomes after total knee arthroplasty. The nominator is also interested in the effectiveness of treatments by age subgroup.

Findings: The nomination is both appropriate and important. Our search for duplication identified an in-process Cochrane systematic review[1] (anticipated completion: November 2016) examining surgical versus conservative interventions for treating knee meniscal tears in adults.

Decision: After reviewing the protocol, the nominator determined that the in-process review addresses their question of interest. No further activity will be undertaken on this topic.

Key Questions

Key Question 1. What is the comparative effectiveness of operative versus non-operative interventions for degenerative meniscus tears, and do the effects vary by age?

Table 1, below, provides a summary of the identified evidence and its relation to the key question.

Table 1. Key question with the identified corresponding evidence review

Key Question	Duplication (Completed and In-Process Evidence Reviews, 6/2011-6/2016)	Feasibility (Published and Ongoing, 6/2011-6/2016)
KQ 1: Operative vs non-operative interventions	Total number of completed or in-progress evidence reviews – 1[1] **In-Process Cochrane Protocol report link** Surgical versus conservative interventions for treating meniscal tears of the knee in adults (Anticipated Completion Date: November 2016)	Topic covered by an in-process evidence review, so no search was conducted.

Abbreviations: KQ=Key Question

Key Considerations and Points for Discussion

- We identified an in-process Cochrane review[1] (anticipated completion date: November 2016) that will examine surgical versus conservative interventions for treating knee meniscal tears in adults. The review will stratify population by type of meniscal tear, and will include a degenerative meniscal tear plus osteoarthritis group. Surgical interventions (eg, arthroscopic meniscectomy, meniscal repair or replacement) will be compared to conservative interventions (eg, exercise, analgesic or anti-inflammatory medication, intra-articular injection, bracing, advice and education, or sham surgery). Outcomes will include patient-reported pain and function, knee pain measured with a validated scale, treatment failure, physical function (eg, return to previous sporting activities or employment), adverse events, health-related quality of life, reported incidence of degenerative change, subjective instability, and cost of treatment (when supplied). The review will conduct a subgroup analysis by age, and will examine outcomes for individuals 18-39 years old, and those 40+ years old.
- We provided the nominator with a link to the protocol. After reviewing the protocol, the nominator determined that the in-process review addresses their question of interest.

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Conflict of Interest
None of the investigators have any affiliations or financial involvement that conflicts with the material presented in this report.

References

1. Dawson L, Howe, T, Syme, G, Chimimba, L, Roche, J. Surgical versus conservative interventions for treating meniscal tears of the knee in adults [Cochrane Protocol] 2015; PROSPERO 2015:CRD42015020762. http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42015020762. Accessed June 6, 2016.

Appendices

Appendix A: Selection Criteria Summary

Appendix B: Search for Evidence Reviews (Duplication)

Appendix C: Original Nomination

Appendix A. Selection Criteria Summary

Selection Criteria	Supporting Data
1. Appropriateness	
1a. Does the nomination represent a health care drug, intervention, device, technology, or health care system/setting available (or soon to be available) in the U.S.?	Yes, this topic represents a health care drug and intervention available in the U.S.
1b. Is the nomination a request for a evidence review?	Yes, this topic is a request for an evidence review.
1c. Is the focus on effectiveness or comparative effectiveness?	Yes, the focus of this review is on comparative effectiveness.
1d. Is the nomination focus supported by a logic model or biologic plausibility? Is it consistent or coherent with what is known about the topic?	Yes, it is biologically plausible. Yes, it is consistent with what is known about the topic.
2. Importance	
2a. Represents a significant disease burden; large proportion of the population	Yes, AAOS states that knee arthroscopy is among the most common of all orthopedic surgeries performed in North America.
2b. Is of high public interest; affects health care decision making, outcomes, or costs for a large proportion of the US population or for a vulnerable population	Yes, determining which groups would improve with using surgical treatment versus non-operative treatment has implications in healthcare outcomes and costs.
2c. Represents important uncertainty for decision makers	Yes, this topic may represent important uncertainty for decision makers when it comes to choosing surgical versus non-surgical options for treatment of degenerative meniscus tears.
2d. Incorporates issues around both clinical benefits and potential clinical harms	Yes, this nomination addresses both benefits and potential harms of treatments for degenerative meniscus tears.
2e. Represents high costs due to common use, high unit costs, or high associated costs to consumers, to patients, to health care systems, or to payers	Yes, the decision to surgically repair a knee may come at a high cost to a consumer, and clearly distinguishing which groups improve with surgery versus non-operative treatments is a critical question.
3. Desirability of a New Evidence Review/Duplication	
3. Would not be redundant (i.e., the proposed topic is not already covered by available or soon-to-be available high-quality evidence review by AHRQ or others)?	Key question 1 examining the comparative effectiveness of operative versus non-operative interventions for degenerative meniscus tears, and whether the effects vary by age, and has been found to be fully addressed by an in-process Cochrane review (anticipated completion date: November 2016).[1] After reviewing the protocol, the nominator determined that the in-process review will address their question of interest.

References

1. Dawson L, Howe, T, Syme, G, Chimimba, L, Roche, J. Surgical versus conservative interventions for treating meniscal tears of the knee in adults [Cochrane Protocol] 2015; PROSPERO 2015:CRD42015020762. http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42015020762. Accessed June 6, 2016.

Appendix B. Search for Evidence Reviews (Duplication)

Listed below are the sources searched and results of our search for evidence reviews. A research librarian conducted the search and selected potentially relevant evidence based on the key question in the nomination and the associated PICOTS. An investigator reviewed each of the links to evidence below for inclusion. The links below do not represent the evidence selected for inclusion (see main topic brief).

Degenerative Meniscus Tears	
Source	**Evidence**
Search for Duplication: June 9, 2016	
AHRQ and Other Federal Products	
AHRQ: Evidence reports and technology assessments, evidence reviews for USPSTF recommendations EPC Program Reports and In-Process Topics: http://www.ahrq.gov/research/findings/evidence-based-reports Archived EPC Program Reports: http://archive.ahrq.gov/clinic/epcarch.htm EHC Program Reports: http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/ Technology Assessments: http://www.ahrq.gov/research/findings/ta/index.html Systematic Reviews for USPSTF Reports: http://www.uspreventiveservicestaskforce.org/uspstopics.htm In-process Systematic Reviews for USPSTF Topics: http://www.uspreventiveservicestaskforce.org/Page/Name/topics-in-progress	None.
VA Products: PBM, and HSR&D (ESP) publications, and VA/DoD EBCPG Program HSR&D ESP Reports and In-Progress Topics: http://www.hsrd.research.va.gov/publications/esp/ Systematic Reviews for PBM Recommendations: http://www.pbm.va.gov/PBM/clinicalguidance/clinicalrecommendations.asp PBM Drug Class Reviews: http://www.pbm.va.gov/PBM/clinicalguidance/drugclassreviews.asp	None.

Other PBM products may be reviewed if deemed necessary; however, these are generally not reviewed for most topics unless the nomination is closely linked to the VA population and VA policies: http://www.pbm.va.gov/ClinicalGuidance.aspx	
Cochrane Systematic Reviews and Protocols http://www.cochranelibrary.com/	*Exercise for treating anterior cruciate ligament injuries in combination with collateral ligament and meniscal damage of the knee in adults* This review was withdrawn, as of Issue 5, 2011, because it is substantially out-of-date. A title for a review that includes the scope of this withdrawn review has been registered, the protocol for which will be published in 2011. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005961.pub3/full
PubMed Health http://www.ncbi.nlm.nih.gov/pubmedhealth/	*Repair of horizontal meniscus tears: a systematic review. 2014* http://www.ncbi.nlm.nih.gov/pubmed/25108905 *Comparison of inside-out and all-inside techniques for the repair of isolated meniscal tears: a systematic review. 2012* http://www.ncbi.nlm.nih.gov/pubmed/21737837 *Effectiveness of electrical stimulation on rehabilitation after ligament and meniscal injuries: a systematic review 2011* http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0040993/ *A meta-analysis comparing meniscal repair with meniscectomy in the treatment of meniscal tears: the more meniscus, the better outcome?2015* http://www.ncbi.nlm.nih.gov/pubmed/23670128
HTA (CRD database): Health Technology Assessments http://www.crd.york.ac.uk/crdweb/ (Search HTA tab results)	*Arthroscopic debridement of the knee: an evidence update 2014* http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?AccessionNumber=32015000087&UserID=0 *Arthroscopic debridement of the knee: OHTAC recommendation 2014* http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?AccessionNumber=32015000085&UserID=0 *Collagen meniscus implant (CMI, Menaflex; Ivy Sports Medicine LLC) for treatment of meniscal tears 2014* http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?AccessionNumber=32015000342&UserID=0 *Meniscal allograft 2014* http://www.crd.york.ac.uk/CRDWeb/ShowRecord.asp?AccessionNumber=3200

	4000508&UserID=0
PROSPERO Database (international prospective register of systematic reviews and protocols) http://www.crd.york.ac.uk/prospero/	*Treatment of non-obstructive meniscal injuries: a systematic review of randomized trials 2013* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42012002870 *Outcomes of radial meniscal repair: systematic review and comparison with meniscectomy 2014* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42014013659 *Surgical or non surgical treatment for non traumatic meniscus lesions: a systematic review 2014* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42014013957 *The effectiveness of exercise therapy for meniscus injuries in adults, a systematic review 2014* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42014014892 *All-inside vs. inside-out meniscal repairs: a systematic review of the literature 2015* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42015019568 *Surgical versus conservative interventions for treating meniscal tears of the knee in adults [Cochrane Protocol] 2015* http://www.crd.york.ac.uk/prospero/display_record.asp?ID=CRD42015020762
CADTH (Canadian Agency for Drugs and Technologies in Health) https://www.cadth.ca/	None.
DoPHER (Database of promoting health effectiveness reviews) http://eppi.ioe.ac.uk/webdatabases4/Intro.aspx?ID=9	None.

Appendix C. Original Nomination

Topic Suggestion Description

Date submitted: June 9, 2016

Briefly describe a specific question, or set of related questions, about a health care test or treatment that this program should consider.

We would like to nominate the treatment of degenerative meniscus tears with a comparison of non-operative and operative treatment outcomes. Specific subgroups to include-- age groups. Specific outcomes to include: knee function patient reported outcomes, quality of life, time to total knee arthroplasty, and outcomes after total knee arthroplasty.

Importance

Describe why this topic is important.

Knee arthroscopy is among the most common of all orthopedic surgeries performed in North America. Recent studies have raised questions about the efficacy of this procedure in some patients, especially those with mild, moderate, and major stages of knee osteoarthritis. There may be a group of patients that have improved functional outcomes with arthroscopy for degenerative meniscus tears. In some patients, non-operative treatment may produce equivalent outcomes and functional improvements may be possible at lower overall societal cost, along with lower risks associated with non-operative treatment. Clearly distinguishing which groups improve with surgery, and groups which do equally well with non-operative treatment, is a critical question for patients, surgeons, and health systems.

Potential Impact

How will an answer to your research question be used or help inform decisions for you or your group?

The AAOS Clinical Practice Guideline (CPG) Program has been in operation since 2007, with 17 currently published CPGs to date. These CPGs are integrated into several tools to educate orthopedic surgeons about best practice. These tools include annual educational courses, certification testing for maintenance of certification, and use of cell phone apps, to make these CPGS readily available for orthopedic surgeons, and non-operative primary care orthopedic specialists (e.g. PTs, NPs, PAs, etc.). These tools include anterior cruciate ligament injury and treatment of osteoarthritis of the knee; however, do not specifically address degenerative meniscus tears. This research could be used to better inform treatment of degenerative meniscus tears, with the potential of risk reduction and cost savings.

Technical Experts and Stakeholders

Are there health care-focused, disease-focused, or patient-focused organizations or technical experts that you see as being relevant to this issue? Who do you think we should contact as we consider your nomination? This information will not influence the progress of your suggestion through the selection process, but it may be helpful to those considering your suggestion for further development?

American Academy of Orthopaedic Surgeons
Arthroscopy Association of North America
American Association of Hip and Knee Surgeons
American Orthopaedic Society for Sports Medicine

Society of Military Orthopaedic Surgeons
American Physical Therapy Association
The Knee Society
American College of Radiology
American Geriatrics Society

Nominator Information

Other Information About You: (optional)

Please choose a description that best describes your role or perspective: (you may select more than one category if appropriate)

American Academy of Orthopaedic Surgeons (AAOS)

May we contact you if we have questions about your nomination?

Yes