## Appendix A. Exact Search Strings

**PubMed® search strategy (January 12, 2016)**

### #1

| Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search Term | Search 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| #1  | 'dystocia'/exp OR 'dystocia':ab,ti OR 'hypotonic contractions':ab,ti OR 'slow progress':ab,ti OR 'lack of progress':ab,ti OR 'unsatisfactory progress':ab,ti OR 'failure to progress':ab,ti OR 'abnormal labor':ab,ti OR 'labor arrest':ab,ti OR 'arrested labor':ab,ti OR 'arrest of labor':ab,ti OR 'prolonged labor':ab,ti OR 'dysfunctional labor':ab,ti OR 'obstructed labor':ab,ti OR 'labor obstruction':ab,ti OR 'abnormal labour':ab,ti OR 'labor arrest':ab,ti OR 'arrested labour':ab,ti OR 'arrest of labour':ab,ti OR 'prolonged labour':ab,ti OR 'dysfunctional labour':ab,ti OR 'obstructed labour':ab,ti OR 'labor obstruction':ab,ti OR 'inefficient uterine contractions':ab,ti OR 'protracted':ab,ti OR 'arrested descent':ab,ti OR 'arrest of descent':ab,ti OR 'inertia uteri':ab,ti OR 'uterine inertia':ab,ti OR 'uterus inertia':ab,ti OR 'uterine atony':ab,ti OR 'inefficient uterine action':ab,ti OR 'prolonged deceleration phase':ab,ti OR 'abnormal progress':ab,ti OR 'transverse arrest':ab,ti OR 'prolonged second stage':ab,ti OR 'delayed second stage':ab,ti OR 'non-progressive labor':ab,ti OR 'non-progressive labour':ab,ti OR 'protraction disorder':ab,ti OR 'protraction disorders':ab,ti OR 'arrest disorder':ab,ti OR 'arrest disorders':ab,ti OR 'hypocontractile labour':ab,ti OR 'hypocontractile labor':ab,ti |
| #2  | 'delivery'/exp OR 'childbirth'/exp OR 'obstetric delivery':ab,ti OR 'obstetric deliveries':ab,ti OR 'obstetric labor':ab,ti OR 'obstetric labour':ab,ti OR 'normal labor':ab,ti OR 'normal labour':ab,ti OR 'term labor':ab,ti OR 'term labour':ab,ti OR 'labor onset':ab,ti OR 'labor onset':ab,ti OR 'second labour stages':ab,ti OR 'second stage labor':ab,ti OR 'second stage of labor':ab,ti OR 'second stage of labour':ab,ti OR 'first stage of labor':ab,ti OR 'first stage of labour':ab,ti OR 'first stage of labour':ab,ti OR 'second stage labor':ab,ti OR 'second stage labour':ab,ti OR 'labour onset':ab,ti OR 'labor onset':ab,ti OR 'pregnancy':ab,ti OR 'pregnant':ab,ti OR 'pregnancies':ab,ti OR 'gestation':ab,ti OR 'prenatal care':exp OR 'childbirth':ab,ti OR 'parity':exp OR 'nulliparous':ab,ti OR 'multiparous':ab,ti OR 'cervical dilatation':ab,ti OR 'cervical dilatations':ab,ti |
| #3  | #1 AND #2 |
| #4  | 'labor stage'/exp OR 'labor onset':ab,ti OR 'second labour stages':ab,ti OR 'second stage of labor':ab,ti OR 'second stage of labour':ab,ti OR 'first stage of labor':ab,ti OR 'first stage of labour':ab,ti OR 'first stage of labour':ab,ti OR 'second stage labor':ab,ti OR 'second stage labour':ab,ti AND 'parameters concerning the fetus, newborn and pregnancy':exp |
| #5  | #3 OR #4 |
| #6  | #5 NOT ('case report'/exp OR 'case study'/exp OR 'editorial'/exp OR 'letter'/exp OR 'note'/exp OR

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**Embase® search strategy (January 12, 2016)**

Platform: Embase.com

| #1  | 'dystocia'/exp OR 'dystocia':ab,ti OR 'hypotonic contractions':ab,ti OR 'slow progress':ab,ti OR 'lack of progress':ab,ti OR 'unsatisfactory progress':ab,ti OR 'failure to progress':ab,ti OR 'abnormal labor':ab,ti OR 'labor arrest':ab,ti OR 'arrested labor':ab,ti OR 'arrest of labor':ab,ti OR 'prolonged labor':ab,ti OR 'dysfunctional labor':ab,ti OR 'obstructed labor':ab,ti OR 'labor obstruction':ab,ti OR 'abnormal labour':ab,ti OR 'labor arrest':ab,ti OR 'arrested labour':ab,ti OR 'arrest of labour':ab,ti OR 'prolonged labour':ab,ti OR 'dysfunctional labour':ab,ti OR 'obstructed labour':ab,ti OR 'labor obstruction':ab,ti OR 'inefficient uterine contractions':ab,ti OR 'protracted':ab,ti OR 'arrested descent':ab,ti OR 'arrest of descent':ab,ti OR 'inertia uteri':ab,ti OR 'uterine inertia':ab,ti OR 'uterus inertia':ab,ti OR 'uterine atony':ab,ti OR 'inefficient uterine action':ab,ti OR 'prolonged deceleration phase':ab,ti OR 'abnormal progress':ab,ti OR 'transverse arrest':ab,ti OR 'prolonged second stage':ab,ti OR 'delayed second stage':ab,ti OR 'non-progressive labor':ab,ti OR 'non-progressive labour':ab,ti OR 'protraction disorder':ab,ti OR 'protraction disorders':ab,ti OR 'arrest disorder':ab,ti OR 'arrest disorders':ab,ti OR 'hypocontractile labour':ab,ti OR 'hypocontractile labor':ab,ti |
| #2  | 'delivery'/exp OR 'childbirth'/exp OR 'obstetric delivery':ab,ti OR 'obstetric deliveries':ab,ti OR 'obstetric labor':ab,ti OR 'obstetric labour':ab,ti OR 'normal labor':ab,ti OR 'normal labour':ab,ti OR 'term labor':ab,ti OR 'term labour':ab,ti OR 'labor onset':ab,ti OR 'labor onset':ab,ti OR 'second labour stages':ab,ti OR 'second stage labor':ab,ti OR 'second stage of labor':ab,ti OR 'second stage of labour':ab,ti OR 'first stage of labor':ab,ti OR 'first stage of labour':ab,ti OR 'first stage of labour':ab,ti OR 'second stage labor':ab,ti OR 'second stage labour':ab,ti OR 'labour onset':ab,ti OR 'labor onset':ab,ti OR 'pregnancy':ab,ti OR 'pregnant':ab,ti OR 'pregnancies':ab,ti OR 'gestation':ab,ti OR 'prenatal care':exp OR 'childbirth':ab,ti OR 'parity':exp OR 'nulliparous':ab,ti OR 'multiparous':ab,ti OR 'cervical dilatation':ab,ti OR 'cervical dilatations':ab,ti |
| #3  | #1 AND #2 |
| #4  | 'labor stage'/exp OR 'labor onset':ab,ti OR 'second labour stages':ab,ti OR 'second stage of labor':ab,ti OR 'second stage of labour':ab,ti OR 'first stage of labor':ab,ti OR 'first stage of labour':ab,ti OR 'first stage of labour':ab,ti OR 'second stage labor':ab,ti OR 'second stage labour':ab,ti AND 'parameters concerning the fetus, newborn and pregnancy':exp |
| #5  | #3 OR #4 |
| #6  | #5 NOT ('case report'/exp OR 'case study'/exp OR 'editorial'/exp OR 'letter'/exp OR 'note'/exp OR

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<th>#7</th>
<th>#6 AND [humans]/lim AND [english]/lim AND [2005-2016]/py</th>
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<td>‘amniotomy’/exp OR ‘amniotomy’:ab,ti</td>
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<td>‘exercise’/exp OR ‘walking’:ab,ti OR ‘ambulation’:ab,ti OR ‘nutrition’/exp OR ‘eating’:ab,ti OR ‘drinking’:ab,ti OR ‘diet’/de OR ‘diet restriction’/exp OR ‘fasting’:ab,ti OR ‘nutrition’:ab,ti OR ‘intravenous dextrose’:ab,ti OR ‘normal saline’:ab,ti OR ‘intravenous drug administration’/exp OR ‘intravenous drip’:ab,ti OR ‘infusion drip’:ab,ti OR ‘IV hydration’:ab,ti OR ‘intravenous hydration’:ab,ti OR ‘ringer solution’:ab,ti OR ‘ringer Locke solution’:ab,ti OR ‘hydration fluids’:ab,ti OR ‘oral fluids’:ab,ti OR ‘bradley method’:ab,ti OR ‘(prevention and control’/exp AND ‘pain’/exp) OR ‘doula’/exp OR ‘doulas’:ab,ti OR ‘labor coach’:ab,ti OR ‘labor coaches’:ab,ti OR ‘natural childbirth’/exp OR ‘emotional support’:ab,ti OR ‘coaching’:ab,ti OR ‘nutrition’:ab,ti OR ‘eating’:ab,ti OR ‘drinking’:ab,ti OR ‘diet’:de OR ‘diet restriction’:ab,ti OR ‘fasting’:ab,ti OR ‘nutrition’:ab,ti OR ‘intravenous dextrose’:ab,ti OR ‘intravenous drip’:ab,ti OR ‘infusion drip’:ab,ti OR ‘IV hydration’:ab,ti OR ‘intravenous hydration’:ab,ti OR ‘ringer solution’:ab,ti OR ‘ringer Locke solution’:ab,ti OR ‘hydration fluids’:ab,ti OR ‘oral fluids’:ab,ti OR ‘bradley method’:ab,ti</td>
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<td>‘fetus monitoring’/exp OR ‘uterine monitoring’:ab,ti OR ‘intrauterine pressure catheter’/exp OR ‘intrauterine pressure catheter’:ab,ti OR ‘intrauterine pressure catheters’:ab,ti OR ‘IUPC’:ab,ti OR ‘IUPC’:ab,ti OR ‘tocodynamometry’:ab,ti OR ‘tocography’:ab,ti OR ‘tocograms’:ab,ti OR ‘tocogram’:ab,ti</td>
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<td>‘oxytocin’/exp OR ‘oxytocic agent’/exp OR ‘oxytocin’:ab,ti OR ‘syntocinon’:ab,ti OR ‘syntocinon’:ab,ti OR ‘pitocin’:ab,ti OR ‘nipple stimulation’:ab,ti</td>
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<td>‘valsalva maneuver’/exp OR ‘valsalva manipulations’:ab,ti OR ‘valsalva maneuver’:ab,ti OR ‘valsalva pushing’:ab,ti OR ‘passive descent’:ab,ti OR ‘delayed pushing’:ab,ti OR ‘open glottis pushing’:ab,ti</td>
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<td>#8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #14</td>
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<td>‘randomized controlled trial’/exp OR ‘crossover procedure’/exp OR ‘double blind procedure’/exp OR ‘single blind procedure’/exp OR ‘random’/exp OR ‘factorial’ OR ‘crossover’ OR ‘cross NEAR/1 over’ OR ‘placebo’ OR ‘double’ NEAR/1 blind* OR ‘singl* NEAR/1 blind’ OR ‘assign*’ OR ‘allocate*’ OR ‘volunteer*’</td>
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<td>#17</td>
<td>#2 AND #15 AND #16</td>
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<td>#17 NOT ‘(case report’/exp OR ‘case study’/exp OR ‘editorial’/exp OR ‘letter’/exp OR ‘note’/exp OR ‘conference paper’/exp OR ‘conference abstract’)/lim</td>
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<td>#19</td>
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<td>#20</td>
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<td>#20 AND [embase]/lim NOT [medline]/lim</td>
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CINAHL (Cumulative Index to Nursing & Allied Health Literature)
search Strategy (January 20, 2016)

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<tr>
<td>TI (&quot;Amnion surgery&quot; OR Amniotomy) OR AB (&quot;Amnion surgery&quot; OR Amniotomy) OR (MH &quot;Fetal Membranes, Artificial Rupture&quot;)</td>
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| TI ("walking" OR "ambulation" OR "fasting" OR "intravenous dextrose" OR "normal saline" OR "intravenous drug administration" OR "intravenous drip" OR "infusion drip" OR "iv hydration" OR "intravenous hydration" OR "ringer solution" OR "ringer locke solution" OR "hydration fluids" OR "oral fluids" OR "bradley method" OR "doulas" OR "doula" OR "labor coach" OR "labor coaches" OR "natural childbirth" OR "emotional
**S10**  
TI ("analgesia" OR "epidural") OR AB ("analgesia" OR "epidural") OR (MH "Analgesia, Epidural" OR MH "Anesthesia, Epidural")

**S11**  
TI ("gynecological examination" OR "gynecological examinations" OR "gynecological exam" OR "gynecological exams" OR "gynaecological examination" OR "gynaecological examinations" OR "gynaecological exam" OR "gynaecological exams" OR "vaginal examination" OR "vaginal examinations" OR "vaginal exam" OR "vaginal exams" OR "cervical examination" OR "cervical examinations" OR "cervical exam" OR "cervical exams" OR "(cervix AND ("examination" OR "examinations" OR "exam" OR "exams"))) OR "pelvic examination" OR "pelvic examinations" OR "pelvic exam" OR "pelvic exams") OR AB ("gynecological examination" OR "gynecological examinations" OR "gynecological exam" OR "gynecological exams" OR "gynaecological examination" OR "gynaecological examinations" OR "gynaecological exam" OR "gynaecological exams" OR "vaginal examination" OR "vaginal examinations" OR "vaginal exam" OR "vaginal exams" OR "cervical examination" OR "cervical examinations" OR "cervical exam" OR "cervical exams" OR "(cervix AND ("examination" OR "examinations" OR "exam" OR "exams"))) OR "pelvic examination" OR "pelvic examinations" OR "pelvic exam" OR "pelvic exams") OR (MH "Gynecologic Examination")

**S12**  
TI ("fetus monitoring" OR "uterine monitoring" OR "intrauterine pressure catheter" OR "intrauterine pressure catheters" OR "iupc" OR tocodynamometry OR tocography OR tocograms OR tocogram) OR AB ("fetus monitoring" OR "uterine monitoring" OR "intrauterine pressure catheter" OR "intrauterine pressure catheters" OR "iupc" OR tocodynamometry OR tocography OR tocograms OR tocogram) OR (MH "Uterine Monitoring" OR MH "Fetal Monitoring")

**S13**  
TI ("oxytocin" OR "oxytocic agent" OR "octocitin" OR "syntocinon" OR "pitocin" OR "nipple stimulation") OR AB ("oxytocin" OR "oxytocic agent" OR "octocitin" OR "syntocinon" OR "pitocin" OR "nipple stimulation") OR (MH "Oxytocin" OR MH "Oxytocics")

**S14**  
TI ("valsalva maneuvers" OR "valsalva maneuver" OR "valsalva pushing" OR "passive descent" OR "delayed pushing" OR "open glottis pushing") OR AB ("valsalva maneuvers" OR "valsalva maneuver" OR "valsalva pushing" OR "passive descent" OR "delayed pushing" OR "open glottis pushing") OR (MH "Valsalva's Maneuver")

**S15**  
S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14

**S16**  
TI ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "placebo" OR "randomly" OR "trial" OR "groups" OR "systematic review" OR "meta-analysis" OR "meta-analyses") OR AB ("randomized controlled trial" OR "controlled clinical trial" OR "randomized" OR "randomization" OR "placebo" OR "randomly" OR "trial" OR "groups" OR "systematic review" OR "meta-analysis" OR "meta-analyses") OR (MH "Randomized Controlled Trials" OR MH "Systematic Review" OR MH "Meta Analysis")

**S17**  
S2 AND S15 AND S16

**S18**  
S17 NOT PT ( Abstract OR Book OR Book Chapter OR Book Review OR Case Study OR Commentary OR Doctoral Dissertation OR Editorial OR Letter OR Masters Thesis OR Pamphlet OR Pamphlet Chapter OR Poetry )

**S19**  
S18 Limiters - English Language; Published Date: 20050101-20161231

**S20**  
S7 OR S19
### Cochrane search strategy (January 20, 2016)

**Platform:** Wiley  
**Database searched:** Cochrane Database of Systematic Reviews

| #1 | Dystocia or Dystocias or hypotonic contractions or slow progress or lack of progress or unsatisfactory progress or failure to progress or abnormal labor or labor arrest or labour arrest or arrested labor or arrest of labor or prolonged labor or dysfunctional labor or obstructed labor or labor obstruction or abnormal labour or labour arrest or arrested labour or arrest of labour or prolonged labour or dysfunctional labour or obstructed labour or labour obstruction or inefficient uterine contractions or protracted or arrested descent or arrest of descent or inertia uteri or uterine inertia or uterus inertia or Uterine Atony or inefficient uterine action or prolonged deceleration phase or abnormal progress or transverse arrest or prolonged second stage or delayed second stage or non-progressive labor or non-progressive labour or protraction disorder or protraction disorders or arrest disorder or arrest disorders or hypocontractile labour or hypocontractile labor |
| #2 | Obstetric Delivery or Obstetric Deliveries or obstetric labor or obstetric labour or normal labor or normal labour or term labor or term labour or labor onset or labour onset or Second Labour Stages or Second Labour Stages or Second Stage of Labor or Second Stage of Labour or Second Stage Labour or Second Stage of Labor or First Stage of Labor or First Stage of Labour or First Stage Labor or (labour or labor) and (Pregnant Women or pregnancy or pregnant or pregnancies or gestation or Prenatal Care or childbirth or Parity or nulliparous or multiparous or Cervical Dilatation or Cervical Dilatations)) |
| #3 | #1 and #2 |
| #4 | (labor onset or labour onset or Second Labour Stages or Second Labour Stages or Second Stage of Labor or Second Stage of Labour or Second Stage Labour or First Stage of Labor or First Stage of Labour or First Stage Labor or First Stage of Labor or First Stage Labor or First Stage Labor) and (Time Factors or Pregnancy Outcome) |
| #5 | #3 or #4 |
| #6 | #5 Publication Year from 2005 to 2016, in Cochrane Reviews (Reviews and Protocols) |
| #7 | Amnion surgery or Amniotomy |
| #8 | Exercise or walking or ambulation or Nutrition Processes or Eating or drinking or Diet or fasting or nutrition or intravenous dextrose or normal saline or Intravenous Drip or Infusion Drip or IV hydration or intravenous hydration or Ringer solution or Ringer-locke solution or hydration fluids or oral fluids or Bradley Method or Doula or Doula or labor coach or labor coaches or Natural Childbirth or emotional support or Coaching or Peanut ball or birthing ball or childbirth education or Lamaze or hypnobirthing or hypnosis or HypnoBabies or Complementary Therapies or Healthy Birth or Patient Care Planning or supplemental oxygen or oxygen supplementation or Fetal Distress or Oxygen Inhalation Therapy or Hydrotherapy or hydrotherapy or hydrotherapies or Whirlpool Baths or Whirlpool Bath or birthing tub or Warm Baths or warm bath or Patient Positioning or supine or Posture or Psychoprophylaxis or Acupuncture or Acupressure or Aromatherapy or music therapy or massage |
| #9 | epidural |
| #10 | Gynecological Examination or Gynecological Examinations or Gynecological Exam or Gynecological Exams or Gynaecological Examination or Gynaecological Examinations or Gynaecological Exam or Gynaecological Exams or Vaginal Examination or Vaginal Examinations or Vaginal Exam or Vaginal Exams or Cervical Examination or Cervical Examinations or Cervical Exam or Cervical Exams or (Cervix and (Examination or Examinations or Exam or Exams)) or Pelvic Examination or Pelvic Examinations or Pelvic Exam or Pelvic Exams |
| #11 | Uterine Monitoring or intrauterine pressure catheter or intrauterine pressure catheters or IUPC or Tocodynamometry or Tocography or Tocograms or Tocogram |
| #12 | Oxytocics or Ocytocin or Syntocinon or Pitocin or nipple stimulation |
| #13 | Valsalva Maneuvers or Valsalva Maneuver or Valsalva pushing or passive descent or delayed pushing or open glottis pushing |
| #14 | (or #7-#13) |
| #15 | #2 and #14 |
| #16 | #15 Publication Year from 2005 to 2016, in Cochrane Reviews (Reviews and Protocols) |
| #17 | #6 or #16 |
Grey Literature Searches

**ClinicalTrials.gov (March 23, 2016)**

<table>
<thead>
<tr>
<th>Search Terms</th>
<th>labor dystocia OR partogram OR (labor progress AND Obstetric)</th>
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<tbody>
<tr>
<td>Recruitment</td>
<td>Completed studies</td>
</tr>
<tr>
<td>Study Results</td>
<td>All studies</td>
</tr>
<tr>
<td>Study Type</td>
<td>All studies</td>
</tr>
</tbody>
</table>

Total number of results: 29

**WHO: International Clinical Trials Registry Platform Search Portal (March 23, 2016)**

| Search Terms | labor dystocia OR partogram OR labor progress |

Total number of results: 16

**National Guidelines Clearinghouse (March 23, 2016)**

Platform: www.guideline.gov

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Labor</th>
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<tbody>
<tr>
<td>Clinical Specialty</td>
<td>Obstetrics and Gynecology</td>
</tr>
</tbody>
</table>

Total number of results: 49
Appendix B. Data Abstraction Elements

Study Characteristics

- Study Identifiers
  - Study Name or Acronym
  - NCT number
  - Last name of first author
- Additional Articles Used in This Abstraction
- Study Sites
  - Single Center, Multicenter, Unclear/Not reported
  - Number of sites
- Geographic Location (Select all that apply)
  - US, Canada, UK/Europe, Latin America, Middle East (includes Israel), Asia, Africa, Australia/NZ, Unclear/Not reported
- Study Design
  - RCT
  - Observational
- Funding Source
  - Government, Industry, Non-government/non-industry, Unclear/Not reported
- Setting
  - Hospital, Birthing Center, Home Birth, Other (specify), Unclear/Not reported
- Provider
  - Obstetrician, Family Physician, Nurse Midwife, Lay Midwife, Doula, Other (specify), Unclear/Not reported
- Study Definition of Dystocia as reported
- Study Enrollment/Study Completion
  - N enrolled/included
  - N completed
- Key Question Applicability
  - KQ1, KQ2, KQ3, KQ4, KQ5, KQ6, KQ7, KQ8, KQ9
- Comments

Baseline Characteristics – Record the following elements for Total Population, Arm 1, Arm 2, Arm 3, Arm 4, Arm 5, and Arm 6 (as applicable)

- Number of Patients (N and %)
- Age in years
  - Mean
  - Median
  - Standard Deviation
  - Minimum
  - Maximum
  - 25% inter-quartile range
  - 75% inter-quartile range
  - Categorical
  - Other (specify)
• Gender (N and %)
  o Women
  o Men (Unclear/Not Reported)
• Race/Ethnicity (N and %) (indicate if Reported or Unclear/Not Reported)
  o Hispanic or Latino
  o Black/African American
  o American Indian or Alaska Native
  o Asian
  o Native Hawaiian or Pacific Islander
  o White
  o Multiracial
  o Other (specify)
• Body Weight (indicate if Reported or Unclear/Not Reported)
• Parity (indicate if Unclear/Not Reported)
• Socioeconomic Factors
  o Insurance Status
  o Income Level
  o Social Class
  o Level of Education
  o Other (specify)
  o Unclear/Not Reported
• Stage of Labor at Entry into Study
  o 1st stage latent (<4 cm dilation)
  o 1st stage active (4 - 10 cm dilation)
  o 2nd stage (full dilation - delivery)
  o Not reported/Unclear
  o Other, specify
  o Additional comments
• Study Definition of Labor
• Were there potentially relevant (p < 0.1) differences noted between groups in any
  baseline characteristics? (Yes/No)
  o If yes, please explain the differences
• Is this study entirely composed of a population that would be considered a subgroup of
  interest? (Yes/No)
  o If yes, which subgroup?
    ▪ Maternal age (particularly adolescents and women 35-44 years old)
    ▪ Parity
    ▪ Maternal race/ethnicity
    ▪ Maternal socioeconomic status, including insurance status
    ▪ Maternal obesity
• Comments

**Intervention Characteristics**
• If applicable, describe the usual care intervention applied across all arms.
• Intervention Descriptors
 Describe the intervention received by patients in each arm (Arms 1, 2, 3, 4, 5, and 6 as applicable).

- Intervention Components (for each Arm)
  - Amniotomy
    - Routine amniotomy
    - Amniotomy for specific indications (e.g., placement of fetal scalp monitor or intrauterine pressure catheter)
  - Supportive care measures
    - Ambulation
    - Routine maternal oxygen supplementation
    - Specific nutritional recommendations or limitations
    - Specific oral or parenteral hydration recommendations or limitations
    - Continuous emotional support
    - Peanut ball or birthing ball
    - Lamaze
    - Hypnobirthing
    - Positioning
    - Acupuncture
    - Hydrotherapy
    - Acupressure
    - Aromatherapy
    - Massage/warm compresses
    - Cold packs
    - TENS
    - Anethum Graveolens (dill) supplement
    - Other (specify)
  - Analgesia/Pain management
    - Epidural
    - Other methods of analgesia (parenteral narcotics, morphine, nitrous oxide)
    - Nonpharmacological methods of pain management
  - Cervical examination
    - Routine (indicate frequency)
    - As indicated (describe indication)
    - Unclear/Not reported
  - Contraction monitoring
    - Internal pressure catheter
    - External tocodynamometry
  - Oxytocin
    - Low dose oxytocin
    - High dose oxytocin
    - Nipple stimulation
    - Maternal oxygen supplementation as an adjunct to oxytocin
    - Different formulations of oxytocin (specify)
  - Fetal monitoring
    - Internal electronic fetal monitoring
    - External electronic fetal monitoring
- Intermittent auscultation of fetal heart rate
  - Pushing strategy
    - Immediate pushing
    - Delayed/Valsalva pushing
    - Other
  - No intervention/expectant management
  - Other “usual care” as defined in study
  - Placebo
- Comments

Outcomes
- Select the outcome category reported on this form:
  - Maternal outcomes
    - Infection (chorioamnionitis, endometritis, wound infection)
    - Hemorrhage
    - Uterine rupture
    - Hysterectomy
    - Transfusion
    - Trauma to the pelvic floor (vaginal/perineal/cervical/bladder/rectal injury at the time of delivery)
    - Pelvic floor dysfunction (long-term urinary or fecal incontinence, fistulae, pelvic organ prolapse)
  - Neonatal outcomes
    - Neonatal acidemia (pH<7.1)
    - Hypoxic encephalopathy
    - Respiratory distress (need for oxygen supplementation, CPAP, intubation/ventilatory support)
    - Meconium aspiration syndrome
    - Neonatal infection/sepsis
    - Shoulder dystocia
    - Birth trauma (including brachial plexus injury)
    - Long-term neonatal health and developmental abnormalities (including cerebral palsy)
    - Admission to NICU > 24 hours
    - Neonatal length of stay
  - Process-related outcomes
    - Abnormal fetal heart rate tracing
    - Duration of labor
    - Mode of delivery (vaginal delivery, assisted vaginal delivery, cesarean delivery)
    - Parental preferences/satisfaction
- Any additional description / clarification of the outcome reported on this form
- Is this outcome form for a subgroup of interest? (Yes/No)
  - What subpopulation is this outcome reported for on this form?
    - Maternal age
    - Maternal race/ethnicity
- Maternal obesity/BMI
- Parity
- Socioeconomic status, including insurance status
  - Any additional description / clarification of subgroup reported on this form
- Total N Analyzed for this outcome
- What timepoint is reported on this form
  - Short-term: from beginning of spontaneous labor until discharge home (or equivalent for home delivery) for mother and infant
  - Long-term: from discharge onwards
  - Unclear
- Specify the timepoint for this outcome (with units: minutes, hours, days, weeks, months, years, NA)
- For each arm:
  - N Analyzed (UNK if unknown)
  - Unadjusted Result
    - Mean
    - Median
    - Mean within group change
    - Mean between group change
    - Number of patients with outcome
    - % of patients with outcome
    - Events/denominator
    - Odds ratio
    - Hazard ratio
    - Relative risk
    - Other (specify)
  - Unadjusted Result Variability
    - Standard Error (SE)
    - Standard Deviation (SD)
    - IQR
    - 95% CI
    - Other % CI (specify)
    - Other (specify)
  - Unadjusted Result, p-value between groups
  - Unadjusted Result, Reference group (for comparison between groups)
  - Adjusted Result
    - Mean
    - Median
    - Mean within group change
    - Mean between group change
    - Number of patients with outcome
    - % of patients with outcome
    - Events/denominator
    - Odds ratio
    - Hazard ratio
    - Relative risk
• Other (specify)
  o Adjusted Result Variability
    ▪ Standard Error (SE)
    ▪ Standard Deviation (SD)
    ▪ IQR
    ▪ 95% CI
    ▪ Other % CI (specify)
    ▪ Other (specify)
  o Adjusted Result, p-value between groups
  o Adjusted Result, Reference group (for comparison between groups)
• If adjusted data is recorded, indicate the adjustments applied
• Comments

Quality
• Study Type (select one): RCT, Observational (Case-Control or Cohort)
• If RCT, select Yes/No/Unclear for each of the following questions:
  o Random sequence generation
    ▪ Was the allocation sequence generated adequately (e.g., random number table, computer-generated randomization)?
  o Allocation concealment
    ▪ Was the allocation of treatment adequately concealed (e.g., pharmacy-controlled randomization or use of sequentially numbered sealed envelopes)?
  o Blinding of participants, personnel and outcome assessors
    ▪ Was knowledge of the allocated intervention adequately prevented during the study?
    ▪ Were participants analyzed within the groups they were originally assigned to?
    ▪ Does the design or analysis control account for important confounding and modifying variables through matching, stratification, multivariable analysis, or other approaches?
  o Incomplete outcome data
    ▪ Were incomplete outcome data adequately addressed?
  o Selective outcome reporting
    ▪ Are reports of the study free of suggestion of selective outcome reporting?
  o Other sources of bias
    ▪ Was the study apparently free of other problems that could put it at a high risk of bias?
• If Case-Control, answer each of the following questions:
  o Selection
    ▪ Is the case definition adequate?
      • Yes, with independent validation
      • Yes, e.g., record linkage or base on self reports
      • No description
    ▪ Representativeness of the cases
      • Consecutive or obviously representative series of cases
• Potential for selection biases or not stated
  ▪ Selection of controls
    • Community controls
    • Hospital controls
    • No description
  ▪ Definition of controls
    • No history of disease (endpoint)
    • No description of source

  o Comparability
    ▪ Comparability of cases and controls on the basis of the design or analysis
      • Study controls
      • Study controls for any additional factor

  o Exposure
    ▪ Ascertainment of exposure
      • Secure record (e.g., surgical records)
      • Structured interview where blind to case/control status
      • Interview not blinded to case/control status
      • Written self report or medical record only
      • No description
    ▪ Same method of ascertainment for cases and controls
      • Yes
      • No
    ▪ Non-response rate
      • Same rate for both groups
      • Non-respondent described
      • Rate different and no designation

• If Cohort, answer each of the following questions:
  o Selection
    ▪ Representativeness of the exposed cohort
      • Truly representative of the average ___ in the community
      • Somewhat representative of the average ___ in the community
      • Selected group of users (e.g., nurses, volunteers)
      • No description of the derivation of the cohort
    ▪ Selection of the non-exposed cohort
      • Drawn from the same community as the exposed cohort
      • Drawn from a different source
      • No description of the derivation of the non-exposed cohort
    ▪ Ascertainment of exposure
      • Secure record (e.g., surgical records)
      • Structured interview
      • Written self report
      • No description
    ▪ Demonstration that outcome of interest was not present at start of study
      • Yes
- No

• Comparability
  - Comparability of cohorts on the basis of the design or analysis
    - Study controls
    - Study controls for any additional factor

• Outcome
  - Assessment of outcome
    - Independent blind assessment
    - Record linkage
    - Self report
    - No description
  - Was follow-up long enough for outcome to occur
    - Yes
    - No
  - Adequacy of follow up of cohorts
    - Complete follow up—all subjects accounted for
    - Subjects lost to follow up unlikely to introduce bias – small number lost - >95% follow up, or description provided of those lost
    - Follow up rate <95% and no description of those lost
    - No statement

• Overall Study Rating (Good/Fair/Poor)
  - Good (low risk of bias). These studies have the least bias, and the results are considered valid. These studies adhere to the commonly held concepts of high quality, including the following: a clear description of the population, setting, approaches, and comparison groups; appropriate measurement of outcomes; appropriate statistical and analytical methods and reporting; no reporting errors; a low dropout rate; and clear reporting of dropouts.
  - Fair. These studies are susceptible to some bias, but not enough to invalidate the results. They do not meet all the criteria required for a rating of good quality because they have some deficiencies, but no flaw is likely to cause major bias. The study may be missing information, making it difficult to assess limitations and potential problems.
  - Poor (high risk of bias). These studies have significant flaws that may have invalidated the results. They have serious errors in design, analysis, or reporting; large amounts of missing information; or discrepancies in reporting.
  - If the study is rated as “Fair” or “Poor,” provide rationale.

• Outcome-specific quality rating
  - Do you think that any of the outcomes abstracted for this study should be assigned a quality rating DIFFERENT from the overall study rating? (No/Yes)
    - If you think any of the abstracted outcomes should have a quality rating different from the overall study, please provide the outcome(s), rating(s) and rationale(s).

Applicability – Use the PICOS format to identify specific issues, if any, that may limit the applicability of the study.
- Population (P)
  - Study population demographics not representative of intended population
  - Narrow or unrepresentative severity/stage/comorbidity
- Intervention (I)
  - Treatment protocol not representative of current practice
  - Change in standard of care
- Comparator (C)
  - Comparator not representative of current practice
- Outcomes (O)
  - Timing of outcome assessment
- Setting (S)
  - Standards or access to care vary from US setting
  - Specialty population or level of care
- Do you have any other concerns regarding applicability of this study? (Yes/No)
- Comments
Appendix C. List of Included Studies


Jalil NA and Omar M. Does ropivacaine 0.2% with fentanyl change the labour epidural profile? International Medical Journal 2009;16(2):149-155.


Appendix D. List of Excluded Studies

All studies listed below were reviewed in their full-text version and excluded for the reasons cited. Reasons for exclusion signify only the usefulness of the articles for this study and are not intended as criticisms of the articles.

**Not a full publication (abstract or poster only) OR article retracted/withdrawn OR publication not available**


Akbarzadeh M, Moradi Z, Zare N, et al. Comparison of the Effects of One-Step Acupressure of Spleen Point 6 (SP-6) and Gall Bladder 21 (GB-21) on the Duration and Type of Delivery in Nulliparous Women Referred to Hospitals in Shiraz University of Medical Sciences, Iran: A Randomized. Qom University of Medical Sciences Journal 2013;7(3):23-25 3p.


Fotinos C. Use of a 2 hour partogram action line instead of a 4 hour action line did not reduce caesarean delivery rate: Commentary. Evidence-Based Medicine 2007;12(2):46.


Young G. Review: Delayed pushing reduces rotational or mid pelvic instrumental deliveries but increases duration of the second stage of labour in women having epidural analgesia: Commentary. Evidence-Based Medicine 2005;10(4):122.

Not available in English


Not original peer-reviewed data OR publication date prior to Jan 1, 2005


Bugg GJ, Siddiqui F and Thornton JG. Oxytocin versus placebo or no treatment for slow progress in the first stage of spontaneous labour. Cochrane Database of Systematic Reviews 2008;(2)


Dawood F and Quenby S. Intravenous fluids for preventing dehydration and prolonged labour in nulliparous women. Cochrane Database of Systematic Reviews 2009;(2).


**Not an applicable study design (For KQ1: SRs, MAs, RCTs, or observational studies of 100 or more subjects. For KQs 2-9: SRs, MAs, or RCTs.)**


Wong CA and Peaceman AM. Effect of early epidural analgesia on labor: cutting through the confusion. Contemporary OB/GYN 2006;51(7):64-68.


**Not study population of interest or does not provide a definition of dystocia**


Bakker JJ, Verhoeven CJ, Janssen PF, et al. Outcomes after internal versus external


Beckmann MM and Garrett AJ. Antenatal perineal massage for reducing perineal trauma.
PMID: 16437520.


Bor P, Ledertoug S, Boie S, et al. Continuation versus discontinuation of oxytocin infusion
during the active phase of labour: A randomised controlled trial. BJOG: An International Journal

PMID: 19278378.

Bosomworth A and Bettany-Saltikov J. Just take a deep breath...a review to compare the effects
of spontaneous versus directed Valsalva pushing in the second stage of labour on maternal and
fetal wellbeing. MIDIRS Midwifery Digest 2006;16(2):157-165.

Brancato RM, Church S and Stone PW. A meta-analysis of passive descent versus immediate
pushing in nulliparous women with epidural analgesia in the second stage of labor. J Obstet
Gynecol Neonatal Nurs 2008;37(1):4-12. DOI: 10.1111/j.1552-6909.2007.00205.x. PMID:
18226152.

Brane E, Olsson A and Andolf E. A randomized controlled trial on early induction compared to
expectant management of nulliparous women with prolonged latent phases. Acta Obstet Gynecol

Brixval CS, Axelsen SF, Lauemoller SG, et al. The effect of antenatal education in small classes
on obstetric and psycho-social outcomes - a systematic review. Systematic Reviews 2015;4(1).


Neilson JP. Fetal electrocardiogram (ECG) for fetal monitoring during labour. Cochrane Database of Systematic Reviews 2013;(5):N.PAG-N.PAG.


No intervention of interest


Cuervo LG, del Pilar Bernal M and Mendoza N. Effects of high volume saline enemas vs no enema during labour - The N-Ma Randomised Controlled Trial [ISRCTN43153145]. BMC Pregnancy and Childbirth 2006;6.


Direkvand-Moghadam A, Delpisheh A and Direkvand-Moghadam A. The effects of Pethedine on maternal outcome of labor in nulli-parous women; A randomized controlled trial. Der Pharmacia Lettre 2015;7(9):30-34.


Mahendru R. Shortening the second stage of labor?. Journal of the Turkish-German Gynecological Association 2010; 11(2):95-98. DOI: 10.5152/jtgga.2010.07.


No comparator of interest


Burns DA. Effectiveness of a novel device in the reduction of cesarean deliveries. ISRN Obstetrics & Gynecology 2013:173278-173278.


Jalil NA and Omar M. Does ropivacaine 0.2% with fentanyl change the labour epidural profile?. International Medical Journal 2009;16(2):149-155.


Mercer SW, Sevar K and Sadutshan TD. Using clinical audit to improve the quality of obstetric care at the Tibetan Delek Hospital in North India: A longitudinal study. Reproductive Health 2006;3

Mousa WF, Al-Metwalli RR and Mostafa M. Epidural analgesia during labor--0.5% lidocaine with fentanyl vs. 0.08% ropivacaine with fentanyl. Middle East J Anaesthesiol 2010;20(4):521-7. PMID: 20394248.


**No outcomes of interest**


Taghinejad H, Delpisheh A and Suhrabi Z. Comparison between massage and music therapies to relieve the severity of labor pain. Womens Health (Lond Engl) 2010;6(3):377-81. DOI: 10.2217/whe.10.15. PMID: 20426604.


**Timing or Setting Not Applicable**

Appendix E. Key to Included Primary and Companion Articles

*Companion articles marked with an asterisk did not individually meet criteria for inclusion but were considered for supplemental information (e.g., methods data pertinent to an included study). For full study citations, please refer to the report’s main reference list.

Table E-1. Key to primary and companion articles

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<tr>
<th>Study Designation</th>
<th>Primary Abstracted Article</th>
<th>Companion Articles*</th>
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<td>CSL (Consortium on Safe Labor)</td>
<td>Zhang, 2010\textsuperscript{10}</td>
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<td>COMET (Comparative Obstetric Mobile Epidural Trial)</td>
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## Appendix F. Characteristics of Included Studies

For full study citations, please refer to the report’s main reference list.

### Table F-1. Characteristics of included RCTs and observational studies KQs 1-9

<table>
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<tr>
<th>Study Acronym</th>
<th>Study Design Geographic Location</th>
<th>Age Data (Years Unless Specified)</th>
<th>Stage of Labor at Entry Study Definition of Labor Parity in Population</th>
<th>Comparisons</th>
<th>Outcomes (Subgroup Analyzed)</th>
<th>Quality</th>
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<tr>
<td>Abdullah, 2010</td>
<td>RCT Middle East</td>
<td>Total Pop. Mean: 24.69 SD: 3.03</td>
<td>Stage of Labor at Entry: 1st stage active, 2nd stage</td>
<td>Artificial rupture of membranes and prophylactic antibiotic vs. Spontaneous rupture of membranes</td>
<td>Duration of Labor; Mode of delivery; Maternal Trauma to the Pelvic Floor; (Parity)</td>
<td>Fair</td>
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<tr>
<td>KQ 2</td>
<td>N enrolled: 200 pts</td>
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<td>Study's Definition of Labor: 1st stage active (4-10 cm), Second stage (10 cm – delivery)</td>
<td>Parity: Nulliparous</td>
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<td>N completed: 200 pts</td>
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<td>Abrao, 2009</td>
<td>RCT Latin America</td>
<td>ARM 1 Mean: 23.95 SD: 5.99</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Epidural vs. Combined Spinal Epidural (CSE)</td>
<td>Mode of delivery; Abnormal fetal heart rate tracing</td>
<td>Fair</td>
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<td>KQ 4</td>
<td>N enrolled: 91 pts</td>
<td>ARM 2 Mean: 23.61 SD: 6.84</td>
<td>Study's Definition of Labor: 1st stage latent (&lt;4 cm dilation), 1st stage active (4-10 cm dilation)</td>
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<td>Ajadi, 2006</td>
<td>RCT Africa</td>
<td>ARM 1 Mean: 29.4 SD: 5.7</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Amniotomy - Follow labor with partogram, and augment with oxytocin if needed. vs. Control - follow with a partogram and augment if needed with oxytocin. If this did not result in progress, then amniotomy was performed after 1 hour more</td>
<td>Mode of delivery; Duration of Labor</td>
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<td>KQ 2</td>
<td>N enrolled: 128 pts</td>
<td>ARM 2 Mean: 28.6 SD: 6.9</td>
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<td>RCT Middle East</td>
<td>N enrolled: 150 pts N completed: 150 pts</td>
<td>Total Pop. Min. age: 18 Max. age: 35</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 4 cm dilatation and at least 2-3 contractions in 10 minutes</td>
<td>Parity: 1&lt;sup&gt;st&lt;/sup&gt; or 2&lt;sup&gt;nd&lt;/sup&gt; Pregnancy</td>
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<td>RCT U.S.</td>
<td>N enrolled: 1,211 pts N completed: 1,211 pts</td>
<td>ARM 1 Mean: 24.9 SD: 5.3 ARM 2 Mean: 24.5 SD: 5.2 ARM 3 Mean: 24.5 SD: 5.1</td>
<td>Stage of Labor at Entry: 2nd stage active</td>
<td>Study's Definition of Labor: Active fetal descent or fetal head visible with a uterine contraction.</td>
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<td>N enrolled: 85 pts N completed: Unclear</td>
<td>Total Pop. Min. age: 18 Max. age: 35</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 4-5 cm dilatation</td>
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<td>Total Pop. Mean: 26.1 SD: 4</td>
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<td>212 pts</td>
<td>ARM 1 Mean: 20.6</td>
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<td>RCT Middle East</td>
<td>N enrolled: 106 pts N completed: 106 pts</td>
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<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Study's Definition of Labor: Onset of labor defined as regular, painful contractions occurring at least every 5 mins or three contractions in 10 mins and cervical change. Parity: Nulliparous, Mixed Parity</td>
<td>Duration of first stage of labor &lt;5%. vs. Duration of the first stage of labor 5-95% vs. Duration of the first stage of labor &gt;95%</td>
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<td>Coco, 2010&lt;sup&gt;100&lt;/sup&gt;</td>
<td>RCT U.S.</td>
<td>N enrolled: 80 pts N completed: 80 pts</td>
<td>ARM 1 Mean: 22.7 SD: 4.3</td>
<td>ARM 2 Mean: 20.5 SD: 4.3</td>
<td>Stage of Labor at Entry: active</td>
<td>Study's Definition of Labor: Spontaneous active labor (2-5 cm) Parity: Nulliparous</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Study Key Question</td>
<td>Comparisons</td>
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<tr>
<td>Dahlen, 2007[120]</td>
<td>RCT</td>
<td>Australia/N.Z.</td>
<td>717 pts</td>
<td>599 pts</td>
<td>KQ 3</td>
<td>Stage of Labor at Entry: Late second stage</td>
</tr>
<tr>
<td>de Orange, 2011[132]</td>
<td>RCT</td>
<td>Latin America</td>
<td>70 pts</td>
<td>70 pts</td>
<td>KQ 4</td>
<td>Stage of Labor at Entry: Entered in study at dilation 3-6 cm</td>
</tr>
<tr>
<td>Dencker, 2009[129]</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>630 pts</td>
<td>630 pts</td>
<td>KQ 7</td>
<td>Stage of Labor at Entry: 1st stage active</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
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<tr>
<td>Direkvand-Moghadam, 2012</td>
<td>RCT</td>
<td>Middle East</td>
<td>120 pts</td>
<td>120 pts</td>
<td>ARM 1 Mean: 25.9 SD: 4.6</td>
<td>Stage of Labor at Entry: Spontaneous active</td>
</tr>
<tr>
<td>Douma, 2011</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>26 pts</td>
<td>20 pts</td>
<td>ARM 1 Mean: 32.7 SD: 5.9</td>
<td>Stage of Labor at Entry: Excluded if &gt;5 cm dilation</td>
</tr>
<tr>
<td>Edwards, 2014</td>
<td>RCT</td>
<td>U.S.</td>
<td>324 pts</td>
<td>311 pts</td>
<td>ARM 1 Mean: 21.9 SD: 5.1</td>
<td>Stage of Labor at Entry: Active</td>
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<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
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<tr>
<td>El Hamid, 2013&lt;sup&gt;22&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>100 pts</td>
<td>100 pts</td>
<td>Total Pop. Min. age: 20 Max. age: 30</td>
<td>Stage of Labor at Entry: Early 1st stage active</td>
</tr>
<tr>
<td>Eslamian, 2006&lt;sup&gt;26&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>300 pts</td>
<td>300 pts</td>
<td>ARM 1 Mean: 21.6 SD: 4.1 ARM 2 Mean: 21.79 SD: 4.2</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
</tr>
<tr>
<td>Fahdhy, 2005&lt;sup&gt;26&lt;/sup&gt;</td>
<td>RCT</td>
<td>Asia</td>
<td>721 pts</td>
<td>626 pts</td>
<td>ARM 1 Mean: 26.8 SD: 5.4 ARM 2 Mean: 26.4 SD: 4.9</td>
<td>Stage of Labor at Entry: 1st stage active</td>
</tr>
<tr>
<td>Frigo, 2011&lt;sup&gt;61&lt;/sup&gt;</td>
<td>Obs.</td>
<td>UK/Europe</td>
<td>600 pts</td>
<td>545 pts</td>
<td>ARM 1 Mean: 31.26 SD: 4.92 ARM 2 Mean: 30.85 SD: 4.23</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Key Question Companion Article</td>
<td>Study Design Geographic Location N enrolled N completed</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor Parity in Population</td>
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<tr>
<td>Ganapathy, 2012</td>
<td>KQ 3</td>
<td>RCT Asia</td>
<td>ARM 1 Mean: 21.4 SD: 2.02</td>
<td>Stage of Labor at Entry: Active labor</td>
<td>Patients upper back were elevated to 60° angle to assume upright supported sitting birthing position by the simple backrest attached adjustable standard delivery cot as felt most comfortable and desirable by the participants vs. supine position - lying flat on their back</td>
<td>Duration of Labor; Mode of delivery; Abnormal fetal heart rate tracing; Parental preferences (Parity)</td>
</tr>
<tr>
<td>Genc, 2015</td>
<td>KQ 4</td>
<td>RCT UK/Europe</td>
<td>ARM 1 Mean: 22.1 SD: 2.1</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Epidural anesthesia vs. No epidural anesthesia</td>
<td>Duration of Labor</td>
</tr>
<tr>
<td>Ghafarzadeh, 2015</td>
<td>KQ 2</td>
<td>RCT Middle East</td>
<td>ARM 1 Mean: 25.7 SD: 3.3</td>
<td>Stage of Labor at Entry: Spontaneous labor</td>
<td>Amniotomy at less than or equal to 4 cm dilation vs. usual care (which included fetal heart rate monitoring, contraction monitoring, analgesia or supportive measures)</td>
<td>Duration of Labor; Mode of delivery; Neonatal Umbilical cord prolapse</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
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<tr>
<td>Hamidzadeh, 2012</td>
<td>RCT</td>
<td>Middle East</td>
<td>N enrolled: 100 pts</td>
<td>N completed: 100 pts</td>
<td>Total Pop. Min. age: 20 Max. age: 40</td>
<td>Stage of Labor at Entry: 1st active stage</td>
</tr>
<tr>
<td>Hekmatzadeh, 2014</td>
<td>RCT</td>
<td>Middle East</td>
<td>N enrolled: 105 pts</td>
<td>N completed: 103 pts</td>
<td>ARM 1 Mean: 22.82 SD: 2.36, ARM 2 Mean: 24.49 SD: 2.83</td>
<td>Stage of Labor at Entry: 1st stage active</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
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</tbody>
</table>
| Hinshaw, 2008\(^{131}\) | RCT | UK/Europe | 412 pts | 412 pts | ARM 1: Median: 22 25% IQR: 20 75% IQR: 28  
ARM 2: Median: 23 25% IQR: 19 75% IQR: 29 | Stage of Labor at Entry: Early active phase of labor.  
Study's Definition of Labor: Dilation of at least 3cm with at least 2 contractions in 10 minutes.  
Parity: Nulliparous | Active management - Oxytocin 2mu/minute started within 20 min of randomization. Dose was doubled every 30 min till contraction rate of 4-5 contractions in 10 min was achieved or max dose of 32 mu/minute. vs. Conservative management - Oxytocin was withheld for 8 hours unless intervention became clinically indicated. If women did not progress to delivery within 8 hours, oxytocin was started if clinically indicated. | Mode of delivery; Maternal Hemorrhage; Maternal Transfusion; Duration of Labor; Neonatal infection/sepsis; Neonatal Respiratory distress | Good |
| Ismail, 2012\(^{137}\) | RCT | Middle East | 1,140 pts | 1,140 pts | ARM 1: Mean: 28.6 SD: 5.49  
ARM 2: Mean: 28.35 SD: 5.54  
ARM 3: Mean: 28.8 SD: 5.50 | Stage of Labor at Entry: Excluded if dilation >4 cm at time of first analgesic event  
Study's Definition of Labor: 1st stage latent (<4 cm dilation)  
Parity: Nulliparous | Epidural vs. Combined Spinal Epidural (CSE) vs. Patient Controlled IV Analgesia | Duration of Labor; Mode of delivery; Parental preferences (Parity) | Good |
| Jaitley, 2011\(^{143}\) | RCT | Asia | 90 pts | Unclear | ARM 1: Mean: 24.67  
ARM 2: Mean: 25  
ARM 3: Mean: 24.76 | Stage of Labor at Entry: Established active stage of labor (uterine contraction 2 per 10 minutes, lasting for 30 to 40 seconds and cervical dilation more than 3 cm.)  
Study's Definition of Labor: 1st stage active (4 - 10 cm dilation)  
Parity: Multiparous, Nulliparous | IV tramadol vs. Epidural tramadol and bupivacaine vs. Control | Parental preferences; Mode of delivery | Poor |
<table>
<thead>
<tr>
<th>Study Acronym</th>
<th>Study Design</th>
<th>Geographic Location</th>
<th>N enrolled</th>
<th>N completed</th>
<th>Stage of Labor at Entry</th>
<th>Study Definition of Labor</th>
<th>Parity in Population</th>
<th>Comparisons</th>
<th>Outcomes (Subgroup Analyzed)</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janssen, 2012&lt;sup&gt;10&lt;/sup&gt;</td>
<td>RCT</td>
<td>Canada</td>
<td>77 pts</td>
<td>77 pts</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: Spontaneous labor defined as painful contractions with cervix &gt;=1 cm dilated and &gt;=25% effacement.</td>
<td>Parity: Nulliparous</td>
<td>Massage - up to 5 hours of Swedish massage during labor as woman wished, ending if she decided to have epidural analgesia. vs. Control - massage during the first 24 hours postpartum</td>
<td>Duration of Labor; Mode of delivery</td>
<td>Good</td>
</tr>
<tr>
<td>Kashanian, 2010&lt;sup&gt;11&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>120 pts</td>
<td>120 pts</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 3-4 cm dilation with at least 3 contractions of 45-60 second duration in 10 minutes</td>
<td>Parity: Nulliparous</td>
<td>Acupressure at the Sanyinjiao point was performed by the investigator during the contractions for a total duration of acupressure of 30 min vs. Just the touch of this point by the same investigator was performed</td>
<td>Duration of Labor; Mode of delivery (Parity)</td>
<td>Good</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Kaviani, 2014</td>
<td>RCT</td>
<td>Middle East</td>
<td>156 pts</td>
<td>139 pts</td>
<td>Total Pop. Min. age: 18 Max. age: 30</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 3-4 cm dilation</td>
<td>Parity: Nulliparous</td>
<td>Armotherapy jasmine - Used in incense device with water tank and mask, used for 15 minutes. vs. Aromatherapy salvia - Used in incense device with water tank and mask, used for 15 minutes. vs. Control</td>
<td>Duration of Labor; Mode of delivery</td>
</tr>
<tr>
<td>Kaviani, 2014</td>
<td>RCT</td>
<td>Middle East</td>
<td>160 pts</td>
<td>160 pts</td>
<td>ARM 1 Mean: 23 SD: 3.9 ARM 2 Mean: 22 SD: 3.86</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 3–4 cm dilation</td>
<td>Parity: Nulliparous</td>
<td>In the aroma group, 15x15cm tissues containing 0.1ml of lavender essence mixed with 1ml of distilled water were used vs. The control group inhaled 2ml of distilled water</td>
<td>Duration of Labor; Parental preferences (Parity)</td>
</tr>
<tr>
<td>Kavitha, 2012</td>
<td>RCT</td>
<td>Asia</td>
<td>293 pts</td>
<td>293 pts</td>
<td>ARM 1 Mean: 23.8 ARM 2 Mean: 23.9 ARM 3 Mean: 24.1</td>
<td>Stage of Labor at Entry: Spontaneous active</td>
<td>Study's Definition of Labor: 3-6 cm dilation</td>
<td>Parity: Nulliparous</td>
<td>Oral hydration vs. 125ml/h Lactated Ringer's solution with oral fluids on request vs. 250ml/h Lactated Ringer's solution with oral fluids on request</td>
<td>Mode of delivery; Duration of Labor</td>
</tr>
<tr>
<td>Kenyon, 2013</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>94 pts</td>
<td>92 pts</td>
<td>ARM 1 Mean: 28 SD: 5.2 ARM 2 Mean: 26 SD: 5.0</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: &gt;=4 cm dilation and regular painful contractions. Parity: Nulliparous</td>
<td>High Dose Oxytocin: Start at 4 mU/min and increase every 30 minutes by 4 mU/min to a maximal rate of 64 mU/min vs. Standard Dose Oxytocin: Start at 2 mU/min and increase every 30 minutes by 2 mU/min to a maximal rate of 32 mU/min</td>
<td>Duration of Labor; Mode of delivery; Neonatal length of stay; Maternal Trauma to the Pelvic Floor; Maternal Infection; Maternal Hemorrhage; Neonatal Respiratory distress</td>
<td>Good</td>
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<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<tr>
<td>Lavender, 2006</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>3,000</td>
<td>2,975 pts</td>
<td>ARM 1 Mean: 25.4 SD: 5.5</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Study's Definition of Labor: &gt;=3 cm dilation, cervix was effaced, and regular contractions at least every 5 minutes and lasting &gt;=20 seconds.</td>
<td>Parity: Nulliparous</td>
<td>Women were assigned to have their labors recorded on a partogram with an action line 2 hours to the right of the alert line. vs. Women were assigned to have their labors recorded on a partogram with an action line 4 hours to the right of the alert line.</td>
<td>Mode of delivery; Duration of Labor; Maternal Hemorrhage; Parental preferences (Parity)</td>
</tr>
<tr>
<td>Liu, 2015</td>
<td>RCT</td>
<td>Asia</td>
<td>120 pts</td>
<td>120 pts</td>
<td>Total Pop. Min. age: 20 Max. age: 29</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: 3 cm dilation</td>
<td>Parity: Nulliparous</td>
<td>Han's Acupoint Nerve Stimulator vs. Epidural vs. Patient-controlled IV analgesia vs. Control</td>
<td>Duration of Labor; Mode of delivery; Maternal Hemorrhage; Neonatal Respiratory distress</td>
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<td>Ma, 2011</td>
<td>RCT</td>
<td>Asia</td>
<td>350 pts</td>
<td>350 pts</td>
<td>ARM 1 Mean: 26.15 SD: 2.83</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
<td>Study's Definition of Labor: 2-3 dilation and regular uterine contractions.</td>
<td>Parity: Nulliparous, Multiparous</td>
<td>Acupuncture - Electroacupuncture at SP6 vs. Sham acupuncture - Needle did not penetrate skin and no electricity applied vs. Control - usual care</td>
<td>Duration of Labor</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<td>Mikki, 2007</td>
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<tr>
<td>RCT</td>
<td>Middle East</td>
<td>N enrolled: 690 pts</td>
<td>690 pts</td>
<td>ARM 1</td>
<td>Mean: 27.3 SD: 5.3</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Study's Definition of Labor: Active labor</td>
<td>Parity: Nulliparous, Multiparous</td>
<td>Multiparous Intervention- membranes ruptured shortly after randomization vs. Multiparous Control - amniotomy if indicated (2 hour arrest of cervical dilation, dystocia, fetal monitor insertion) vs. Nulliparous Intervention- membranes ruptured shortly after randomization vs. Nulliparous Control - amniotomy if indicated (2 hour arrest of cervical dilation, dystocia, fetal monitor insertion)</td>
<td>Duration of Labor; Maternal Hemorrhage; Maternal Infection; Maternal Trauma to the Pelvic Floor; Neonatal Respiratory distress; Neonatal infection/sepsis; Mode of delivery (Parity)</td>
</tr>
<tr>
<td>KQ 2</td>
<td>RCT</td>
<td>Latin America</td>
<td>107 pts</td>
<td>Mean: 21.7 SD: 3.7</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: &gt;=3 cm and &lt;=5 cm dilation.</td>
<td>Parity: Nulliparous</td>
<td>Information that provided possible benefits of upright position and encouraged to assume this position during labor. Encouraged to return to upright position whenever they had been in the supine position for &gt;30 minutes vs. Usual care. No orientation concerning upright position. Free to move around during labor.</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Good</td>
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<tr>
<td>Miquelutti, 2007</td>
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<tr>
<td>RCT</td>
<td>Latin America</td>
<td>N enrolled: 107 pts</td>
<td>107 pts</td>
<td>Total Pop. Median: 21</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: &gt;=3 cm and &lt;=5 cm dilation.</td>
<td>Parity: Nulliparous</td>
<td>Information that provided possible benefits of upright position and encouraged to assume this position during labor. Encouraged to return to upright position whenever they had been in the supine position for &gt;30 minutes vs. Usual care. No orientation concerning upright position. Free to move around during labor.</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Good</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<tr>
<td>Mortazavi, 2012&lt;sup&gt;30&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>120 pts</td>
<td>120 pts</td>
<td>Mean: 23.12 SD: 3.17</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
<td>Study's Definition of Labor: ≤4 cm</td>
<td>Parity: Nulliparous</td>
<td>Massage - Massage of shoulder or back, abdominal effleurage and sacral pressure for 30 min in all labor phases vs. Attendant - Attendant accompanied women during entire labor vs. Control - Usual care</td>
<td>Duration of Labor</td>
</tr>
<tr>
<td>Nachum, 2010&lt;sup&gt;73&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>283 pts</td>
<td>283 pts</td>
<td>Mean: 28.1 SD: 4.9</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
<td>Study's Definition of Labor: 2-4 cm dilation, prolonged latent phase</td>
<td>Parity: Multiparous, Nulliparous</td>
<td>Amniotomy vs. Oxytocin vs. Both Amniotomy and Oxytocin performed and started simultaneously after admission to the delivery ward, vs. Control</td>
<td>Maternal Trauma to the Pelvic Floor; Maternal Infection; Maternal Hemorrhage; Mode of delivery; Duration of Labor; Parental preferences (Parity)</td>
</tr>
<tr>
<td>Nafisi, 2006&lt;sup&gt;130&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>395 pts</td>
<td>395 pts</td>
<td>Mean: 23.2 SD: 2</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study's Definition of Labor: Active labor, ≤&lt;sup&gt;4&lt;/sup&gt; cm dilation)</td>
<td>Parity: Nulliparous</td>
<td>Epidural vs. Intravenous meperidine plus single dose meperidine.</td>
<td>Mode of delivery; Duration of Labor; Neonatal admission to NICU</td>
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<td>Study Acronym</td>
<td>Study Design</td>
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<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<td>Nasir, 2007</td>
<td>RCT</td>
<td>Middle East</td>
<td>200 pts</td>
<td>200 pts</td>
<td>Unclear/NR</td>
<td>Stage of Labor at Entry: Active</td>
<td>Study's Definition of Labor: Active labor with cephalic presentation and longitudinal lie</td>
<td>Parity: Unknown</td>
<td>Squatting position during 2nd stage of labor vs. Supine in lithotomy position during 2nd stage of labor</td>
<td>Maternal Trauma to the Pelvic Floor Neonatal Shoulder dystocia Maternal Hemorrhage; Mode of delivery</td>
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<td>KQ 3</td>
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<td>Neal, 2014</td>
<td>Obs</td>
<td>U.S.</td>
<td>223 pts</td>
<td>216 pts</td>
<td>ARM 1 Median: 26</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Study's Definition of Labor: Spontaneous labor onset, dilated at least 1 cm but no more than 6 cm</td>
<td>Parity: Unknown</td>
<td>Admission of women in active labor vs. Admission of women in pre-active/early labor</td>
<td>Duration of Labor; Mode of delivery; Maternal Infection</td>
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<td>KQ 1</td>
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<td>Ohel, 2006</td>
<td>RCT</td>
<td>Middle East</td>
<td>449 pts</td>
<td>449 pts</td>
<td>Unclear/NR</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
<td>Study's Definition of Labor: Established labor, spontaneous or induced with at least 2 painful contractions in 10 minutes, up to 3cm dilation, and at least 80% effaced</td>
<td>Parity: Unknown</td>
<td>Early Epidural vs. Late Epidural</td>
<td>Mode of delivery; Duration of Labor (Parity)</td>
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<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
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<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<tr>
<td>Palomaki, 2006&lt;sup&gt;132&lt;/sup&gt;</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 107 pts N completed: 107 pts</td>
<td>ARM 1 Median: 27 Min. age.: 20 Max. age: 43</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Propranolol and Oxytocin - 2mg Propranol with Oxytocin 2.5 mIU/min IV over 10 minutes, raised by 2.5 mIU/min every 30 min till contractions reached 150 Montevideo units. vs. Placebo and Oxytocin - Oxytocin 2.5 mIU/min IV over 10 minutes, raised by 2.5 mIU/min every 30 min till contractions reached 150 Montevideo units.</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Good</td>
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<tr>
<td>KQ 7</td>
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<td>ARM 2 Median: 27 Min. age.: 18 Max. age: 39</td>
<td>Study's Definition of Labor: Enrolled with failure to progress in the active phase of the first stage of labor. Parity: Nulliparous, Multiparous</td>
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<td>Pascual-Ramirez, 2011&lt;sup&gt;133&lt;/sup&gt;</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 144 pts N completed: 144 pts</td>
<td>ARM 1 Mean: 31 SD: 5</td>
<td>Stage of Labor at Entry: 1st stage latent (&lt;4 cm dilation), 1st stage active (4-10 cm dilation)</td>
<td>Low-dose epidural vs. Combined Spinal Epidural (CSE)</td>
<td>Mode of delivery; Duration of Labor; Parental preferences (Parity)</td>
<td>Good</td>
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<td>KQ 4</td>
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<td>ARM 2 Mean: 29 SD: 6</td>
<td>Study's Definition of Labor: Eligible individuals had to meet at least 2 out of 3 criteria (in addition to analgesia request): regular contractions every 2–3 minutes, cervical effacement, and cervix dilation of 2 cm. Parity: Nulliparous, Multiparous,</td>
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<td>Patel, 2014&lt;sup&gt;126&lt;/sup&gt;</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 115 pts N completed: 115 pts</td>
<td>ARM 1 Mean: 30.3 SD: 5.2</td>
<td>Stage of Labor at Entry: 1st stage active, 2-6 cm dilation</td>
<td>Epidural vs. Combined Spinal Epidural (CSE)</td>
<td>Duration of Labor; Mode of delivery; Neonatal admission to NICU; Abnormal fetal heart rate tracing</td>
<td>Fair</td>
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<tr>
<td>KQ 4</td>
<td></td>
<td></td>
<td>ARM 2 Mean: 31.0 SD: 5.3</td>
<td>Study's Definition of Labor: Active labor between 2 and 6 cm dilation. Parity: Nulliparous, Mixed Parity</td>
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<th>Age Data (Years Unless Specified)</th>
<th>Stage of Labor at Entry</th>
<th>Study Definition of Labor</th>
<th>Parity in Population</th>
<th>Comparisons</th>
<th>Outcomes (Subgroup Analyzed)</th>
<th>Quality</th>
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<tbody>
<tr>
<td>Phumdoung, 2007</td>
<td>RCT</td>
<td>Asia</td>
<td>210 pts</td>
<td>164 pts</td>
<td>Total Pop. Mean: 21.51 SD: 3.62</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous</td>
<td>Prince of Songkla University (PSU) bed and cat position (alternate with high head) vs. PSU bed and cat position (alternate with supine) vs. High head position group - Women in the high head group were assigned to lie in the bed with a 45deg lift vs. Supine position</td>
<td>Duration of Labor (Parity)</td>
<td>Poor</td>
</tr>
<tr>
<td>Phumdoung, 2013</td>
<td>RCT</td>
<td>Asia</td>
<td>332 pts</td>
<td>264 pts</td>
<td>Total Pop. Mean: 23.38 SD: 4.31</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous</td>
<td>Prince of Songkla University (PSU) birthing bed without the holding bar vs. PSU birthing bed with the holding bar vs. Usual birthing bed with the head of the bed elevated 45 to 60 degrees vs. Usual birthing bed with the head of the bed elevated 15 degrees</td>
<td>Duration of Labor (Parity)</td>
<td>Fair</td>
</tr>
<tr>
<td>Prabhakar, 2015</td>
<td>RCT</td>
<td>Asia</td>
<td>60 pts</td>
<td>60 pts</td>
<td>ARM 1 16-20 yrs 53.3% 21-25 yrs 40% 26-30 yrs 6.7%</td>
<td>Stage of Labor at Entry: 1st stage labor</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Unclear/NR</td>
<td>Each woman in the experimental group was ambulated for an average of 1–1.5 hours according to their tolerance and giving rest periods in between. vs. The control group women were confined to bed most of the time</td>
<td>Duration of Labor; Mode of delivery; Neonatal Birth trauma (Parity)</td>
<td>Good</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<td>Ragnar, 2006</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>271 pts</td>
<td>218 pts</td>
<td></td>
<td>Stage of Labor at Entry: 2nd stage</td>
<td>Study’s Definition of Labor: 2nd stage fully dilated and retracted cervix</td>
<td>Parity: Nulliparous</td>
<td>Kneeling position, leaning towards the head of the delivery bed or a cushion, vs. Sitting position on the delivery bed, with the head of the bed raised at least 60 degrees from the horizontal plane</td>
<td>Mode of delivery; Duration of Labor; Maternal Trauma to the Pelvic Floor (Parity)</td>
<td>Good</td>
</tr>
<tr>
<td>KQ 3 Companion: Altman, 2007</td>
<td>RCT</td>
<td>Middle East</td>
<td>180 pts</td>
<td>180 pts</td>
<td></td>
<td>Stage of Labor at Entry: Unclear, 3-4cm dilation</td>
<td>Study’s Definition of Labor: 3-4 cm dilation</td>
<td>Parity: Mixed parity</td>
<td>Carbohydrates - 3 medium dates with 110ml water OR 3 dates with light tea without sugar OR 110ml orange juice drink vs. Control - water only</td>
<td>Duration of Labor; Mode of delivery</td>
<td>Fair</td>
</tr>
<tr>
<td>Rahmani, 2012</td>
<td>RCT</td>
<td>Asia</td>
<td>50 pts</td>
<td>50 pts</td>
<td>Unclear/NR</td>
<td>Stage of Labor at Entry: 2nd stage</td>
<td>Study’s Definition of Labor: 2nd stage complete cervical dilation: 10 cm</td>
<td>Parity: Nulliparous</td>
<td>Semi-sitting position - Head of labor table propped up to 45 degrees during stage 2 labor vs. Supine position</td>
<td>Duration of Labor</td>
<td>Fair</td>
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<td>KQ 3</td>
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<td>Santhi, 2012</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>40 pts</td>
<td>40 pts</td>
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<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study’s Definition of Labor: Active labor with &lt;6cm dilation</td>
<td>Parity: Nulliparous</td>
<td>Epidural vs. Combined Spinal Epidural (CSE)</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Fair</td>
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<td>KQ 4</td>
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<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry Study Definition of Labor Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Sharma, 2012&lt;sup&gt;1&lt;/sup&gt;</td>
<td>RCT Asia</td>
<td>N enrolled: 250 pts N completed: 243 pts</td>
<td>ARM 1 Mean: 25.1</td>
<td>Stage of Labor at Entry: 1&lt;sup&gt;st&lt;/sup&gt; stage active</td>
<td>Normal saline with dextrose (500ml) alternating with normal saline (500ml) at rate of 175ml/h vs. Normal saline at rate of 175ml/h</td>
<td>Duration of Labor; Mode of delivery; Maternal Infection</td>
<td>Good</td>
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<td>Shirvani, 2014&lt;sup&gt;4,16&lt;/sup&gt;</td>
<td>RCT Middle East</td>
<td>N enrolled: 64 pts N completed: 64 pts</td>
<td>Total Pop. Min. age: 18 Max. age: 35</td>
<td>Stage of Labor at Entry: Beginning of 1&lt;sup&gt;st&lt;/sup&gt; stage active</td>
<td>Ice pack, applied by doula/midwife to back, abdomen and lower parts of the abdomen for 10 minutes since initiation of active phase, applied to perineum during 2&lt;sup&gt;nd&lt;/sup&gt; phase vs. No additional interventions beyond routine care</td>
<td>Duration of Labor; Mode of delivery; Maternal Trauma to the Pelvic Floor (Parity)</td>
<td>Fair</td>
<td></td>
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<td>Shrivastava, 2009&lt;sup&gt;102&lt;/sup&gt;</td>
<td>RCT U.S.</td>
<td>N enrolled: 300 pts N completed: 289 pts</td>
<td>ARM 1 Mean: 23.9 SD: 5.8</td>
<td>Stage of Labor at Entry: 1&lt;sup&gt;st&lt;/sup&gt; stage active</td>
<td>5% dextrose solution in normal saline vs. 10% dextrose solution in normal saline vs. normal saline</td>
<td>Maternal Infection; Maternal Hemorrhage; Mode of delivery; Duration of Labor Abnormal fetal heart rate tracing</td>
<td>Good</td>
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<td>Silva Gallo, 2013&lt;sup&gt;19&lt;/sup&gt;</td>
<td>RCT Latin America</td>
<td>N enrolled: 46 pts N completed: 46 pts</td>
<td>ARM 1 Mean: 19 SD: 3</td>
<td>Stage of Labor at Entry: 1&lt;sup&gt;st&lt;/sup&gt; stage active</td>
<td>Massage - 30 minutes of massage delivered during contractions by physiotherapist beginning when 4-5cm dilated. vs. Control - Physiotherapist accompanied patient for 30 minutes at 4-5cm dilation. Observed and answered questions only.</td>
<td>Duration of Labor; Mode of delivery</td>
<td>Good</td>
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<td>Study Acronym</td>
<td>Study Design Key Question Companion Article</td>
<td>Study Design Geographic Location N enrolled N completed</td>
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<td>Stage of Labor at Entry Study Definition of Labor Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
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<td>Somprasit, 2005&lt;sup&gt;sth&lt;/sup&gt;</td>
<td>RCT Asia</td>
<td>N enrolled: 975 pts N completed: 960 pts</td>
<td>ARM 1 Mean: 24.4 SD: 4.5 ARM 2 Mean: 24.2 SD: 4.5</td>
<td>Stage of Labor at Entry: 1st stage active, 2nd stage&lt;br&gt;Study's Definition of Labor: Regular painful contractions occurring at least once every 5 minutes; contraction duration of at least 40 seconds; either spontaneous rupture of membranes or bloody show with cervical dilatation and full effacement&lt;br&gt;Parity: Nulliparous</td>
<td>Active management: AROM within 1 hour of admission, 2-hourly vaginal assessments; high dose oxytocin augmentation if cervical dilatation was less than 1 cm/h in the first stage of labor. vs. Conventional management</td>
<td>Mode of delivery; Duration of Labor; Maternal Infection (Parity)</td>
<td>Good</td>
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<tr>
<td>Suzuki, 2010&lt;sup&gt;at&lt;/sup&gt;</td>
<td>Obs Asia</td>
<td>N enrolled: 2,369 pts N completed: 2,369 pts</td>
<td>ARM 1 Unclear/NR ARM 2 Mean: 23 ARM 3 Mean: 28.4</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active&lt;br&gt;Study's Definition of Labor: &lt;7 cm dilation at admission, spontaneous onset of labor.&lt;br&gt;Parity: Nulliparous</td>
<td>Friedman Curve vs. Zhang curve vs. Suzuki curve (current cohort)</td>
<td>Duration of Labor</td>
<td>Poor</td>
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<td>Sweed, 2011&lt;sup&gt;st&lt;/sup&gt;</td>
<td>RCT Africa</td>
<td>N enrolled: 60 pts N completed: 59 pts</td>
<td>ARM 1 Mean: 22 ARM 2 Mean: 22 ARM 3 Mean: 23.05</td>
<td>Stage of Labor at Entry: 1st stage active (4-10 cm dilation)&lt;br&gt;Study's Definition of Labor: Nulliparous women in active labor with cervical dilatation of 5 cm and cephalic presenting fetus&lt;br&gt;Parity: Nulliparous</td>
<td>Epidural vs. Combined Spinal Epidural (CSE) vs. IV Analgesia</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Poor</td>
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<td>Study Definition of Labor</td>
<td>Parity in Population</td>
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<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<td>Taavoni, 2011&lt;sup&gt;15&lt;/sup&gt;</td>
<td>RCT</td>
<td>Middle East</td>
<td>62 pts</td>
<td>60 pts</td>
<td>ARM 1 Mean: 31.26 SD: 4.92</td>
<td>Stage of Labor at Entry: 1st stage</td>
<td>Study’s Definition of Labor: 1&lt;sup&gt;st&lt;/sup&gt; stage active (4-8 cm dilation)</td>
<td>Parity: Nulliparous,</td>
<td>Birth ball - 30min of sitting on ball, rocking hips in back and forth or circular motion vs. Usual care - Reclining on bed without ambulation</td>
<td>Duration of Labor</td>
<td>Fair</td>
</tr>
<tr>
<td>Thies-Lagergren, 2013&lt;sup&gt;12&lt;/sup&gt;</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>1,020 pts</td>
<td>1,002 pts</td>
<td>Total Pop. &lt;25 years 175 (17.5%) 25-35 years 721 (71.8%) &gt;35 years 106 (10.6%)</td>
<td>Stage of Labor at Entry: Active</td>
<td>Study’s Definition of Labor: Spontaneous onset of labor and women induced after spontaneous rupture of membranes without spontaneous contractions for &gt;24 hrs</td>
<td>Parity: Mixed parity</td>
<td>Birth seat vs. Usual care - position of mother’s choice, most were supine or supine with stirrups</td>
<td>Duration of Labor; Mode of delivery</td>
<td>Fair</td>
</tr>
<tr>
<td>Tribe, 2012&lt;sup&gt;148&lt;/sup&gt;</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>502 pts</td>
<td>500 pts</td>
<td>ARM 1 Mean: 30.1 SD: 5.9</td>
<td>Stage of Labor at Entry: Unclear</td>
<td>Study’s Definition of Labor: Requiring oxytocin augmentation because of failure to maintain adequate contractility.</td>
<td>Parity: Nulliparous, Multiparous</td>
<td>Continuous oxytocin infusion: Start at 2 mU/min then follow protocol vs. Pulsatile oxytocin infusion: Start at 2 mU/pulse and then follow protocol</td>
<td>Mode of delivery; Duration of Labor</td>
<td>Good</td>
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<td>Tussey, 2015&lt;sup&gt;144&lt;/sup&gt;</td>
<td>RCT</td>
<td>U.S.</td>
<td>142 pts</td>
<td>142 pts</td>
<td>ARM 1 Mean: 27.5 SD: 6.7</td>
<td>Stage of Labor at Entry: 1st stage active</td>
<td>Study’s Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous, Multiparous,</td>
<td>The peanut ball vs. Control</td>
<td>Mode of delivery; Duration of Labor (Parity)</td>
<td>Fair</td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Tveit, 2012¹³⁰</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 39 pts</td>
<td>37 pts</td>
<td>ARM 1 Mean: 26</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Epidural vs. Patient Controlled IV Analgesia</td>
<td>Abnormal fetal heart rate tracing; Mode of delivery; Duration of Labor; Neonatal academia; Long-term neonatal health; Parental preferences</td>
<td>Fair</td>
<td></td>
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</tr>
<tr>
<td>Vajjayanthimala, 2014¹¹⁰</td>
<td>RCT Asia</td>
<td>N enrolled: 240 pts</td>
<td>211 pts</td>
<td>Unclear/NR</td>
<td>Stage of Labor at Entry: Active</td>
<td>Parity: Mixed parity</td>
<td>Duration of Labor; Mode of delivery; Abnormal fetal heart rate tracing; Parental preferences (Parity)</td>
<td>Poor</td>
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<td></td>
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</tr>
<tr>
<td>Vixner, 2014⁶¹</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 303 pts</td>
<td>253 pts</td>
<td>ARM 1 Mean: 28.1 SD: 5.1</td>
<td>Stage of Labor at Entry: 1st stage latent, 1st stage active</td>
<td>Manual acupuncture vs. Electro-acupuncture - Acupuncture location chosen with regard to pain location vs. Usual care--had access to analgesia</td>
<td>Duration of Labor; Mode of delivery; Maternal Trauma to the Pelvic Floor</td>
<td>Fair</td>
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</tr>
<tr>
<td>Wassen, 2015¹²⁵</td>
<td>RCT UK/Europe</td>
<td>N enrolled: 493 randomized pts</td>
<td>463 pts</td>
<td>ARM 1 Median: 30 25% IQR: 27 75% IQR: 34</td>
<td>Stage of Labor at Entry: Randomized prior to start of labor. Intervention started when they presented in 1st stage of labor. Study's Definition of Labor: 2 cm dilation with effaced cervix and regular contractions.</td>
<td>Epidural vs. Analgesia on request</td>
<td>Duration of Labor; Mode of delivery; Neonatal Shoulder dystocia; Maternal Hemorrhage; Maternal Trauma to the Pelvic Floor; Neonatal acidemia</td>
<td>Good</td>
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<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Wilson, 2009¹³⁷</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>1,054 pts</td>
<td>1,054 pts</td>
<td>ARM 1 &lt;19 yrs 14.7% 25-29 yrs 30.9% 30-34 yrs 23.2% 35+ yrs 9.1%</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous</td>
<td>High-dose Epidural (control) vs. Combined Spinal Epidural (CSE) vs. Low-dose Infusion Epidural</td>
<td>Mode of delivery</td>
<td>Fair</td>
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<tr>
<td>KQ 4</td>
<td></td>
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<td></td>
<td></td>
<td>ARM 2 &lt;19 yrs 14% 25-29 yrs 30.5% 30-34 yrs 23.6% 35+ yrs 9.1%</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous</td>
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<tr>
<td>Companion: Wilson, 2011¹³⁴</td>
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<td></td>
<td></td>
<td></td>
<td>ARM 3 &lt;19 yrs 14.9% 25-29 yrs 30.9% 30-34 yrs 22.6% 35+ yrs 9.4%</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Unclear/NR</td>
<td>Parity: Nulliparous</td>
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<tr>
<td>Wong, 2005¹⁴²</td>
<td>RCT</td>
<td>U.S.</td>
<td>750 pts</td>
<td>720 pts</td>
<td>ARM 1 Mean: 31.3 SD: 5.2</td>
<td>Stage of Labor at Entry: 1st stage latent</td>
<td>Study's Definition of Labor: Spontaneous labor or spontaneous rupture of the membranes and ≤4 cm dilation</td>
<td>Parity: Nulliparous</td>
<td>Combined Spinal Epidural (CSE) vs. IV and IM Analgesia</td>
<td>Duration of Labor; Mode of delivery; Abnormal fetal heart rate tracing</td>
<td>Good</td>
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<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry</td>
<td>Study Definition of Labor</td>
<td>Parity in Population</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Yildirim, 2008</td>
<td>RCT</td>
<td>UK/Europe</td>
<td>100 pts</td>
<td>100 pts</td>
<td>Total Pop. Mean: 22.9 SD: 3</td>
<td>Stage of Labor at Entry: 2nd stage</td>
<td>Study's Definition of Labor: 2nd stage, full dilation (10 cm to delivery)</td>
<td>Parity: Nulliparous,</td>
<td>Spontaneous pushing - encouraged and supported to push spontaneously in the second stage of labor, bearing down in response to contractions. vs. Valsalva pushing - valsalva type pushing in the second stage of labor</td>
<td>Abnormal fetal heart rate tracing; Duration of Labor; Maternal Trauma to the pelvic floor (Parity)</td>
<td>Fair</td>
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<tr>
<td>KQ 9</td>
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<tr>
<td>Yuenyong, 2012</td>
<td>RCT</td>
<td>Asia</td>
<td>120 pts</td>
<td>114 pts</td>
<td>Total Pop. Mean: 22.8 SD: 3.6</td>
<td>Stage of Labor at Entry: Unclear/NR</td>
<td>Study's Definition of Labor: Whenever women arrived at hospital believing they were in labor.</td>
<td>Parity: Nulliparous,</td>
<td>Support of close female relative vs. Control</td>
<td>Duration of Labor (Parity)</td>
<td>Good</td>
</tr>
<tr>
<td>KQ 3</td>
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<tr>
<td>Zhang, 2010</td>
<td>Obs</td>
<td>U.S.</td>
<td>62,415 pts</td>
<td>62,415 pts</td>
<td>ARM 1 Mean: 24.6 SD: 5.8</td>
<td>Stage of Labor at Entry: Median (10, 90th percentiles at admission)</td>
<td>Parity 0: 4 (1,7) Parity 1: 4.5 (2,8) Parity 2+: 5 (2, 8)</td>
<td>Nulliparous vs. Parity 1 vs. Parity 2 or more</td>
<td>Duration of Labor</td>
<td>Fair</td>
<td></td>
</tr>
<tr>
<td>Study Acronym</td>
<td>Study Design</td>
<td>Geographic Location</td>
<td>N enrolled</td>
<td>N completed</td>
<td>Age Data (Years Unless Specified)</td>
<td>Stage of Labor at Entry: Cervical dilation at admission (cm) - Parity 0: median (10th percentile, 90th percentile) = 3 (1, 6) Parity 1: median (10th percentile, 90th percentile) = 3.5 (2, 7) Parity 2+: median (10th percentile, 90th percentile) = 3.5 (1.5, 6.5) Study's Definition of Labor: Unclear/NR Parity: Nulliparous, Multiparous,</td>
<td>Comparisons</td>
<td>Outcomes (Subgroup Analyzed)</td>
<td>Quality</td>
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<tr>
<td>Zhang, 2010\footnote{17}</td>
<td>Obs U.S.</td>
<td>N enrolled: 40,973 pts N completed: 26,838 pts</td>
<td>ARM 1 Mean: 20.3 SD: 3.9</td>
<td>ARM 2 Mean: 22.7 SD: 4.4</td>
<td>ARM 3 Mean: 27.4 SD: 5.5</td>
<td>Nulliparous vs. Parity 1 vs. Parity 2 or more</td>
<td>Nulliparous vs. Parity 1 vs. Parity 2 or more</td>
<td>Mode of delivery; Duration of Labor (Parity)</td>
<td>Good</td>
<td></td>
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</tr>
</tbody>
</table>

KQ 1
Appendix G. AMSTAR Quality Assessment for Systematic Reviews

Table G-1 shows the AMSTAR (A Measurement Tool to Assess Systematic Reviews) quality assessment for the included systematic reviews. For full study citations, please refer to the report’s main reference list.

Table G-1. AMSTAR assessment for included systematic reviews

<table>
<thead>
<tr>
<th>Study</th>
<th>Duplicate study selection and data abstraction?</th>
<th>Comprehensive literature search performed?</th>
<th>Status of publication (i.e., grey literature) used as an inclusion criterion?</th>
<th>List of studies (included and excluded) provided?</th>
<th>Characteristics of included studies provided?</th>
<th>Scientific quality of the included studies used appropriately in formulating conclusions?</th>
<th>Methods used to combine the findings of studies appropriately?</th>
<th>Conflict of interest included?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anim-Somuah, 2011</td>
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<td>Smith, 2011</td>
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</table>
Appendix H. Risk of Bias Assessment for Included Studies

Table H-1 shows the risk of bias quality assessment for the included cohort studies. For full study citations, please refer to the report’s main reference list.

Table H-1. Risk of bias assessment for included cohort studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Potential Issues with Selection</th>
<th>Potential Issues with Comparability</th>
<th>Potential Issues with Outcomes</th>
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<td>Cheng, 2010</td>
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<tr>
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<td>Suzuki, 2010</td>
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<td>Zhang, 2010</td>
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Figure H-1. Summary of risk of bias assessment for included cohort studies
Table H-3 shows the risk of bias quality assessment for the included RCTs. For full study citations, please refer to the report’s main reference list.

<table>
<thead>
<tr>
<th>Study</th>
<th>Allocation sequence generated adequately?</th>
<th>Allocation of Treatment adequately concealed?</th>
<th>Was knowledge of the allocated intervention adequately prevented during the study?</th>
<th>Were incomplete outcome data adequately addressed?</th>
<th>Are reports of the study free of suggestion of selective outcome reporting?</th>
<th>Was the study apparently free of other problems that could put it at a high risk of bias?</th>
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<td>N</td>
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<td>de Orange, 2011(^13)</td>
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<td>Direkvand-Moghadam, 2012(^2)</td>
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Figure H-2. Summary of risk of bias assessment for included RCTs

Allocate sequence generated adequately?

Allocation of Treatment adequately concealed?

Was knowledge of the allocated intervention adequately prevented during the study?

Were incomplete outcome data adequately addressed?

Are reports of the study free of suggestion of selective outcome reporting?

Was the study apparently free of other problems that could put it at a high risk of bias?

Percent of studies with low, high, or unclear risk of bias

Yes  No  Unclear