

Optimal Care in Childbirth: The Case for a Physiologic Approach
by Henci Goer & Amy Romano
List of Excluded Studies

For methods including search strategy and exclusion criteria, see:
[Chapter 3: About this Book: The Nuts and Bolts](#)

Chapter 5: The Case Against Liberal Use of Cesarean Surgery

Citation: Abramov Y, Sand PK, Botros SM, et al. Risk factors for female anal incontinence: new insight through the Evanston-Northwestern twin sisters study. *Obstet Gynecol* 2005;106(4):726-32.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Allen VM, O'Connell CM, Liston RM, et al. Maternal morbidity associated with cesarean delivery without labor compared with spontaneous onset of labor at term. *Obstet Gynecol* 2003;102(3):477-82.

Reason(s) for Exclusion: Does not report on major morbidity. Cesarean population too small (n = 721) to detect differences in major morbidity.

Citation: Almeida EC, Nogueira AA, Candido dos Reis FJ, et al. Cesarean section as a cause of chronic pelvic pain. *Int J Gynaecol Obstet* 2002;79(2):101-4.

Reason(s) for Exclusion: Assume to be included in a systematic review (Latthe 2006).

Citation: Altman D, Ekstrom A, Forsgren C, et al. Symptoms of anal and urinary incontinence following cesarean section or spontaneous vaginal delivery. *Am J Obstet Gynecol* 2007;197(5):512 e1-7.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Ananth CV, Smulian JC, Vintzileos AM. The association of placenta previa with history of cesarean delivery and abortion: a metaanalysis. *Am J Obstet Gynecol* 1997;177(5):1071-8.

Reason(s) for Exclusion: Cannot determine if studies included in the review adjust for prior placenta previa. Primary cesarean may have been for previa, and previa is likely to repeat.

Citation: Annesi-Maesano I, Moreau D, Strachan D. In utero and perinatal complications preceding asthma. *Allergy* 2001;56(6):491-7.

Reason(s) for Exclusion: Included in a systematic review (Thavagnanam 2008).

Citation: Annibale DJ, Hulsey TC, Wagner CL, et al. Comparative neonatal morbidity of abdominal and vaginal deliveries after uncomplicated pregnancies. *Arch Pediatr Adolesc Med* 1995;149(8):862-7.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Bache I, Bock T, Volund A, et al. Previous maternal abortion, longer gestation, and younger maternal age decrease the risk of type 1 diabetes among male offspring. *Diabetes Care* 1999;22(7):1063-5.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Badawi N, Kurinczuk JJ, Keogh JM, et al. Intrapartum risk factors for newborn encephalopathy: the Western Australian case-control study. *BMJ* 1998;317(7172):1554-8.

Reason(s) for Exclusion: Compares intrapartum vs. planned cesarean.

Citation: Bager P, Melbye M, Rostgaard K, et al. Mode of delivery and risk of allergic rhinitis and asthma. *J Allergy Clin Immunol* 2003;111(1):51-6.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Baskett TF, Allen VM, O'Connell CM, et al. Predictors of respiratory depression at birth in the term infant. *BJOG* 2006;113(7):769-74.

Reason(s) for Exclusion: Does not meet criteria for inclusion in included systematic review (Hansen 2007).

Citation: Benedetto C, Marozio L, Prandi G, et al. Short-term maternal and neonatal outcomes by mode of delivery. A case-controlled study. *Eur J Obstet Gynecol Reprod Biol* 2007;135(1):35-40.

Reason(s) for Exclusion: Does not report on major morbidity. Cesarean population too small (n = 804) to detect differences in major morbidity.

Citation: Benn CS, Thorsen P, Jensen JS, et al. Maternal vaginal microflora during pregnancy and the risk of asthma hospitalization and use of antiasthma medication in early childhood. *J Allergy Clin Immunol* 2002;110(1):72-7.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Benterud T, Sandvik L, Lindemann R. Cesarean section is associated with more frequent pneumothorax and respiratory problems in the neonate. *Acta Obstet Gynecol Scand* 2009;88(3):359-61.

Reason(s) for Exclusion: No adjustment for gestational week at term.

Citation: Bernsen RM, de Jongste JC, Koes BW, et al. Perinatal characteristics and obstetric complications as risk factors for asthma, allergy and eczema at the age of 6 years. *Clin Exp Allergy* 2005;35(9):1135-40.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Bharucha AE, Zinsmeister AR, Locke GR, et al. Risk factors for fecal incontinence: a population-based study in women. *Am J Gastroenterol* 2006;101(6):1305-12.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Borgwardt L, Bach D, Nickelsen C, et al. Elective caesarean section increases the risk of respiratory morbidity of the newborn. *Acta Paediatr* 2009;98(1):187-9.

Reason(s) for Exclusion: Looks only at effects of elective cesarean delivery at 37-38 w.

Citation: Buhling KJ, Schmidt S, Robinson JN, et al. Rate of dyspareunia after delivery in primiparae according to mode of delivery. *Eur J Obstet Gynecol Reprod Biol* 2006;124(1):42-6.

Reason(s) for Exclusion: No statistical analysis.

Citation: Burgio KL, Borello-France D, Richter HE, et al. Risk factors for fecal and urinary incontinence after childbirth: the childbirth and pelvic symptoms study. *Am J Gastroenterol* 2007;102(9):1998-2004.

Reason(s) for Exclusion: Published in time period of Nelson (2010) systematic review. Listed as “awaiting assessment.”

Citation: Burrows LJ, Meyn LA, Weber AM. Maternal morbidity associated with vaginal versus cesarean delivery. *Obstet Gynecol* 2004;103(5 Pt 1):907-12.

Reason(s) for Exclusion: No adjustment for confounding factors that might both increase morbidity and likelihood of cesarean.

Citation: Calvani M, Alessandri C, Sopo SM, et al. Infectious and uterus related complications during pregnancy and development of atopic and nonatopic asthma in children. *Allergy* 2004;59(1):99-106.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Cardwell CR, Carson DJ, Patterson CC. Parental age at delivery, birth order, birth weight and gestational age are associated with the risk of childhood Type 1 diabetes: a UK regional retrospective cohort study. *Diabet Med* 2005;22(2):200-6.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Chaliha C, Sultan AH, Bland JM, et al. Anal function: effect of pregnancy and delivery. *Am J Obstet Gynecol* 2001;185(2):427-32.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Chaliha C, Kalia V, Stanton SL, et al. Antenatal prediction of postpartum urinary and fecal incontinence. *Obstet Gynecol* 1999;94(5 Pt 1):689-94.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Chattopadhyay SK, Kharif H, Sherbeeni MM. Placenta praevia and accreta after previous caesarean section. *Eur J Obstet Gynecol Reprod Biol* 1993;52(3):151-6.

Reason(s) for Exclusion: Does not adjust for prior placenta previa. Primary cesarean may have been for previa, and previa is likely to repeat.

Citation: Clark SL, Belfort MA, Dildy GA, et al. Maternal death in the 21st century: causes, prevention, and relationship to cesarean delivery. *Am J Obstet Gynecol* 2008;199(1):36 e1-5; discussion 91-2 e7-11.

Reason(s) for Exclusion: Unlike other maternal mortality studies, which are analyses of government statistics, this is an internal audit of a for-profit hospital chain in which the medical director is the principle investigator.

Citation: Connolly A, Thorp J, Pahel L. Effects of pregnancy and childbirth on postpartum sexual function: a longitudinal prospective study. *Int Urogynecol J Pelvic Floor Dysfunct* 2005;16(4):263-7.

Reason(s) for Exclusion: Only 47 women completed all surveys, cesareans included, therefore underpowered to detect differences in outcomes.

Citation: Dahlgren LS, von Dadelszen P, Christilaw J, et al. Caesarean section on maternal request: risks and benefits in healthy nulliparous women and their infants. *J Obstet Gynaecol Can* 2009;31(9):808-17.

Reason(s) for Exclusion: Only 1046 planned cesareans, too few to detect differences in rare, severe outcomes compared with vaginal births (n = 38,000).

Citation: Dahlquist G, Kallen B. Maternal-child blood group incompatibility and other perinatal events increase the risk for early-onset type 1 (insulin-dependent) diabetes mellitus. *Diabetologia* 1992;35(7):671-5.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Dahlquist GG, Patterson C, Soltesz G. Perinatal risk factors for childhood type 1 diabetes in Europe. The EURODIAB Substudy 2 Study Group. *Diabetes Care* 1999;22(10):1698-702.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Dani C, Reali MF, Bertini G, et al. Risk factors for the development of respiratory distress syndrome and transient tachypnoea in newborn infants. Italian Group of Neonatal Pneumology. *Eur Respir J* 1999;14(1):155-9.

Reason(s) for Exclusion: Does not meet Hansen (2007) systematic review criteria. Does not report outcomes according to week of gestational age at term.

Citation: Debley JS, Smith JM, Redding GJ, et al. Childhood asthma hospitalization risk after cesarean delivery in former term and premature infants. *Ann Allergy Asthma Immunol* 2005;94(2):228-33.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: De Luca R, Boulvain M, Irion O, et al. Incidence of early neonatal mortality and morbidity after late-preterm and term cesarean delivery. *Pediatrics* 2009;123(6):e1064-71.

Reason(s) for Exclusion: Failed to control for factors leading to planned cesarean that could affect outcomes.

Citation: Eason E, Labrecque M, Marcoux S, et al. Anal incontinence after childbirth. *CMAJ* 2002;166(3):326-30.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Eggesbo M, Botten G, Stigum H, et al. Cesarean delivery and cow milk allergy/intolerance. *Allergy* 2005;60(9):1172-3.

Reason(s) for Exclusion: Not included in Bager (2008) systematic review.

Citation: Eggesbo M, Botten G, Stigum H, et al. Is delivery by cesarean section a risk factor for food allergy? *J Allergy Clin Immunol* 2003;112(2):420-6.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Engelsen IB, Albrechtsen S, Iversen OE. Peripartum hysterectomy-incidence and maternal morbidity. Acta Obstet Gynecol Scand 2001;80(5):409-12.

Reason(s) for Exclusion: Case series of only 11 cases.

Citation: Farrell SA, Allen VM, Baskett TF. Parturition and urinary incontinence in primiparas. Obstet Gynecol 2001;97(3):350-6.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Fidler RE, Cohen A, Ringer SA, et al. Neonatal outcome after trial of labor compared with elective repeat cesarean section. Birth 2003;30(2):83-8.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Fogelson NS, Menard MK, Hulsey T, et al. Neonatal impact of elective repeat cesarean delivery at term: a comment on patient choice cesarean delivery. Am J Obstet Gynecol 2005;192(5):1433-6.

Reason(s) for Exclusion: Does not meet criteria for Hansen (2007) systematic review. No definition of respiratory morbidity, and results not reported according to gestational age.

Citation: Foley ME, Alarab M, Daly L, et al. Term neonatal asphyxial seizures and peripartum deaths: lack of correlation with a rising cesarean delivery rate. Am J Obstet Gynecol 2005;192(1):102-8.

Reason(s) for Exclusion: Have a stronger study: Kolas (2006) that unlike this study, compares outcomes with vaginal birth with elective or nonurgent planned cesarean.

Citation: Foldspang A, Hvidman L, Mommsen S, et al. Risk of postpartum urinary incontinence associated with pregnancy and mode of delivery. Acta Obstet Gynecol Scand 2004;83(10):923-7.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Franz MB, Lack N, Schiessl B, et al. Stillbirth following previous cesarean section in Bavaria/Germany 1987-2005. Arch Gynecol Obstet 2009;279(1):29-36.

Reason(s) for Exclusion: Engaged in a complicated statistical adjustment because couldn't link mode of delivery and subsequent stillbirth. Source was provider recording at antenatal visits, and there was substantial discrepancy between recorded mode of prior delivery and actual cesarean rate in the population.

Citation: Fritel X, Fauconnier A, Levet C, et al. Stress urinary incontinence 4 years after the first delivery: a retrospective cohort survey. Acta Obstet Gynecol Scand 2004;83(10):941-5.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Fritel X, Ringa V, Varnoux N, et al. Mode of delivery and fecal incontinence at midlife: a study of 2,640 women in the Gazel cohort. Obstet Gynecol 2007;110(1):31-8.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Geller EJ, Wu JM, Jannelli ML, et al. Neonatal outcomes associated with planned vaginal versus planned primary cesarean delivery. J Perinatol 2010;30(4):258-64.

Reason(s) for Exclusion: No outcomes relevant to perinatal mini-reviews.

Citation: Gessner BD, Chimonas MA. Asthma is associated with preterm birth but not with small for gestational age status among a population-based cohort of Medicaid-enrolled children <10 years of age. *Thorax* 2007;62(3):231-6.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Getahun D, Oyelese Y, Salihu HM, et al. Previous cesarean delivery and risks of placenta previa and placental abruption. *Obstet Gynecol* 2006;107(4):771-8.

Reason(s) for Exclusion: Does not adjust for prior placenta previa. Primary cesarean may have been for previa, and previa is likely to repeat.

Citation: Glaze S, Ekwawanga P, Roberts G, et al. Peripartum hysterectomy: 1999 to 2006. *Obstet Gynecol* 2008;111(3):732-8.

Reason(s) for Exclusion: Case series of hysterectomies not analyzed according to delivery mode.

Citation: Glazener CM, Abdalla M, Stroud P, et al. Postnatal maternal morbidity: extent, causes, prevention and treatment. *Br J Obstet Gynaecol* 1995;102(4):282-7.

Reason(s) for Exclusion: Reports on perineal pain but not cesarean incision pain.

Citation: Goldberg RP, Kwon C, Gandhi S, et al. Prevalence of anal incontinence among mothers of multiples and analysis of risk factors. *Am J Obstet Gynecol* 2003;189(6):1627-30; discussion 30-1.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Groutz A, Fait G, Lessing JB, et al. Incidence and obstetric risk factors of postpartum anal incontinence. *Scand J Gastroenterol* 1999;34(3):315-8.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Groutz A, Rimon E, Peled S, et al. Cesarean section: does it really prevent the development of postpartum stress urinary incontinence? A prospective study of 363 women one year after their first delivery. *Neurourol Urodyn* 2004;23(1):2-6.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Guise JM, Boyles SH, Osterweil P, et al. Does cesarean protect against fecal incontinence in primiparous women? *Int Urogynecol J Pelvic Floor Dysfunct* 2009;20(1):61-7.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Guise JM, Morris C, Osterweil P, et al. Incidence of fecal incontinence after childbirth. *Obstet Gynecol* 2007;109(2 Pt 1):281-8.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Hall W, McCracken K, Osterweil P, et al. Frequency and predictors for postpartum fecal incontinence. *Am J Obstet Gynecol* 2003;188(5):1205-7.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Hagendorens MM, Bridts CH, Lauwers K, et al. Perinatal risk factors for sensitization, atopic dermatitis and wheezing during the first year of life (PIPO study). *Clin Exp Allergy* 2005;35(6):733-40.

Reason(s) for Exclusion: Included in a systematic review (Thavagnanam 2008).

Citation: Hakansson S, Kallen K. Caesarean section increases the risk of hospital care in childhood for asthma and gastroenteritis. *Clin Exp Allergy* 2003;33(6):757-64.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Hales KA, Morgan MA, Thurnau GR. Influence of labor and route of delivery on the frequency of respiratory morbidity in term neonates. *Int J Gynaecol Obstet* 1993;43(1):35-40.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Hannah ME, Hannah WJ, Hodnett ED, et al. Outcomes at 3 months after planned cesarean vs planned vaginal delivery for breech presentation at term: the international randomized Term Breech Trial. *Jama* 2002;287(14):1822-31.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Hannah ME, Whyte H, Hannah WJ, et al. Maternal outcomes at 2 years after planned cesarean section versus planned vaginal birth for breech presentation at term: the international randomized Term Breech Trial. *Am J Obstet Gynecol* 2004;191(3):917-27.

Reason(s) for Exclusion: Included in systematic reviews (Nelson 2010; Press 2007).

Citation: Hatem M, Pasquier JC, Fraser W, et al. Factors associated with postpartum urinary/anal incontinence in primiparous women in Quebec. *J Obstet Gynaecol Can* 2007;29(3):232-9.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Hebert PR, Reed G, Entman SS, et al. Serious maternal morbidity after childbirth: prolonged hospital stays and readmissions. *Obstet Gynecol* 1999;94(6):942-7.

Reason(s) for Exclusion: No adjustment for confounding factors that might both increase morbidity and likelihood of cesarean.

Citation: Heinzmann A, Brugger M, Engels C, et al. Risk factors of neonatal respiratory distress following vaginal delivery and caesarean section in the German population. *Acta Paediatr* 2009;98(1):25-30.

Reason(s) for Exclusion: No exclusion of or control for high-risk pregnancy.

Citation: Hook B, Kiwi R, Amini SB, et al. Neonatal morbidity after elective repeat cesarean section and trial of labor. *Pediatrics* 1997;100(3 Pt 1):348-53.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Hvidman L, Foldspang A, Mommsen S, et al. Postpartum urinary incontinence. *Acta Obstet Gynecol Scand* 2003;82(6):556-63.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Ievins R, Roberts SE, Goldacre MJ. Perinatal factors associated with subsequent diabetes mellitus in the child: record linkage study. *Diabet Med* 2007;24(6):664-70.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Jolly J, Walker J, Bhabra K. Subsequent obstetric performance related to primary mode of delivery. *Br J Obstet Gynaecol* 1999;106(3):227-32.

Reason(s) for Exclusion: Most cesareans done under general anesthesia, therefore not applicable to current management.

Citation: Juhn YJ, Weaver A, Katusic S, et al. Mode of delivery at birth and development of asthma: a population-based cohort study. *J Allergy Clin Immunol* 2005;116(3):510-6.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Kealy MA, Small RE, Liamputtong P. Recovery after caesarean birth: a qualitative study of women's accounts in Victoria, Australia. *BMC Pregnancy Childbirth* 2010;10:47.

Reason(s) for Exclusion: No comparison with vaginal birth.

Citation: Kero J, Gissler M, Gronlund MM, et al. Mode of delivery and asthma -- is there a connection? *Pediatr Res* 2002;52(1):6-11.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Kurukulaaratchy RJ, Waterhouse L, Matthews SM, et al. Are influences during pregnancy associated with wheezing phenotypes during the first decade of life? *Acta Paediatr* 2005;94(5):553-8.

Reason(s) for Exclusion: Included in a systematic review (Thavagnanam 2008).

Citation: Kwee A, Bots ML, Visser GH, et al. Emergency peripartum hysterectomy: A prospective study in The Netherlands. *Eur J Obstet Gynecol Reprod Biol* 2006;124(2):187-92.

Reason(s) for Exclusion: Data not reported according to mode of delivery.

Citation: Lal M, C HM, Callender R, et al. Does cesarean delivery prevent anal incontinence? *Obstet Gynecol* 2003;101(2):305-12.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Laubereau B, Filipiak-Pittroff B, von Berg A, et al. Caesarean section and gastrointestinal symptoms, atopic dermatitis, and sensitisation during the first year of life. *Arch Dis Child* 2004;89(11):993-7.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Levine EM, Ghai V, Barton JJ, et al. Mode of delivery and risk of respiratory diseases in newborns. *Obstet Gynecol* 2001;97(3):439-42.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Liem JJ, Kozyrskyj AL, Huq SI, et al. The risk of developing food allergy in premature or low-birth-weight children. *J Allergy Clin Immunol* 2007;119(5):1203-9.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Loos MJ, Scheltinga MR, Mulders LG, et al. The Pfannenstiel incision as a source of chronic pain. *Obstet Gynecol* 2008;111(4):839-46.

Reason(s) for Exclusion: Includes both cesarean and hysterectomy.

Citation: Lydon-Rochelle M, Holt VL, Easterling TR, et al. Cesarean delivery and postpartum mortality among primiparas in Washington State, 1987-1996(1). *Obstet Gynecol* 2001;97(2):169-74.

Reason(s) for Exclusion: Population too small (N = 265,471) to detect differences in mortality rates related to mode of delivery, especially in the subgroup with no preexisting morbidity (n = 173,231).

Citation: Lukacz ES, Lawrence JM, Contreras R, et al. Parity, mode of delivery, and pelvic floor disorders. *Obstet Gynecol* 2006;107(6):1253-60.

Reason(s) for Exclusion: Cross sectional study including women age 25-84. No way to tell what percentage of symptomatic women were recovering from childbirth.

Citation: MacArthur C, Bick DE, Keighley MR. Faecal incontinence after childbirth. *Br J Obstet Gynaecol* 1997;104(1):46-50.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: MacArthur C, Glazener C, Lancashire R, et al. Faecal incontinence and mode of first and subsequent delivery: a six-year longitudinal study. *BJOG* 2005;112(8):1075-82.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: MacArthur C, Glazener CM, Wilson PD, et al. Obstetric practice and faecal incontinence three months after delivery. *BJOG* 2001;108(7):678-83.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: MacDorman MF, Declercq E, Menacker F, et al. Infant and neonatal mortality for primary cesarean and vaginal births to women with "no indicated risk," United States, 1998-2001 birth cohorts. *Birth* 2006;33(3):175-82.

Reason(s) for Exclusion: Superseded by MacDorman (2008) in which data were analyzed according to intended mode of birth.

Citation: MacLennan AH, Taylor AW, Wilson DH, et al. The prevalence of pelvic floor disorders and their relationship to gender, age, parity and mode of delivery. *BJOG* 2000;107(12):1460-70.

Reason(s) for Exclusion: Included in systematic reviews (Nelson 2010; Press 2007).

Citation: Madar J, Richmond S, Hey E. Surfactant-deficient respiratory distress after elective delivery at 'term'. Acta Paediatr 1999;88(11):1244-8.

Reason(s) for Exclusion: Descriptive only. No statistical analysis.

Citation: Maitra A, Sherriff A, Strachan D, et al. Mode of delivery is not associated with asthma or atopy in childhood. Clin Exp Allergy 2004;34(9):1349-55.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Malcova H, Sumnik Z, Drevinek P, et al. Absence of breast-feeding is associated with the risk of type 1 diabetes: a case-control study in a population with rapidly increasing incidence. Eur J Pediatr 2006;165(2):114-9.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: McKeever TM, Lewis SA, Smith C, et al. Mode of delivery and risk of developing allergic disease. J Allergy Clin Immunol 2002;109(5):800-2.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: McKinney PA, Parslow R, Gurney K, et al. Antenatal risk factors for childhood diabetes mellitus; a case-control study of medical record data in Yorkshire, UK. Diabetologia 1997;40(8):933-9.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Melville JL, Fan MY, Newton K, et al. Fecal incontinence in US women: a population-based study. Am J Obstet Gynecol 2005;193(6):2071-6.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Melville JL, Katon W, Delaney K, et al. Urinary incontinence in US women: a population-based study. Arch Intern Med 2005;165(5):537-42.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Moczygemba CK, Paramsothy P, Meikle S, et al. Route of delivery and neonatal birth trauma. Am J Obstet Gynecol 2010;202(4):361 e1-6.

Reason(s) for Exclusion: Does not control for instrumental vaginal delivery.

Citation: Mogren IM. Does caesarean section negatively influence the post-partum prognosis of low back pain and pelvic pain during pregnancy? Eur Spine J 2007;16(1):115-21.

Reason(s) for Exclusion: Study combines pelvic and back pain and is underpowered to detect differences between groups.

Citation: Montgomery SM, Wakefield AJ, Morris DL, et al. The initial care of newborn infants and subsequent hay fever. Allergy 2000;55(10):916-22.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Morrison JJ, Rennie JM, Milton PJ. Neonatal respiratory morbidity and mode of delivery at term: influence of timing of elective caesarean section. *Br J Obstet Gynaecol* 1995;102(2):101-6.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Nafstad P, Magnus P, Jaakkola JJ. Risk of childhood asthma and allergic rhinitis in relation to pregnancy complications. *J Allergy Clin Immunol* 2000;106(5):867-73.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Negele K, Heinrich J, Borte M, et al. Mode of delivery and development of atopic disease during the first 2 years of life. *Pediatr Allergy Immunol* 2004;15(1):48-54.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Nelson RL, Westercamp M, Furner SE. A systematic review of the efficacy of cesarean section in the preservation of anal continence. *Dis Colon Rectum* 2006;49(10):1587-95.

Reason(s) for Exclusion: Superseded by Nelson (2010) systematic review.

Citation: Nikolajsen L, Sorensen HC, Jensen TS, et al. Chronic pain following Caesarean section. *Acta Anaesthesiol Scand* 2004;48(1):111-6.

Reason(s) for Exclusion: No vaginal birth comparison group.

Citation: Nygaard I, Bradley C, Brandt D. Pelvic organ prolapse in older women: prevalence and risk factors. *Obstet Gynecol* 2004;104(3):489-97.

Reason(s) for Exclusion: Did not distinguish symptomatic from nonsymptomatic prolapse.

Citation: Oliveti JF, Kercsmar CM, Redline S. Pre- and perinatal risk factors for asthma in inner city African-American children. *Am J Epidemiol* 1996;143(6):570-7.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Patterson CC, Carson DJ, Hadden DR, et al. A case-control investigation of perinatal risk factors for childhood IDDM in Northern Ireland and Scotland. *Diabetes Care* 1994;17(5):376-81.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Peyrat L, Haillot O, Bruyere F, et al. Prevalence and risk factors of urinary incontinence in young and middle-aged women. *BJU Int* 2002;89(1):61-6.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Pinta TM, Kylanpaa ML, Teramo KA, et al. Sphincter rupture and anal incontinence after first vaginal delivery. *Acta Obstet Gynecol Scand* 2004;83(10):917-22.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Pistiner M, Gold DR, Abdulkerim H, et al. Birth by cesarean section, allergic rhinitis, and allergic sensitization among children with a parental history of atopy. *J Allergy Clin Immunol* 2008;122(2):274-9.

Reason(s) for Exclusion: No power calculation and looks at only 47 cases of asthma.

Citation: Rageth JC, Juzi C, Grossenbacher H. Delivery after previous cesarean: a risk evaluation. Swiss Working Group of Obstetric and Gynecologic Institutions. *Obstet Gynecol* 1999;93(3):332-7.

Reason(s) for Exclusion: Not adjusted for confounding factors.

Citation: Rami B, Schneider U, Imhof A, et al. Risk factors for type I diabetes mellitus in children in Austria. *Eur J Pediatr* 1999;158(5):362-6.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Renz-Polster H, David MR, Buist AS, et al. Caesarean section delivery and the risk of allergic disorders in childhood. *Clin Exp Allergy* 2005;35(11):1466-72.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Richardson BS, Czikk MJ, daSilva O, et al. The impact of labor at term on measures of neonatal outcome. *Am J Obstet Gynecol* 2005;192(1):219-26.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Riskin A, Abend-Weinger M, Riskin-Mashiah S, et al. Cesarean section, gestational age, and transient tachypnea of the newborn: timing is the key. *Am J Perinatol* 2005;22(7):377-82.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Citation: Rortveit G, Daltveit AK, Hannestad YS, et al. Urinary incontinence after vaginal delivery or cesarean section. *N Engl J Med* 2003;348(10):900-7.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Ros HS, Lichtenstein P, Bellocco R, et al. Pulmonary embolism and stroke in relation to pregnancy: how can high-risk women be identified? *Am J Obstet Gynecol* 2002;186(2):198-203.

Reason(s) for Exclusion: Not adjusted for confounding factors.

Citation: Rotas MA, Haberman S, Levgur M. Cesarean scar ectopic pregnancies: etiology, diagnosis, and management. *Obstet Gynecol* 2006;107(6):1373-81.

Reason(s) for Exclusion: Superseded by Sadeghi (2010) systematic review.

Citation: Rubaltelli FF, Bonafe L, Tangucci M, et al. Epidemiology of neonatal acute respiratory disorders. A multicenter study on incidence and fatality rates of neonatal acute respiratory disorders according to gestational age, maternal age, pregnancy complications and type of delivery. Italian Group of Neonatal Pneumology. *Biol Neonate* 1998;74(1):7-15.

Reason(s) for Exclusion: Does not fit Hansen (2007) review criteria. Does not report outcomes according to gestational week at term.

Citation: Rusconi F, Galassi C, Forastiere F, et al. Maternal complications and procedures in pregnancy and at birth and wheezing phenotypes in children. *Am J Respir Crit Care Med* 2007;175(1):16-21.

Reason(s) for Exclusion: Included in a systematic review (Thavagnanam 2008).

Citation: Salam MT, Margolis HG, McConnell R, et al. Mode of delivery is associated with asthma and allergy occurrences in children. *Ann Epidemiol* 2006;16(5):341-6.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Saraswat L, Porter M, Bhattacharya S. Caesarean section and tubal infertility: is there an association? *Reprod Biomed Online* 2008;17(2):259-64.

Reason(s) for Exclusion: Not specific to cesarean and limited to one cause of infertility.

Citation: Schytt E, Lindmark G, Waldenstrom U. Symptoms of stress incontinence 1 year after childbirth: prevalence and predictors in a national Swedish sample. *Acta Obstet Gynecol Scand* 2004;83(10):928-36.

Reason(s) for Exclusion: Included in a systematic review (Press 2007).

Citation: Signorello LB, Harlow BL, Chekos AK, et al. Postpartum sexual functioning and its relationship to perineal trauma: a retrospective cohort study of primiparous women. *Am J Obstet Gynecol* 2001;184(5):881-8; discussion 8-90.

Reason(s) for Exclusion: Included in a systematic review (Hicks 2004).

Citation: Sipetic SB, Vlajinac HD, Kocev NI, et al. The Belgrade childhood diabetes study: a multivariate analysis of risk determinants for diabetes. *Eur J Public Health* 2005;15(2):117-22.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Smith GC, Wood AM, White IR, et al. Neonatal respiratory morbidity at term and the risk of childhood asthma. *Arch Dis Child* 2004;89(10):956-60.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Sng BL, Sia AT, Quek K, et al. Incidence and risk factors for chronic pain after caesarean section under spinal anaesthesia. *Anaesth Intensive Care* 2009;37(5):748-52.

Reason(s) for Exclusion: No comparison with vaginal birth.

Citation: Stark M, Hoyme UB, Stubert B, et al. Post-cesarean adhesions--are they a unique entity? *J Matern Fetal Neonatal Med* 2008;21(8):513-6.

Reason(s) for Exclusion: Too few participants to detect differences in outcomes.

Citation: Stein PD, Matta F, Yaekoub AY. Incidence of amniotic fluid embolism: relation to cesarean section and to age. *J Womens Health (Larchmt)* 2009;18(3):327-9.

Reason(s) for Exclusion: Unable to distinguish whether AFE led to cesarean or cesarean led to AFE.

Citation: Stene LC, Joner G. Atopic disorders and risk of childhood-onset type 1 diabetes in individuals. *Clin Exp Allergy* 2004;34(2):201-6.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Stene LC, Magnus P, Lie RT, et al. No association between preeclampsia or cesarean section and incidence of type 1 diabetes among children: a large, population-based cohort study. *Pediatr Res* 2003;54(4):487-90.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Sugiyama M, Arakawa H, Ozawa K, et al. Early-life risk factors for occurrence of atopic dermatitis during the first year. *Pediatrics* 2007;119(3):e716-23.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Sultan AH, Kamm MA, Hudson CN, et al. Anal-sphincter disruption during vaginal delivery. *N Engl J Med* 1993;329(26):1905-11.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Sutton L, Sayer GP, Bajuk B, et al. Do very sick neonates born at term have antenatal risks? 2. Infants ventilated primarily for lung disease. *Acta Obstet Gynecol Scand* 2001;80(10):917-25.

Reason(s) for Exclusion: Includes reasons for ventilation other than respiratory disease such as meconium aspiration. Does not fit Hansen (2007) review criteria. Does not report outcomes according to gestational week at term.

Citation: Svensson J, Carstensen B, Mortensen HB, et al. Early childhood risk factors associated with type 1 diabetes--is gender important? *Eur J Epidemiol* 2005;20(5):429-34.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Tai TY, Wang CY, Lin LL, et al. A case-control study on risk factors for Type 1 diabetes in Taipei City. *Diabetes Res Clin Pract* 1998;42(3):197-203.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Tenconi MT, Devoti G, Comelli M, et al. Major childhood infectious diseases and other determinants associated with type 1 diabetes: a case-control study. *Acta Diabetol* 2007;44(1):14-9.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Thompson JF, Roberts CL, Currie M, et al. Prevalence and persistence of health problems after childbirth: associations with parity and method of birth. *Birth* 2002;29(2):83-94.

Reason(s) for Exclusion: Reports on perineal pain but not cesarean incision pain.

Citation: Tikkanen M, Nuutila M, Hiilesmaa V, et al. Prepregnancy risk factors for placental abruption. Acta Obstet Gynecol Scand 2006;85(1):40-4.

Reason(s) for Exclusion: No information on abruption after only one cesarean.

Citation: Tutdibi E, Gries K, Bucheler M, et al. Impact of labor on outcomes in transient tachypnea of the newborn: population-based study. Pediatrics 2010;125(3):e577-83.

Reason(s) for Exclusion: Fails to control for complications leading to planned cesarean.

Citation: Usta IM, Hobeika EM, Musa AA, et al. Placenta previa-accreta: risk factors and complications. Am J Obstet Gynecol 2005;193(3 Pt 2):1045-9.

Reason(s) for Exclusion: Does not adjust for prior placenta previa. Not limited to pregnancy after primary cesarean.

Citation: Uustal Fornell E, Wingren G, Kjolhede P. Factors associated with pelvic floor dysfunction with emphasis on urinary and fecal incontinence and genital prolapse: an epidemiological study. Acta Obstet Gynecol Scand 2004;83(4):383-9.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Varma MG, Brown JS, Creasman JM, et al. Fecal incontinence in females older than aged 40 years: who is at risk? Dis Colon Rectum 2006;49(6):841-51.

Reason(s) for Exclusion: Included in a systematic review (Nelson 2010).

Citation: Visalli N, Sebastiani L, Adorisio E, et al. Environmental risk factors for type 1 diabetes in Rome and province. Arch Dis Child 2003;88(8):695-8.

Reason(s) for Exclusion: Included in a systematic review (Cardwell 2008).

Citation: Visco AG, Viswanathan M, Lohr KN, et al. Cesarean delivery on maternal request: maternal and neonatal outcomes. Obstet Gynecol 2006;108(6):1517-29.

Reason(s) for Exclusion: Poor quality review. (See “Gleanings” notes in the chapter “The Case Against the Casual Cesarean.”)

Citation: Viswanathan M, Visco AG, Hartmann K, et al. Cesarean Delivery on Maternal Request. Evidence Report/Technology Assessment No. 133. Rockville, MD: Agency for Healthcare Research and Quality; March 2006. Report No.: AHRQ Publication No. 06-E009.

Reason(s) for Exclusion: Poor quality review. (See “Gleanings” notes in the chapter “The Case Against the Casual Cesarean.”)

Citation: Vonk JM, Boezen HM, Postma DS, et al. Perinatal risk factors for bronchial hyperresponsiveness and atopy after a follow-up of 20 years. J Allergy Clin Immunol 2004;114(2):270-6.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Waterstone M, Bewley S, Wolfe C. Incidence and predictors of severe obstetric morbidity: case-control study. BMJ 2001;322(7294):1089-93; discussion 93-4.

Reason(s) for Exclusion: Not relevant. Looks at factors associated with severe morbidity, of which emergency cesarean is one, but major complications would lead to both.

Citation: Werner A, Ramlau-Hansen CH, Jeppesen SK, et al. Cesarean delivery and risk of developing asthma in the offspring. *Acta Paediatr* 2007;96(4):595-6.

Reason(s) for Exclusion: Included in a systematic review (Bager 2008).

Citation: Whiteman MK, Kuklina E, Hillis SD, et al. Incidence and determinants of peripartum hysterectomy. *Obstet Gynecol* 2006;108(6):1486-92.

Reason(s) for Exclusion: Failed to control for factors leading to cesarean that could also predispose to hemorrhage requiring hysterectomy.

Citation: Xu B, Pekkanen J, Jarvelin MR. Obstetric complications and asthma in childhood. *J Asthma* 2000;37(7):589-94.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Xu B, Pekkanen J, Hartikainen AL, et al. Cesarean section and risk of asthma and allergy in adulthood. *J Allergy Clin Immunol* 2001;107(4):732-3.

Reason(s) for Exclusion: Included in systematic reviews (Bager 2008; Thavagnanam 2008).

Citation: Yossepowitch O, Baniel J, Livne PM. Urological injuries during cesarean section: intraoperative diagnosis and management. *J Urol* 2004;172(1):196-9.

Reason(s) for Exclusion: Confined to those cases where urologists were called in for consult.

Citation: Zeck W, Haas J, Rossegger H, et al. Does a change in obstetric management influence the incidence of traumatic birth lesions in mature, otherwise healthy newborn infants? *J Obstet Gynaecol Res* 2007;33(4):475-9.

Reason(s) for Exclusion: Study is a before-and-after study, a weak study design.

Citation: Zanardo V, Simbi AK, Franzoi M, et al. Neonatal respiratory morbidity risk and mode of delivery at term: influence of timing of elective cesarean delivery. *Acta Paediatr* 2004;93(5):643-7.

Reason(s) for Exclusion: Included in a systematic review (Hansen 2007).

Chapter 6: The Case Against Elective Repeat Cesarean

Citation: Bais JM, van der Borden DM, Pel M, et al. Vaginal birth after caesarean section in a population with a low overall caesarean section rate. *Eur J Obstet Gynecol Reprod Biol* 2001;96(2):158-62.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Bujold E, Hammoud A, Schild C, et al. The role of maternal body mass index in outcomes of vaginal births after cesarean. *Am J Obstet Gynecol* 2005;193(4):1517-21.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Caughey AB, Shipp TD, Repke JT, et al. Rate of uterine rupture during a trial of labor in women with one or two prior cesarean deliveries. *Am J Obstet Gynecol* 1999;181(4):872-6.

Reason(s) for Exclusion: Included in systematic reviews (Guise 2010; Tahseen 2010).

Citation: Chauhan SP, Magann EF, Carroll CS, et al. Mode of delivery for the morbidly obese with prior cesarean delivery: vaginal versus repeat cesarean section. *Am J Obstet Gynecol* 2001;185(2):349-54.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Chauhan SP, Martin JN, Jr., Henrichs CE, et al. Maternal and perinatal complications with uterine rupture in 142,075 patients who attempted vaginal birth after cesarean delivery: A review of the literature. *Am J Obstet Gynecol* 2003;189(2):408-17.

Reason(s) for Exclusion: Superseded by later systematic review (Guise 2010).

Citation: Chilaka VN, Cole MY, Habayeb OM, et al. Risk of uterine rupture following induction of labour in women with a previous caesarean section in a large UK teaching hospital. *J Obstet Gynaecol* 2004;24(3):264-5.

Reason(s) for Exclusion: Type of prostaglandin used is not specified.

Citation: Cowan RK, Kinch RA, Ellis B, et al. Trial of labor following cesarean delivery. *Obstet Gynecol* 1994;83(6):933-6.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Dodd JM, Anderson ER, Gates S. Surgical techniques for uterine incision and uterine closure at the time of caesarean section. *Cochrane Database Syst Rev* 2008(3):CD004732.

Reason(s) for Exclusion: No information on suture technique, material, or single- versus double-layer closure.

Citation: Dodd J, Crowther CA, Huertas E, et al. Planned elective repeat caesarean section versus planned vaginal birth for women with a previous caesarean birth (Review). *The Cochrane Database of Systematic Reviews* 2004(4):CD004224.

Reason(s) for Exclusion: This systematic review summarizes other systematic reviews. We have chosen to exclude systematic reviews of systematic reviews as we think this takes us too far away from the original data.

Citation: Durnwald CP, Ehrenberg HM, Mercer BM. The impact of maternal obesity and weight gain on vaginal birth after cesarean section success. *Am J Obstet Gynecol* 2004;191(3):954-7.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Durnwald C, Mercer B. Vaginal birth after Cesarean delivery: predicting success, risks of failure. *J Matern Fetal Neonatal Med* 2004;15(6):388-93.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Enkin MW, Wilkinson C. Single versus two layer suturing for closing the uterine incision at caesarean section. *Cochrane Database Syst Rev* 2000(2):CD000192.

Reason(s) for Exclusion: Study does not present data on strength of scar in subsequent labors.

Citation: Fisler RE, Cohen A, Ringer SA, et al. Neonatal outcome after trial of labor compared with elective repeat cesarean section. *Birth* 2003;30(2):83-8.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Flamm BL, Goings JR, Liu Y, et al. Elective repeat cesarean delivery versus trial of labor: a prospective multicenter study. *Obstet Gynecol* 1994;83(6):927-32.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Flamm BL, Newman LA, Thomas SJ, et al. Vaginal birth after cesarean delivery: results of a 5-year multicenter collaborative study. *Obstet Gynecol* 1990;76(5 Pt 1):750-4.

Reason(s) for Exclusion: Included in systematic reviews (Guise 2010; Tahseen 2010).

Citation: Gilliam M, Rosenberg D, Davis F. The likelihood of placenta previa with greater number of cesarean deliveries and higher parity. *Obstet Gynecol* 2002;99(6):976-80.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Gonen R, Barak S, Nissenblat V, et al. The outcome and cumulative morbidity associated with the second and third postcesarean delivery. *Am J Perinatol* 2007;24(8):483-6.

Reason(s) for Exclusion: Using Gonen (2004), which has more useful data and overlaps in population.

Citation: Gregory KD, Korst LM, Fridman M, et al. Vaginal birth after cesarean: clinical risk factors associated with adverse outcome. *Am J Obstet Gynecol* 2008;198(4):452 e1-10; discussion e10-2.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Grobman WA, Gersnoviez R, Landon MB, et al. Pregnancy outcomes for women with placenta previa in relation to the number of prior cesarean deliveries. *Obstet Gynecol* 2007;110(6):1249-55.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Hemminki E, Shelley J, Gissler M. Mode of delivery and problems in subsequent births: a register-based study from Finland. *Am J Obstet Gynecol* 2005;193(1):169-77.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Hershkowitz R, Fraser D, Mazor M, et al. One or multiple previous cesarean sections are associated with similar increased frequency of placenta previa. *Eur J Obstet Gynecol Reprod Biol* 1995;62(2):185-8.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Hibbard JU, Ismail MA, Wang Y, et al. Failed vaginal birth after a cesarean section: how risky is it? I. Maternal morbidity. *Am J Obstet Gynecol* 2001;184(7):1365-71; discussion 71-3.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Hofmeyr GJ, Mathai M, Shah A, et al. Techniques for caesarean section. *Cochrane Database Syst Rev* 2008(1):CD004662.

Reason(s) for Exclusion: No relevant data. Compares two types of transverse incision.

Citation: Hook B, Kiwi R, Amini SB, et al. Neonatal morbidity after elective repeat cesarean section and trial of labor. *Pediatrics* 1997;100(3 Pt 1):348-53.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Juhasz G, Gyamfi C, Gyamfi P, et al. Effect of body mass index and excessive weight gain on success of vaginal birth after cesarean delivery. *Obstet Gynecol* 2005;106(4):741-6.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Juntunen K, Makarainen L, Kirkinen P. Outcome after a high number (4-10) of repeated caesarean sections. *BJOG* 2004;111(6):561-3.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Kamath BD, Todd JK, Glazner JE, et al. Neonatal outcomes after elective cesarean delivery. *Obstet Gynecol* 2009;113(6):1231-8.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Knight M, Kurinczuk JJ, Spark P, et al. Cesarean delivery and peripartum hysterectomy. *Obstet Gynecol* 2008;111(1):97-105.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Kugler E, Shoham-Vardi I, Burstien E, et al. The safety of a trial of labor after cesarean section in a grandmultiparous population. *Arch Gynecol Obstet* 2008;277(4):339-44.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Leung AS, Farmer RM, Leung EK, et al. Risk factors associated with uterine rupture during trial of labor after cesarean delivery: a case-control study. *Am J Obstet Gynecol* 1993;168(5):1358-63.

Reason(s) for Exclusion: Labels as “augmentations” what were, in fact, inductions. Women were admitted and not permitted to go home if they had any contractions. After 6 hours if there was no change in cervical dilation, they were given oxytocin.

Citation: Lieberman E. Risk factors for uterine rupture during a trial of labor after cesarean. *Clin Obstet Gynecol* 2001;44(3):609-21.

Reason(s) for Exclusion: Superseded by later studies and systematic review (Guise 2010).

Citation: Locatelli A, Ghidini A, Ciriello E, et al. Induction of labor: comparison of a cohort with uterine scar from previous cesarean section vs. a cohort with intact uterus. *J Matern Fetal Neonatal Med* 2006;19(8):471-5.

Reason(s) for Exclusion: Used Locatelli (2004), which studied the same cohort.

Citation: Loebel G, Zelop CM, Egan JF, et al. Maternal and neonatal morbidity after elective repeat Cesarean delivery versus a trial of labor after previous Cesarean delivery in a community teaching hospital. *J Matern Fetal Neonatal Med* 2004;15(4):243-6.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Lydon-Rochelle M, Holt VL, Easterling TR, et al. Risk of uterine rupture during labor among women with a prior cesarean delivery. *N Engl J Med* 2001;345(1):3-8.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Lynch CM, Kearney R, Turner MJ. Maternal morbidity after elective repeat caesarean section after two or more previous procedures. *Eur J Obstet Gynecol Reprod Biol* 2003;106(1):10-3.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Macones GA, Cahill A, Pare E, et al. Obstetric outcomes in women with two prior cesarean deliveries: is vaginal birth after cesarean delivery a viable option? *Am J Obstet Gynecol* 2005;192(4):1223-8; discussion 8-9.

Reason(s) for Exclusion: Included in a systematic review (Tahseen 2010).

Citation: Manyonda IT, Varma TR. Massive obstetric hemorrhage due to placenta previa/accreta with prior cesarean section. *Int J Gynaecol Obstet* 1991;34(2):183-6.

Reason(s) for Exclusion: Have stronger studies. Study is a case series of four cases of placenta previa/accreta. We have large observational studies.

Citation: Martin JN, Jr., Perry KG, Jr., Roberts WE, et al. The case for trial of labor in the patient with a prior low-segment vertical cesarean incision. *Am J Obstet Gynecol* 1997;177(1):144-8.

Reason(s) for Exclusion: This systematic review is superseded by data reported in Lieberman 2001.

Citation: McDonagh MS, Osterweil P, Guise JM. The benefits and risks of inducing labour in patients with prior caesarean delivery: a systematic review. BJOG 2005;112(8):1007-15.

Reason(s) for Exclusion: Systematic review is not usable because it includes studies using induction agents and protocols not common in clinical practice and studies not distinguishing oxytocin induction from augmentation.

Citation: McMahon MJ, Luther ER, Bowes WA, Jr., et al. Comparison of a trial of labor with an elective second cesarean section. N Engl J Med 1996;335(10):689-95.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: McNally OM, Turner MJ. Induction of labour after 1 previous Caesarean section. Aust N Z J Obstet Gynaecol 1999;39(4):425-9.

Reason(s) for Exclusion: Not relevant. No comparisons with spontaneous onset or between induction agents.

Citation: Miller DA, Chollet JA, Goodwin TM. Clinical risk factors for placenta previa-placenta accreta. Am J Obstet Gynecol 1997;177(1):210-4.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Miller DA, Diaz FG, Paul RH. Vaginal birth after cesarean: a 10-year experience. Obstet Gynecol 1994;84(2):255-8.

Reason(s) for Exclusion: Included in a systematic review (Tahseen 2010).

Citation: Mozurkewich EL, Hutton EK. Elective repeat cesarean delivery versus trial of labor: a meta-analysis of the literature from 1989 to 1999. Am J Obstet Gynecol 2000;183(5):1187-97.

Reason(s) for Exclusion: Systematic review superseded by Guise (2010).

Citation: Nisenblatt V, Barak S, Griness OB, et al. Maternal complications associated with multiple cesarean deliveries. Obstet Gynecol 2006;108(1):21-6.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Odibo AO, Cahill AG, Stamilio DM, et al. Predicting placental abruption and previa in women with a previous cesarean delivery. Am J Perinatol 2007;24(5):299-305.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Ogbonmwan SE, Miller V, Ogbonmwan DE, et al. Review of vaginal birth after primary caesarean section without prostaglandin induction and or syntocinon augmentation in labour. J Matern Fetal Neonatal Med 2010;23(4):281-5.

Reason(s) for Exclusion: Data not reported in a usable format.

Citation: Paterson CM, Saunders NJ. Mode of delivery after one caesarean section: audit of current practice in a health region. BMJ 1991;303(6806):818-21.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Patterson LS, O'Connell CM, Baskett TF. Maternal and perinatal morbidity associated with classic and inverted T cesarean incisions. *Obstet Gynecol* 2002;100(4):633-7.

Reason(s) for Exclusion: Not relevant. No data on subsequent VBAC.

Citation: Rayburn WF, Gittens LN, Lucas MJ, et al. Weekly administration of prostaglandin E2 gel compared with expectant management in women with previous cesareans. *Prepidil Gel Study Group. Obstet Gynecol* 1999;94(2):250-4.

Reason(s) for Exclusion: Nonstandard protocol.

Citation: Rochelson B, Pagano M, Conetta L, et al. Previous preterm cesarean delivery: identification of a new risk factor for uterine rupture in VBAC candidates. *J Matern Fetal Neonatal Med* 2005;18(5):339-42.

Reason(s) for Exclusion: Problematic study. Reports an extraordinarily high scar rupture rate (10%) with prior birth ≤ 36 w, and numbers do not add up. Study reports on 25 scar ruptures in 1628 planned VBACs, but the control group is defined as all 691 planned VBACs with no scar rupture.

Citation: Rossi AC, D'Addario V. Maternal morbidity following a trial of labor after cesarean section vs elective repeat cesarean delivery: a systematic review with metaanalysis. *Am J Obstet Gynecol* 2008;199(3):224-31.

Reason(s) for Exclusion: Superseded by later systematic review (Guise 2010).

Citation: Rouse DJ, MacPherson C, Landon M, et al. Blood transfusion and cesarean delivery. *Obstet Gynecol* 2006;108(4):891-7.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Rozen G, Ugoni AM, Sheehan PM. A new perspective on VBAC: a retrospective cohort study. *Women Birth* 2011;24(1):3-9.

Reason(s) for Exclusion: Not relevant. Compares planned VBAC with planned primary vaginal birth.

Citation: Sakala EP, Kaye S, Murray RD, et al. Oxytocin use after previous cesarean: why a higher rate of failed labor trial? *Obstet Gynecol* 1990;75(3 Pt 1):356-9.

Reason(s) for Exclusion: Not relevant. Compares induced versus augmented labors.

Citation: Socol ML, Peaceman AM. Vaginal birth after cesarean: an appraisal of fetal risk. *Obstet Gynecol* 1999;93(5 Pt 1):674-9.

Reason(s) for Exclusion: Study reports surrogate outcomes only (Apgar score, umbilical artery pH).

Citation: Spaans WA, van der Vliet LM, Roell-Schorer EA, et al. Trial of labour after two or three previous caesarean sections. *Eur J Obstet Gynecol Reprod Biol* 2003;110(1):16-9.

Reason(s) for Exclusion: Included in a systematic review (Tahseen 2010).

Citation: Upadhyaya CD, Upadhyaya DM, Carlan SJ. Vaginal birth after cesarean delivery in a small rural community with a solo practice. Am J Perinatol 2003;20(2):63-7.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Wen SW, Rusen ID, Walker M, et al. Comparison of maternal mortality and morbidity between trial of labor and elective cesarean section among women with previous cesarean delivery. Am J Obstet Gynecol 2004;191(4):1263-9.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Citation: Zelop CM, Harlow BL, Frigoletto FD, Jr., et al. Emergency peripartum hysterectomy. Am J Obstet Gynecol 1993;168(5):1443-8.

Reason(s) for Exclusion: Included in a systematic review (Guise 2010).

Chapter 7: Inducing Labor: Patience Is a Virtue

Citation: Allott HA, Palmer CR. Sweeping the membranes: a valid procedure in stimulating the onset of labour? Br J Obstet Gynaecol 1993;100(10):898-903.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Austin SC, Sanchez-Ramos L, Adair CD. Labor induction with intravaginal misoprostol compared with the dinoprostone vaginal insert: a systematic review and metaanalysis. Am J Obstet Gynecol 2010;202(6):624 e1-9.

Reason(s) for Exclusion: Unlike Hofmeyer (2010) and Crane (2006), review did not permit stratifying according to cervical readiness or membrane status.

Citation: Bailit JL, Gregory KD, Reddy UM, et al. Maternal and neonatal outcomes by labor onset type and gestational age. Am J Obstet Gynecol 2010;202(3):245 e1- e12.

Reason(s) for Exclusion: Does not clearly differentiate prelabor cesarean.

Citation: Barrilleaux PS, Bofill JA, Terrone DA, et al. Cervical ripening and induction of labor with misoprostol, dinoprostone gel, and a Foley catheter: a randomized trial of 3 techniques. Am J Obstet Gynecol 2002;186(6):1124-9.

Reason(s) for Exclusion: PGE2 and misoprostol administered simultaneously with balloon catheter.

Citation: Bartha JL, Comino-Delgado R, Garcia-Benasach F, et al. Oral misoprostol and intracervical dinoprostone for cervical ripening and labor induction: a randomized comparison. Obstet Gynecol 2000;96(3):465-9.

Reason(s) for Exclusion: Included in a systematic review (Crane 2006).

Citation: Beebe L, Beaty C, Rayburn W. Immediate neonatal outcomes after elective induction of labor. J Reprod Med 2007;52(3):173-5.

Reason(s) for Exclusion: Does not report on any clinically significant outcomes.

Citation: Berghella V, Rogers RA, Lescale K. Stripping of membranes as a safe method to reduce prolonged pregnancies. Obstet Gynecol 1996;87(6):927-31.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Bolnick JM, Velazquez MD, Gonzalez JL, et al. Randomized trial between two active labor management protocols in the presence of an unfavorable cervix. Am J Obstet Gynecol 2004;190(1):124-8.

Reason(s) for Exclusion: Included in a systematic review (Crane 2006).

Citation: Boulvain M, Fraser WD, Marcoux S, et al. Does sweeping of the membranes reduce the need for formal induction of labour? A randomised controlled trial. Br J Obstet Gynaecol 1998;105(1):34-40.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Boulvain M, Kelly A, Lohse C, et al. Mechanical methods for induction of labour. Cochrane Database Syst Rev 2001(4):CD001233.

Reason(s) for Exclusion: Superseded by later systematic reviews (Fox 2011; Vaknin 2010).

Citation: Buccellato CA, Stika CS, Frederiksen MC. A randomized trial of misoprostol versus extra-amniotic sodium chloride infusion with oxytocin for induction of labor. Am J Obstet Gynecol 2000;182(5):1039-44.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Buser D, Mora G, Arias F. A randomized comparison between misoprostol and dinoprostone for cervical ripening and labor induction in patients with unfavorable cervixes. Obstet Gynecol 1997;89(4):581-5.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Calder AA, Loughney AD, Weir CJ, et al. Induction of labour in nulliparous and multiparous women: a UK, multicentre, open-label study of intravaginal misoprostol in comparison with dinoprostone. BJOG 2008;115(10):1279-88.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Cammu H, Haitsma V. Sweeping of the membranes at 39 weeks in nulliparous women: a randomised controlled trial. Br J Obstet Gynaecol 1998;105(1):41-4.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Chatterjee MS, Ramchandran K, Ferlita J, et al. Prostaglandin E2 (PGE2) vaginal gel for cervical ripening. Eur J Obstet Gynecol Reprod Biol 1991;38(3):197-202.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Chua S, Arulkumaran S, Kurup A, et al. Oxytocin titration for induction of labour: a prospective randomized study of 15 versus 30 minute dose increment schedules. Aust N Z J Obstet Gynaecol 1991;31(2):134-7.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: Chua S, Arulkumaran S, Yap C, et al. Premature rupture of membranes in nulliparas at term with unfavorable cervixes: a double-blind randomized trial of prostaglandin and placebo. Obstet Gynecol 1995;86(4 Pt 1):550-4.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Chung JH, Huang WH, Rumney PJ, et al. A prospective randomized controlled trial that compared misoprostol, Foley catheter, and combination misoprostol-Foley catheter for labor induction. Am J Obstet Gynecol 2003;189(4):1031-5.

Reason(s) for Exclusion: Included in systematic reviews (Fox 2011; Vaknin 2010).

Citation: Chung T, Rogers MS, Gordon H, et al. Prelabour rupture of the membranes at term and unfavourable cervix; a randomized placebo-controlled trial on early intervention with intravaginal prostaglandin E2 gel. Aust N Z J Obstet Gynaecol 1992;32(1):25-7.

Reason(s) for Exclusion: Included in systematic reviews (Dare 2006; Kelly 2009).

Citation: Combs CA, Singh NB, Khoury JC. Elective induction versus spontaneous labor after sonographic diagnosis of fetal macrosomia. Obstet Gynecol 1993;81(4):492-6.

Reason(s) for Exclusion: Included in a systematic review (Sanchez-Ramos 2002).

Citation: Crane J, Bennett K, Young D, et al. The effectiveness of sweeping membranes at term: a randomized trial. Obstet Gynecol 1997;89(4):586-90.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Culver J, Strauss RA, Brody S, et al. A randomized trial comparing vaginal misoprostol versus Foley catheter with concurrent oxytocin for labor induction in nulliparous women. Am J Perinatol 2004;21(3):139-46.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Dallenbach P, Boulvain M, Viardot C, et al. Oral misoprostol or vaginal dinoprostone for labor induction: a randomized controlled trial. Am J Obstet Gynecol 2003;188(1):162-7.

Reason(s) for Exclusion: Included in a systematic review (Kundodyiwa 2009).

Citation: Danielian P, Porter B, Ferri N, et al. Misoprostol for induction of labour at term: a more effective agent than dinoprostone vaginal gel. Br J Obstet Gynaecol 1999;106(8):793-7.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Delpapa EH, Mueller-Heubach E. Pregnancy outcome following ultrasound diagnosis of macrosomia. Obstet Gynecol 1991;78(3 Pt 1):340-3.

Reason(s) for Exclusion: Included in a systematic review (Sanchez-Ramos 2002).

Citation: Doany W, McCarty J. Outpatient management of the uncomplicated postdate pregnancy with intravaginal prostaglandin E2 gel and membrane stripping. J Matern Fetal Med 1997;6(2):71-8.

Reason(s) for Exclusion: Included in systematic reviews (Boulvain 2005; Kelly 2009).

Citation: Dodd JM, Crowther CA, Robinson JS. Oral misoprostol for induction of labour at term: randomised controlled trial. BMJ 2006;332(7540):509-13.

Reason(s) for Exclusion: Included in a systematic review (Kundodyiwa 2009).

Citation: el-Torkey M, Grant JM. Sweeping of the membranes is an effective method of induction of labour in prolonged pregnancy: a report of a randomized trial. Br J Obstet Gynaecol 1992;99(6):455-8.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Fonseca L, Wood HC, Lucas MJ, et al. Randomized trial of preinduction cervical ripening: misoprostol vs oxytocin. *Am J Obstet Gynecol* 2008;199(3):305 e1-5.

Reason(s) for Exclusion: Published after Crane (2006) systematic review, but does not fit review's criteria. Investigators include preterm labors.

Citation: Friesen CD, Miller AM, Rayburn WF. Influence of spontaneous or induced labor on delivering the macrosomic fetus. *Am J Perinatol* 1995;12(1):63-6.

Reason(s) for Exclusion: Included in a systematic review (Sanchez-Ramos 2002).

Citation: Gaudernack LC, Forbord S, Hole E. Acupuncture administered after spontaneous rupture of membranes at term significantly reduces the length of birth and use of oxytocin. A randomized controlled trial. *Acta Obstet Gynecol Scand* 2006;85(11):1348-53.

Reason(s) for Exclusion: Included in a systematic review (Smith 2004). (Despite its publication date, the Smith review includes this trial.)

Citation: Gaudet LM, Dyzak R, Aung SK, et al. Effectiveness of acupuncture for the initiation of labour at term: a pilot randomized controlled trial. *J Obstet Gynaecol Can* 2008;30(12):1118-23.

Reason(s) for Exclusion: Unable to obtain study.

Citation: Goldenberg M, Dulitzky M, Feldman B, et al. Stretching of the cervix and stripping of the membranes at term: a randomised controlled study. *Eur J Obstet Gynecol Reprod Biol* 1996;66(2):129-32.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Gonen O, Rosen DJ, Dolfin Z, et al. Induction of labor versus expectant management in macrosomia: a randomized study. *Obstet Gynecol* 1997;89(6):913-7.

Reason(s) for Exclusion: Included in systematic reviews (Irion 1998; Sanchez-Ramos 2002).

Citation: Goni S, Sawhney H, Gopalan S. Oxytocin induction of labor: a comparison of 20- and 60-min dose increment levels. *Int J Gynaecol Obstet* 1995;48(1):31-6.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: Greybush M, Singleton C, Atlas RO, et al. Preinduction cervical ripening techniques compared. *J Reprod Med* 2001;46(1):11-7.

Reason(s) for Exclusion: Included in systematic reviews (Fox 2011; Vaknin 2010).

Citation: Guinn DA, Goepfert AR, Christine M, et al. Extra-amniotic saline, laminaria, or prostaglandin E(2) gel for labor induction with unfavorable cervix: a randomized controlled trial. *Obstet Gynecol* 2000;96(1):106-12.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Gulmezoglu AM, Crowther CA, Middleton P. Induction of labour for improving birth outcomes for women at or beyond term. *Cochrane Database Syst Rev* 2006(4):CD004945.

Reason(s) for Exclusion: Superseded by later systematic review (Wennerholm 2009).

Citation: Harper TC, Coeytaux RR, Chen W, et al. A randomized controlled trial of acupuncture for initiation of labor in nulliparous women. *J Matern Fetal Neonatal Med* 2006;19(8):465-70.

Reason(s) for Exclusion: Included in a systematic review (Smith 2004). (Despite its publication date, the Smith review includes this trial.)

Citation: Hemlin J, Moller B. Extraamniotic saline infusion is promising in preparing the cervix for induction of labor. *Acta Obstet Gynecol Scand* 1998;77(1):45-9.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Hermus MA, Verhoeven CJ, Mol BW, et al. Comparison of induction of labour and expectant management in postterm pregnancy: a matched cohort study. *J Midwifery Womens Health* 2009;54(5):351-6.

Reason(s) for Exclusion: Postdates was defined as > 42 w so not relevant to chapter.

Citation: Hofmeyr GJ, Alfirevic Z, Matonhodze B, et al. Titrated oral misoprostol solution for induction of labour: a multi-centre, randomised trial. *BJOG* 2001;108(9):952-9.

Reason(s) for Exclusion: Included in a systematic review (Kundodyiwa 2009).

Citation: Hourvitz A, Alcalay M, Korach J, et al. A prospective study of high- versus low-dose oxytocin for induction of labor. *Acta Obstet Gynecol Scand* 1996;75(7):636-41.

Reason(s) for Exclusion: Was not included in Crane and Young's systematic review (1998), although it fell within the review's search dates. We therefore assume that they excluded it.

Citation: Johnson DP, Davis NR, Brown AJ. Risk of cesarean delivery after induction at term in nulliparous women with an unfavorable cervix. *Am J Obstet Gynecol* 2003;188(6):1565-9; discussion 9-72.

Reason(s) for Exclusion: Includes indicated inductions.

Citation: Khoury AN, Zhou QP, Gorenberg DM, et al. A comparison of intermittent vaginal administration of two different doses of misoprostol suppositories with continuous dinoprostone for cervical ripening and labor induction. *J Matern Fetal Med* 2001;10(3):186-92.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Kolderup L, McLean L, Grullon K, et al. Misoprostol is more efficacious for labor induction than prostaglandin E2, but is it associated with more risk? *Am J Obstet Gynecol* 1999;180(6 Pt 1):1543-50.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Lazor LZ, Philipson EH, Ingardia CJ, et al. A randomized comparison of 15- and 40-minute dosing protocols for labor augmentation and induction. *Obstet Gynecol* 1993;82(6):1009-12.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: le Roux PA, Olarogun JO, Penny J, et al. Oral and vaginal misoprostol compared with dinoprostone for induction of labor: a randomized controlled trial. *Obstet Gynecol* 2002;99(2):201-5.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Leaphart WL, Meyer MC, Capeless EL. Labor induction with a prenatal diagnosis of fetal macrosomia. *J Matern Fetal Med* 1997;6(2):99-102.

Reason(s) for Exclusion: Included in a systematic review (Sanchez-Ramos 2002).

Citation: Lin MG, Nuthalapaty FS, Carver AR, et al. Misoprostol for labor induction in women with term premature rupture of membranes: a meta-analysis. *Obstet Gynecol* 2005;106(3):593-601.

Reason(s) for Exclusion: Superseded by later systematic review (Dare 2006).

Citation: Lyndrup J, Nickelsen C, Weber T, et al. Induction of labour by balloon catheter with extra-amniotic saline infusion (BCEAS): a randomised comparison with PGE2 vaginal pessaries. *Eur J Obstet Gynecol Reprod Biol* 1994;53(3):189-97.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: MacKenzie IZ, Burns E. Randomised trial of one versus two doses of prostaglandin E2 for induction of labour: 1. Clinical outcome. *Br J Obstet Gynaecol* 1997;104(9):1062-7.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Magann EF, Chauhan SP, Nevils BG, et al. Management of pregnancies beyond forty-one weeks' gestation with an unfavorable cervix. *Am J Obstet Gynecol* 1998;178(6):1279-87.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Magann EF, McNamara MF, Whitworth NS, et al. Can we decrease postdatism in women with an unfavorable cervix and a negative fetal fibronectin test result at term by serial membrane sweeping? *Am J Obstet Gynecol* 1998;179(4):890-4.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Mahmood TA, Dick MJ. A randomized trial of management of pre-labor rupture of membranes at term in multiparous women using vaginal prostaglandin gel. *Obstet Gynecol* 1995;85(1):71-4.

Reason(s) for Exclusion: Included in systematic reviews (Dare 2006; Kelly 2009).

Citation: Mahmood TA, Dick MJ, Smith NC, et al. Role of prostaglandin in the management of prelabour rupture of the membranes at term. *Br J Obstet Gynaecol* 1992;99(2):112-7.

Reason(s) for Exclusion: Included in systematic reviews (Dare 2006; Kelly 2009).

Citation: Matonhodze BB, Hofmeyr GJ, Levin J. Labour induction at term--a randomised trial comparing Foley catheter plus titrated oral misoprostol solution, titrated oral misoprostol solution alone, and dinoprostone. *S Afr Med J* 2003;93(5):375-9.

Reason(s) for Exclusion: Included in a systematic review (Kundodyiwa 2009).

Citation: McColgin SW, Hampton HL, McCaul JF, et al. Stripping membranes at term: can it safely reduce the incidence of post-term pregnancies? *Obstet Gynecol* 1990;76(4):678-80.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: McColgin SW, Patrissi GA, Morrison JC. Stripping the fetal membranes at term. Is the procedure safe and efficacious? *J Reprod Med* 1990;35(8):811-4.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Citation: Mercer B, Pilgrim P, Sibai B. Labor induction with continuous low-dose oxytocin infusion: a randomized trial. *Obstet Gynecol* 1991;77(5):659-63.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: Meyer M, Pflum J, Howard D. Outpatient misoprostol compared with dinoprostone gel for preinduction cervical ripening: a randomized controlled trial. *Obstet Gynecol* 2005;105(3):466-72.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyer 2010).

Citation: Miller AM, Rayburn WF, Smith CV. Patterns of uterine activity after intravaginal prostaglandin E2 during preinduction cervical ripening. *Am J Obstet Gynecol* 1991;165(4 Pt 1):1006-9.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Moodley J, Venkatachalam S, Songca P. Misoprostol for cervical ripening at and near term--a comparative study. *S Afr Med J* 2003;93(5):371-4.

Reason(s) for Exclusion: Included in a systematic review (Kundodyiwa 2009).

Citation: Muller PR, Stubbs TM, Laurent SL. A prospective randomized clinical trial comparing two oxytocin induction protocols. *Am J Obstet Gynecol* 1992;167(2):373-80; discussion 80-1.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: Mullin PM, House M, Paul RH, et al. A comparison of vaginally administered misoprostol with extra-amniotic saline solution infusion for cervical ripening and labor induction. *Am J Obstet Gynecol* 2002;187(4):847-52.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Murray HG, Buonocore A, Hawley J. A randomized trial of two preparations of vaginal prostaglandin for pre-induction cervical ripening. *Obstet Gynecol* 1995;86(6):880-5.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Natale R, Milne JK, Campbell MK, et al. Management of premature rupture of membranes at term: randomized trial. *Am J Obstet Gynecol* 1994;171(4):936-9.

Reason(s) for Exclusion: Included in a systematic review (Dare 2006).

Citation: Neiger R, Greaves PC. Comparison between vaginal misoprostol and cervical dinoprostone for cervical ripening and labor induction. *Tenn Med* 2001;94(1):25-7.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Nielsen PE, Howard BC, Hill CC, et al. Comparison of elective induction of labor with favorable Bishop scores versus expectant management: a randomized clinical trial. *J Matern Fetal Neonatal Med* 2005;18(1):59-64.

Reason(s) for Exclusion: Included in a systematic review (Caughey 2009).

Citation: Nuutila M, Kajanoja P. Local administration of prostaglandin E2 for cervical ripening and labor induction: the appropriate route and dose. *Acta Obstet Gynecol Scand* 1996;75(2):135-8.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: O'Brien JM, Mercer BM, Cleary NT, et al. Efficacy of outpatient induction with low-dose intravaginal prostaglandin E2: a randomized, double-blind, placebo-controlled trial. *Am J Obstet Gynecol* 1995;173(6):1855-9.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Ohel G, Rahav D, Rothbart H, et al. Randomised trial of outpatient induction of labor with vaginal PGE2 at 40-41 weeks of gestation versus expectant management. *Arch Gynecol Obstet* 1996;258(3):109-12.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Ottervanger HP, Keirse MJ, Smit W, et al. Controlled comparison of induction versus expectant care for prelabor rupture of the membranes at term. *J Perinat Med* 1996;24(3):237-42.

Reason(s) for Exclusion: Included in a systematic review (Dare 2006).

Citation: Pandis GK, Papageorghiou AT, Otigbah CM, et al. Randomized study of vaginal misoprostol (PGE(1)) and dinoprostone gel (PGE(2)) for induction of labor at term. *Ultrasound Obstet Gynecol* 2001;18(6):629-35.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Patka JH, Lodolce AE, Johnston AK. High- versus low-dose oxytocin for augmentation or induction of labor. *Ann Pharmacother* 2005;39(1):95-101.

Reason(s) for Exclusion: Insufficient information to determine whether this is a systematic or narrative review.

Citation: Perryman D, Yeast JD, Holst V. Cervical ripening: a randomized study comparing prostaglandin E2 gel to prostaglandin E2 suppositories. *Obstet Gynecol* 1992;79(5 (Pt 1)):670-2.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Prager M, Eneroth-Grimfors E, Edlund M, et al. A randomised controlled trial of intravaginal dinoprostone, intravaginal misoprostol and transcervical balloon catheter for labour induction. BJOG 2008;115(11):1443-50.

Reason(s) for Exclusion: Included in a systematic review (Fox 2011).

Citation: Ramsey PS, Harris DY, Ogburn PL, Jr., et al. Comparative efficacy and cost of the prostaglandin analogs dinoprostone and misoprostol as labor preinduction agents. Am J Obstet Gynecol 2003;188(2):560-5.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Ramsey PS, Meyer L, Walkes BA, et al. Cardiotocographic abnormalities associated with dinoprostone and misoprostol cervical ripening. Obstet Gynecol 2005;105(1):85-90.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Rayburn WF, Wapner RJ, Barss VA, et al. An intravaginal controlled-release prostaglandin E2 pessary for cervical ripening and initiation of labor at term. Obstet Gynecol 1992;79(3):374-9.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Roach VJ, Rogers MS. Pregnancy outcome beyond 41 weeks gestation. Int J Gynaecol Obstet 1997;59(1):19-24.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Roberts CL, Algert CS, Knight M, et al. Amniotic fluid embolism in an Australian population-based cohort. BJOG 2010.

Reason(s) for Exclusion: Made no adjustment for factors correlated with both induction and amniotic fluid embolism, e.g. hypertension.

Citation: Roos N, Sahlin L, Ekman-Ordeberg G, et al. Maternal risk factors for postterm pregnancy and cesarean delivery following labor induction. Acta Obstet Gynecol Scand 2010;89(8):1003-10.

Reason(s) for Exclusion: Postdates was defined as > 42 w so not relevant to chapter.

Citation: Rouben D, Arias F. A randomized trial of extra-amniotic saline infusion plus intracervical Foley catheter balloon versus prostaglandin E2 vaginal gel for ripening the cervix and inducing labor in patients with unfavorable cervixes. Obstet Gynecol 1993;82(2):290-4.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Rowlands S, Bell R, Donath S, et al. Misoprostol versus dinoprostone for cervical priming prior to induction of labour in term pregnancy: a randomised controlled trial. Aust N Z J Obstet Gynaecol 2001;41(2):145-52.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Rozenberg P, Chevret S, Senat MV, et al. A randomized trial that compared intravaginal misoprostol and dinoprostone vaginal insert in pregnancies at high risk of fetal distress. *Am J Obstet Gynecol* 2004;191(1):247-53.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Sanchez-Ramos L, Olivier F, Delke I, et al. Labor induction versus expectant management for postterm pregnancies: a systematic review with meta-analysis. *Obstet Gynecol* 2003;101(6):1312-8.

Reason(s) for Exclusion: Superseded by later systematic review (Gulmezoglu 2006).

Citation: Satin AJ, Hankins GD, Yeomans ER. A prospective study of two dosing regimens of oxytocin for the induction of labor in patients with unfavorable cervixes. *Am J Obstet Gynecol* 1991;165(4 Pt 1):980-4.

Reason(s) for Exclusion: Included in a systematic review (Crane 1998).

Citation: Sawai SK, O'Brien WF, Mastrogiannis DS, et al. Patient-administered outpatient intravaginal prostaglandin E2 suppositories in post-date pregnancies: a double-blind, randomized, placebo-controlled study. *Obstet Gynecol* 1994;84(5):807-10.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Sawai SK, Williams MC, O'Brien WF, et al. Sequential outpatient application of intravaginal prostaglandin E2 gel in the management of postdates pregnancies. *Obstet Gynecol* 1991;78(1):19-23.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Sciscione AC, McCullough H, Manley JS, et al. A prospective, randomized comparison of Foley catheter insertion versus intracervical prostaglandin E2 gel for preinduction cervical ripening. *Am J Obstet Gynecol* 1999;180(1 Pt 1):55-60.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Sciscione AC, Nguyen L, Manley J, et al. A randomized comparison of transcervical Foley catheter to intravaginal misoprostol for preinduction cervical ripening. *Obstet Gynecol* 2001;97(4):603-7.

Reason(s) for Exclusion: Included in systematic reviews (Fox 2011; Vaknin 2010).

Citation: Selo-Ojeme D, Rogers C, Mohanty A, et al. Is induced labour in the nullipara associated with more maternal and perinatal morbidity? *Arch Gynecol Obstet* 2010.

Reason(s) for Exclusion: Compares outcomes with spontaneous labor < 42 completed weeks with induction at ≥ 42 w. Any difference in outcomes may be due to postdates pregnancy.

Citation: Shalev E, Peleg D, Eliyahu S, et al. Comparison of 12- and 72-hour expectant management of premature rupture of membranes in term pregnancies. *Obstet Gynecol* 1995;85(5 Pt 1):766-8.

Reason(s) for Exclusion: Included in a systematic review (Dare 2006).

Citation: Sheiner E, Sarid L, Levy A, et al. Obstetric risk factors and outcome of pregnancies complicated with early postpartum hemorrhage: a population-based study. J Matern Fetal Neonatal Med 2005;18(3):149-54.

Reason(s) for Exclusion: Uses 5000 mL as its definition of postpartum hemorrhage after vaginal birth, which is not a clinically significant outcome.

Citation: Shetty A, Livingstone I, Acharya S, et al. A randomised comparison of oral misoprostol and vaginal prostaglandin E2 tablets in labour induction at term. BJOG 2004;111(5):436-40.

Reason(s) for Exclusion: Included in a systematic review (Crane 2006).

Citation: Smith CV, Rayburn WF, Connor RE, et al. Double-blind comparison of intravaginal prostaglandin E2 gel and "chip" for preinduction cervical ripening. Am J Obstet Gynecol 1990;163(3):845-7.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Spiliopoulos M, Puri I, Jain NJ, et al. Amniotic fluid embolism-risk factors, maternal and neonatal outcomes. J Matern Fetal Neonatal Med 2009;22(5):439-44.

Reason(s) for Exclusion: Does not evaluate induction as a risk factor.

Citation: St Onge RD, Connors GT. Preinduction cervical ripening: a comparison of intracervical prostaglandin E2 gel versus the Foley catheter. Am J Obstet Gynecol 1995;172(2 Pt 1):687-90.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Surbek DV, Boesiger H, Hoesli I, et al. A double-blind comparison of the safety and efficacy of intravaginal misoprostol and prostaglandin E2 to induce labor. Am J Obstet Gynecol 1997;177(5):1018-23.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Usta IM, Mercer BM, Sibai BM. Current obstetrical practice and umbilical cord prolapse. Am J Perinatol 1999;16(9):479-84.

Reason(s) for Exclusion: Does not evaluate association between induction and umbilical cord prolapse.

Citation: Varaklis K, Gumina R, Stubblefield PG. Randomized controlled trial of vaginal misoprostol and intracervical prostaglandin E2 gel for induction of labor at term. Obstet Gynecol 1995;86(4 Pt 1):541-4.

Reason(s) for Exclusion: Included in systematic reviews (Crane 2006; Hofmeyr 2010).

Citation: Vengalil SR, Guinn DA, Olabi NF, et al. A randomized trial of misoprostol and extra-amniotic saline infusion for cervical ripening and labor induction. Obstet Gynecol 1998;91(5 Pt 1):774-9.

Reason(s) for Exclusion: Included in a systematic review (Vaknin 2010).

Citation: Waterstone M, Bewley S, Wolfe C. Incidence and predictors of severe obstetric morbidity: case-control study. BMJ 2001;322(7294):1089-93; discussion 93-4.

Reason(s) for Exclusion: Includes induction in women with uterine scar.

Citation: Wing DA, Jones MM, Rahall A, et al. A comparison of misoprostol and prostaglandin E2 gel for preinduction cervical ripening and labor induction. Am J Obstet Gynecol 1995;172(6):1804-10.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Wing DA, Ortiz-Omphroy G, Paul RH. A comparison of intermittent vaginal administration of misoprostol with continuous dinoprostone for cervical ripening and labor induction. Am J Obstet Gynecol 1997;177(3):612-8.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Wing DA, Rahall A, Jones MM, et al. Misoprostol: an effective agent for cervical ripening and labor induction. Am J Obstet Gynecol 1995;172(6):1811-6.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2010).

Citation: Witter FR, Mercer BM. Improved intravaginal controlled-release prostaglandin E2 insert for cervical ripening at term. The Prostaglandin E2 insert Study Group. J Matern Fetal Med 1996;5(2):64-9.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Witter FR, Rocco LE, Johnson TR. A randomized trial of prostaglandin E2 in a controlled-release vaginal pessary for cervical ripening at term. Am J Obstet Gynecol 1992;166(3):830-4.

Reason(s) for Exclusion: Included in a systematic review (Kelly 2009).

Citation: Wong SF, Hui SK, Choi H, et al. Does sweeping of membranes beyond 40 weeks reduce the need for formal induction of labour? BJOG 2002;109(6):632-6.

Reason(s) for Exclusion: Included in a systematic review (Boulvain 2005).

Chapter 8: Promoting Progress in First-Stage Labor: Yes We Can

Citation: Lawrence A, Lewis L, Hofmeyr GJ, et al. Maternal positions and mobility during first stage labour. Cochrane Database Syst Rev 2009;(2)(2):CD003934.

Reason(s) for Exclusion: systematic review design pooled data from heterogeneous populations with different definitions of "upright". No attempt was made to conduct sensitivity analysis to address these variations.

Citation: Melzack R, Belanger E, Lacroix R. Labor pain: Effect of maternal position on front and back pain. J Pain Symptom Manage 1991;6(8):476-80.

Reason(s) for Exclusion: included in systematic review (Simkin 2004).

Citation: Molina FJ, Alvarez Sola P, Lopez E, et al. Pain in the first stage of labor: Relationship with the patient's position. J Pain Symptom Manage 1997;13(2):98-103.

Reason(s) for Exclusion: included in systematic review (Simkin 2004).

Citation: Souza JP, Miquelutti MA, Cecatti JG, et al. Maternal position during the first stage of labor: A systematic review. Reprod Health 2006;3:10.

Reason(s) for Exclusion: This systematic review is superseded by Lawrence, 2009, which is also excluded. Both reviews pool studies that are heterogeneous in population, definition of "upright", and other critical factors. Despite their limitations, both meta-analyses find a statistically significant reduction in the length of first-stage labor and no evidence of harm.

Chapter 9: Labor Augmentation: Forced Labor

Citation: Bailit JL, Dierker L, Blanchard MH, et al. Outcomes of women presenting in active versus latent phase of spontaneous labor. *Obstet Gynecol* 2005;105(1):77-9.

Reason(s) for Exclusion: Did not control for labor factors that might lead to early admission and predispose to cesarean.

Citation: Blanch G, Lavender T, Walkinshaw S, et al. Dysfunctional labour: a randomised trial. *Br J Obstet Gynaecol* 1998;105(1):117-20.

Reason(s) for Exclusion: Included in systematic reviews (Smyth 2007; Bugg 2011).

Citation: Bolnick JM, Velazquez MD, Gonzalez JL, et al. Randomized trial between two active labor management protocols in the presence of an unfavorable cervix. *Am J Obstet Gynecol* 2004;190(1):124-8.

Reason(s) for Exclusion: Trial is actually of two induction protocols.

Citation: Cammu H, Van Eeckhout E. A randomised controlled trial of early versus delayed use of amniotomy and oxytocin infusion in nulliparous labour. *Br J Obstet Gynaecol* 1996;103(4):313-8.

Reason(s) for Exclusion:

Citation: Cesario SK. Reevaluation of Friedman's Labor Curve: a pilot study. *J Obstet Gynecol Neonatal Nurs* 2004;33(6):713-22.

Reason(s) for Exclusion: Have stronger studies. Study based on only 97 nulliparous women.

Citation: Dencker A, Berg M, Bergqvist L, et al. Early versus delayed oxytocin augmentation in nulliparous women with prolonged labour--a randomised controlled trial. *BJOG* 2009;116(4):530-6.

Reason(s) for Exclusion: Included in a systematic review (Bugg 2011).

Citation: Eganhouse DJ. A comparative study of variables differentiating false labor from early labor. *J Perinatol* 1991;11(3):249-57.

Reason(s) for Exclusion: Have stronger studies. Study not stratified by parity and containing only 65 women.

Citation: Franks P. A randomized trial of amniotomy in active labor. *J Fam Pract* 1990;30(1):49-52.

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Fraser W, Vendittelli F, Krauss I, et al. Effects of early augmentation of labour with amniotomy and oxytocin in nulliparous women: a meta-analysis. *Br J Obstet Gynaecol* 1998;105(2):189-94.

Reason(s) for Exclusion: Superseded by later systematic review (Brown 2008).

Citation: Fraser WD, Marcoux S, Moutquin JM, et al. Effect of early amniotomy on the risk of dystocia in nulliparous women. The Canadian Early Amniotomy Study Group. *N Engl J Med* 1993;328(16):1145-9.

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Fraser WD, Sauve R, Parboosingh IJ, et al. A randomized controlled trial of early amniotomy. Br J Obstet Gynaecol 1991;98(1):84-91.

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Garite TJ, Porto M, Carlson NJ, et al. The influence of elective amniotomy on fetal heart rate patterns and the course of labor in term patients: a randomized study. Am J Obstet Gynecol 1993;168(6 Pt 1):1827-31; discussion 31-2.

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Glantz JC, McNanley TJ. Active management of labor: a meta-analysis of cesarean delivery rates for dystocia in nulliparas. Obstet Gynecol Surv 1997;52(8):497-505.

Reason(s) for Exclusion: Superseded by later systematic review (Brown 2008).

Citation: Henry DE, Cheng YW, Shaffer BL, et al. Perinatal outcomes in the setting of active phase arrest of labor. Obstet Gynecol 2008;112(5):1109-15.

Reason(s) for Exclusion: Not relevant. Study about whether neonatal outcomes equally good if augment labor with active phase arrest versus c-section.

Citation: Holmes P, Oppenheimer LW, Wen SW. The relationship between cervical dilatation at initial presentation in labour and subsequent intervention. BJOG 2001;108(11):1120-4.

Reason(s) for Exclusion: Did not control for labor factors that might lead to early admission and predispose to cesarean.

Citation: Johnson N, Lilford R, Guthrie K, et al. Randomised trial comparing a policy of early with selective amniotomy in uncomplicated labour at term. Br J Obstet Gynaecol 1997;104(3):340-6.

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Jones M, Larson E. Length of normal labor in women of Hispanic origin. J Midwifery Womens Health 2003;48(1):2-9.

Reason(s) for Exclusion: Albers (1996; 1999) are stronger studies. This study is limited to Hispanic women and only includes 120 nulliparous women.

Citation: Lavender T, Alfievic Z, Walkinshaw S. Effect of different partogram action lines on birth outcomes: a randomized controlled trial. Obstet Gynecol 2006;108(2):295-302.

Reason(s) for Exclusion: Included in a systematic review (Lavender 2008).

Citation: Lavender T, Alfievic Z, Walkinshaw S. Partogram action line study: a randomised trial. Br J Obstet Gynaecol 1998;105(9):976-80.

Reason(s) for Exclusion: Included in a systematic review (Lavender 2008).

Citation: Lopez-Zeno JA, Peaceman AM, Adashek JA, et al. A controlled trial of a program for the active management of labor. N Engl J Med 1992;326(7):450-4.

Reason(s) for Exclusion: Included in systematic reviews (Brown 2008; Wei 2010).

Citation: Main EK, Moore D, Farrell B, et al. Is there a useful cesarean birth measure? Assessment of the nulliparous term singleton vertex cesarean birth rate as a tool for obstetric quality improvement. Am J Obstet Gynecol 2006;194(6):1644-51; discussion 51-2.

Reason(s) for Exclusion: Did not control for labor factors that might lead to early admission and predispose to cesarean.

Citation: Merrill DC, Zlatnik FJ. Randomized, double-masked comparison of oxytocin dosage in induction and augmentation of labor. Obstet Gynecol 1999;94(3):455-63.

Reason(s) for Exclusion: Included in a systematic review (Wei 2010).

Citation: Patka JH, Lodolce AE, Johnston AK. High- versus low-dose oxytocin for augmentation or induction of labor. Ann Pharmacother 2005;39(1):95-101.

Reason(s) for Exclusion: Insufficient information on methodology to classify as a systematic review.

Citation: Pattinson RC, Howarth GR, Mdluli W, et al. Aggressive or expectant management of labour: a randomised clinical trial. BJOG 2003;110(5):457-61.

Reason(s) for Exclusion: Included in a systematic review (Lavender 2008).

Citation: Perl FM, Hunter DJ. What cervical dilatation rate during active labour should be considered abnormal? Eur J Obstet Gynecol Reprod Biol 1992;45(2):89-92.

Reason(s) for Exclusion: Study looks at cesarean rates according to rate of progress and use of oxytocin. It therefore essentially measures practice variation.

Citation: Rogers R, Gilson GJ, Miller AC, et al. Active management of labor: does it make a difference? Am J Obstet Gynecol 1997;177(3):599-605.

Reason(s) for Exclusion: Included in systematic reviews (Brown 2008; Wei 2010).

Citation: Sadler LC, Davison T, McCowan LM. A randomised controlled trial and meta-analysis of active management of labour. BJOG 2000;107(7):909-15.

Reason(s) for Exclusion: Included in systematic reviews (Brown 2008; Wei 2010).

Citation: UK Amniotomy Group. Comparing routine versus delayed amniotomy in spontaneous first labor at term. A multicenter randomized trial. UK Amniotomy Group. Online J Curr Clin Trials 1994;Doc No 122:[4148 words; 40 paragraphs].

Reason(s) for Exclusion: Included in a systematic review (Smyth 2007).

Citation: Wei SQ, Luo ZC, Xu H, et al. The effect of early oxytocin augmentation in labor: a meta-analysis. Obstet Gynecol 2009;114(3):641-9.

Reason(s) for Exclusion: Superseded by a later systematic review (Bugg 2011).

Citation: Windrim R, Seaward PG, Hodnett E, et al. A randomized controlled trial of a bedside partogram in the active management of primiparous labour. J Obstet Gynaecol Can 2007;29(1):27-34.

Reason(s) for Exclusion: Included in a systematic review (Lavender 2008).

Citation: World Health Organization partograph in management of labour. World Health Organization Maternal Health and Safe Motherhood Programme. Lancet 1994;343(8910):1399-404.

Reason(s) for Exclusion: Excluded from a systematic review (Lavender 2008).

Citation: Xenakis EM, Langer O, Piper JM, et al. Low-dose versus high-dose oxytocin augmentation of labor--a randomized trial. Am J Obstet Gynecol 1995;173(6):1874-8.

Reason(s) for Exclusion: Included in a systematic review (Wei 2010).

Citation: Zhang J, Troendle JF, Yancey MK. Reassessing the labor curve in nulliparous women. Am J Obstet Gynecol 2002;187(4):824-8.

Reason(s) for Exclusion: Not a study of physiologic progress. Women could be augmented and have epidurals.

Chapter 10: Electronic Fetal Monitoring (Cardiotocography): Minding the Baby

Citation: Cheyne H, Dunlop A, Shields N, et al. A randomised controlled trial of admission electronic fetal monitoring in normal labour. *Midwifery* 2003;19(3):221-9.

Reason(s) for Exclusion: Included in a systematic review (Bix 2005).

Citation: Elimian A, Figueroa R, Tejani N. Intrapartum assessment of fetal well-being: a comparison of scalp stimulation with scalp blood pH sampling. *Obstet Gynecol* 1997;89(3):373-6.

Reason(s) for Exclusion: Included in a systematic review (Skupski 2002).

Citation: Gourounti K, Sandall J. Admission cardiotocography versus intermittent auscultation of fetal heart rate: effects on neonatal Apgar score, on the rate of caesarean sections and on the rate of instrumental delivery--a systematic review. *Int J Nurs Stud* 2007;44(6):1029-35.

Reason(s) for Exclusion: Bix (2005), also a systematic review, includes the same trials and reports on more outcomes.

Citation: Herbst A, Ingemarsson I. Intermittent versus continuous electronic monitoring in labour: a randomised study. *Br J Obstet Gynaecol* 1994;101(8):663-8.

Reason(s) for Exclusion: Included in a systematic review (Alfirevic 2006).

Citation: Impey L, Reynolds M, MacQuillan K, et al. Admission cardiotocography: a randomised controlled trial. *Lancet* 2003;361(9356):465-70.

Reason(s) for Exclusion: Included in a systematic review (Bix 2005).

Citation: Irion O, Stuckelberger P, Moutquin JM, et al. Is intrapartum vibratory acoustic stimulation a valid alternative to fetal scalp pH determination? *Br J Obstet Gynaecol* 1996;103(7):642-7.

Reason(s) for Exclusion: Included in a systematic review (Skupski 2002).

Citation: Lazebnik N, Neuman MR, Lysikiewicz A, et al. Response of fetal heart rate to scalp stimulation related to fetal acid-base status. *Am J Perinatol* 1992;9(4):228-32.

Reason(s) for Exclusion: Included in a systematic review (Skupski 2002).

Citation: Lin CC, Vassallo B, Mittendorf R. Is intrapartum vibroacoustic stimulation an effective predictor of fetal acidosis? *J Perinat Med* 2001;29(6):506-12.

Reason(s) for Exclusion: Vibroacoustic stimulation has been replaced by digital stimulation of the fetal scalp because digital stimulation requires no equipment and predictive values are similar.

Citation: Mires G, Williams F, Howie P. Randomised controlled trial of cardiotocography versus Doppler auscultation of fetal heart at admission in labour in low risk obstetric population. *BMJ* 2001;322(7300):1457-60; discussion 60-2.

Reason(s) for Exclusion: Included in a systematic review (Bix 2005).

Citation: Shy KK, Luthy DA, Bennett FC, et al. Effects of electronic fetal-heart-rate monitoring, as compared with periodic auscultation, on the neurologic development of premature infants. N Engl J Med 1990;322(9):588-93.

Reason(s) for Exclusion: Included in a systematic review (Alfirevic 2006).

Citation: Spencer JAD. Predictive value of a fetal heart rate response to scalp blood sampling. Am J Obstet Gynecol 1991;19:207-15.

Reason(s) for Exclusion: Included in a systematic review (Skupski 2002).

Citation: Stefos, T, Sotiriadis A, Tsirkas P, et al. Evaluation of fetal heart monitoring in the first stage of labor. J Matern Fetal Med 2001;10(1):48-51.

Reason(s) for Exclusion: Trial compares early institution of electronic fetal monitoring versus beginning in active labor, not electronic fetal monitoring versus intermittent auscultation.

Citation: Umstad M, Bailey C, Permezel M. Intrapartum fetal stimulation testing. Aust N Z J Obstet Gynaecol 1992;32(3):222-4.

Reason(s) for Exclusion: Included in a systematic review (Skupski 2002).

Citation: Vintzileos AM, Antsaklis A, Varvarigos I, et al. A randomized trial of intrapartum electronic fetal heart rate monitoring versus intermittent auscultation. Obstet Gynecol 1993;81(6):899-907.

Reason(s) for Exclusion: Included in a systematic review (Alfirevic 2006).

Chapter 11:

IVs Versus Oral Intake in Labor: “Water, Water Everywhere, Nor Any a Drop to Drink”

Citation: Cerri V, Tarantini M, Zuliani G, et al. Intravenous glucose infusion in labor does not affect maternal and fetal acid-base balance. *J Matern Fetal Med* 2000;9(4):204-8.

Reason(s) for Exclusion: No information on how participants randomized. Small study with no power calculation. Substantial difference in sizes of groups: Study fails to evaluate all important outcomes such as neonatal hypoglycemia. No information on what IV fluid, if any, the control group given. Lactose-containing IV fluids could also affect acid-base balance.

Citation: CNM Data Group. Oral intake in labor. Trends in midwifery practice. The CNM Data Group, 1996. *J Nurse Midwifery* 1999;44(2):135-8.

Reason(s) for Exclusion: Study reports on policy only.

Citation: Garite TJ, Weeks J, Peters-Phair K, et al. A randomized controlled trial of the effect of increased intravenous hydration on the course of labor in nulliparous women. *Am J Obstet Gynecol* 2000;183(6):1544-8.

Reason(s) for Exclusion: Not relevant. Study concludes that increasing the rate of intravenous hydration decreases the incidence of prolonged labor, we argue that routine IV hydration be abandoned and laboring women permitted to self-regulate oral intake of fluids. Study also flawed. It purports to show that increased IV hydration (250 mL/hr IV fluid rate vs. 125 mL/hr rate) improves labor progress, but 1) only mean volumes reported, not ranges, which means some women could have had a lot and others a little fluid, 2) no attempt to correlate amount of IV fluid and outcomes, 3) no information on oral intake, and 4) biologically implausible: 125 mL/hr group were given a mean fluid volume of 2008 mL (73% of group had epidural analgesia with accompanying bolus) delivered over the course of less than 1 day (mean duration 10 hrs). Women in the lower flow group could hardly be said to be dehydrated.

Citation: Hauch MA, Gaiser RR, Hartwell BL, et al. Maternal and fetal colloid osmotic pressure following fluid expansion during cesarean section. *Crit Care Med* 1995;23(3):510-4.

Reason(s) for Exclusion: Study, a prospective analysis, superseded by a randomized controlled trial (Park 1996) conducted by the same group, which is included.

Citation: Hawkins JL, Koonin LM, Palmer SK et al. Anesthesia-related deaths during obstetric delivery in the United States, 1979-1990. *Anesthesiology* 1997; 86 (2):277-84.

Reason(s) for Exclusion: Presentation of the data does not permit calculation of death rate attributable to aspiration.

Citation: Kinsella SM, Pirlet M, Mills MS, et al. Randomized study of intravenous fluid preload before epidural analgesia during labour. *Br J Anaesth* 2000;85(2):311-3.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2004). Some data from this study can be found in the mini-reviews for IVs Versus Oral Intake in Labor.

Citation: Kubli M, Shennan AH, Seed PT, et al. A randomised controlled trial of fluid pre-loading before low dose epidural analgesia for labour. *Int J Obstet Anesth* 2003;12(4):256-60.

Reason(s) for Exclusion: Included in a systematic review (Hofmeyr 2004). Some data from this study can be found in the mini-reviews for IVs Versus Oral Intake in Labor.

Citation: Michael S, Reilly CS, Caunt JA. Policies for oral intake during labour. A survey of maternity units in England and Wales. *Anaesthesia* 1991;46(12):1071-3.

Reason(s) for Exclusion: Not relevant. Study reports on policy only.

Citation: O'Sullivan G, Liu B, Hart D, et al. Effect of food intake during labour on obstetric outcome: randomised controlled trial. *BMJ* 2009;338:b784.

Reason(s) for Exclusion: Included in a systematic review (Singata 2010).

Citation: Parsons M, Bidewell J, Griffiths R. A comparative study of the effect of food consumption on labour and birth outcomes in Australia. *Midwifery* 2007;23(2):131-8.

Reason(s) for Exclusion: This is an observational study, and we have RCTs.

Citation: Scheepers HC, Thans MC, de Jong PA, et al. A double-blind, randomised, placebo controlled study on the influence of carbohydrate solution intake during labour. *BJOG* 2002;109(2):178-81.

Reason(s) for Exclusion: Included in a systematic review (Singata 2010).

Citation: Tranmer JE, Hodnett ED, Hannah ME, et al. The effect of unrestricted oral carbohydrate intake on labor progress. *J Obstet Gynecol Neonatal Nurs* 2005;34(3):319-28.

Reason(s) for Exclusion: Included in a systematic review (Singata 2010).

Chapter 12: Epidurals and Combined Spinal-Epidurals: The “Cadillacs” of Analgesia

Citation: Abouleish E, Rawal N, Shaw J, et al. Intrathecal morphine 0.2 mg versus epidural bupivacaine 0.125% or their combination: effects on parturients. *Anesthesiology* 1991;74(4):711-6.

Reason(s) for Exclusion: Included in systematic reviews (Mardirosoff 2002; Simmons 2007).

Citation: Albers LL, Migliaccio L, Bedrick EJ, et al. Does epidural analgesia affect the rate of spontaneous obstetric lacerations in normal births? *J Midwifery Womens Health* 2007;52(1):31-6.

Reason(s) for Exclusion: Not confined to anal sphincter injury.

Citation: Amer-Wahlin I, Christoffersson M, Dahlgren N, et al. Epidural analgesia with sufentanil during labor and operative delivery. *Acta Obstet Gynecol Scand* 2000;79(7):538-42.

Reason(s) for Exclusion: Before-and-after study and therefore subject to clinician bias.

Citation: Asokumar B, Newman LM, McCarthy RJ, et al. Intrathecal bupivacaine reduces pruritus and prolongs duration of fentanyl analgesia during labor: a prospective, randomized controlled trial. *Anesth Analg* 1998;87(6):1309-15.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Bailey CR, Ruggier R, Findley IL. Diamorphine-bupivacaine mixture compared with plain bupivacaine for analgesia. *Br J Anaesth* 1994;72(1):58-61.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Baumgarder DJ, Muehl P, Fischer M, et al. Effect of labor epidural anesthesia on breast-feeding of healthy full-term newborns delivered vaginally. *J Am Board Fam Pract* 2003;16(1):7-13.

Reason(s) for Exclusion: Did not control for or describe epidural medications. No information on whether delivery spontaneous or instrumental, type of epidural, or whether multiparous women had breastfed previously. Did not account for interactions among correlating factors.

Citation: Bodner-Adler B, Bodner K, Kimberger O, et al. The effect of epidural analgesia on the occurrence of obstetric lacerations and on the neonatal outcome during spontaneous vaginal delivery. *Arch Gynecol Obstet* 2002;267(2):81-4.

Reason(s) for Exclusion: No adjustment for correlating factors.

Citation: Bofill JA, Vincent RD, Ross EL, et al. Nulliparous active labor, epidural analgesia, and cesarean delivery for dystocia. *Am J Obstet Gynecol* 1997;177(6):1465-70.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Breen TW, Giesinger CM, Halpern SH. Comparison of epidural lidocaine and fentanyl to intrathecal sufentanil for analgesia in early labour. *Int J Obstet Anesth* 1999;8(4):226-30.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Breen TW, Shapiro T, Glass B, et al. Epidural anesthesia for labor in an ambulatory patient. *Anesth Analg* 1993;77(5):919-24.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Bright DA. Epidural analgesia for labor in a community hospital. *Fam Pract Res J* 1993;13(3):261-5.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Bucklin BA, Chestnut DH, Hawkins JL. Intrathecal opioids versus epidural local anesthetics for labor analgesia: a meta-analysis. *Reg Anesth Pain Med* 2002;27(1):23-30.

Reason(s) for Exclusion: Superseded by later systematic review (Simmons 2007).

Citation: Caldwell LE, Rosen MA, Shnider SM. Subarachnoid morphine and fentanyl for labor analgesia. Efficacy and adverse effects. *Reg Anesth* 1994;19(1):2-8.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Cammu H, Verlaenen H, Amy JJ, et al. Epidural analgesia in active management of labor. *Acta Obstet Gynecol Scand* 1994;73(3):235-9.

Reason(s) for Exclusion: Confounding factor: women requested epidurals at time of augmentation, which would be the slower labors.

Citation: Campbell DC, Banner R, Crone LA, et al. Addition of epinephrine to intrathecal bupivacaine and sufentanil for ambulatory labor analgesia. *Anesthesiology* 1997;86(3):525-31.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Campbell DC, Zwack RM, Crone LA, et al. Ambulatory labor epidural analgesia: bupivacaine versus ropivacaine. *Anesth Analg* 2000;90(6):1384-9.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Cascio M, Pygon B, Bernett C, et al. Labour analgesia with intrathecal fentanyl decreases maternal stress. *Can J Anaesth* 1997;44(6):605-9.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Celleno D, Capogna G, Costantino P, et al. Comparison of fentanyl with clonidine as adjuvants for epidural analgesia with 0.125% bupivacaine in the first stage of labor: a preliminary report. *Int J Obstet Anesth* 1995;4(1):26-9.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Chang ZM, Heaman MI. Epidural analgesia during labor and delivery: effects on the initiation and continuation of effective breastfeeding. *J Hum Lact* 2005;21(3):305-14; quiz 15-9, 26.

Reason(s) for Exclusion: Confounding factors: mostly multiparous women who had breastfed before, and nulliparous women more likely to use epidurals.

Citation: Chestnut DH, Laszewski LJ, Pollack KL, et al. Continuous epidural infusion of 0.0625% bupivacaine-0.0002% fentanyl during the second stage of labor. *Anesthesiology* 1990;72(4):613-8.

Reason(s) for Exclusion: Included in a systematic review (Torvaldsen 2004).

Citation: Chestnut DH, McGrath JM, Vincent RD, Jr., et al. Does early administration of epidural analgesia affect obstetric outcome in nulliparous women who are in spontaneous labor? *Anesthesiology* 1994;80(6):1201-8.

Reason(s) for Exclusion: High degree of overlap between women receiving their epidural “early” versus “late.”

Citation: Chestnut DH, Vincent RD, Jr., McGrath JM, et al. Does early administration of epidural analgesia affect obstetric outcome in nulliparous women who are receiving intravenous oxytocin? *Anesthesiology* 1994;80(6):1193-200.

Reason(s) for Exclusion: High degree of overlap between women receiving their epidural “early” versus “late.”

Citation: Claes B, Soetens M, Van Zundert A, et al. Clonidine added to bupivacaine-epinephrine-sufentanil improves epidural analgesia during childbirth. *Reg Anesth Pain Med* 1998;23(6):540-7.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Clark A, Carr D, Loyd G, et al. The influence of epidural analgesia on cesarean delivery rates: a randomized, prospective clinical trial. *Am J Obstet Gynecol* 1998;179(6 Pt 1):1527-33.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Collis RE, Harding SA, Morgan BM. Effect of maternal ambulation on labour with low-dose combined spinal-epidural analgesia. *Anaesthesia* 1999;54(6):535-9.

Reason(s) for Exclusion: Included in a systematic review (Roberts 2004).

Citation: Connelly NR, Parker RK, Vallurupalli V, et al. Comparison of epidural fentanyl versus epidural sufentanil for analgesia in ambulatory patients in early labor. *Anesth Analg* 2000;91(2):374-8.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Dahl V, Hagen I, Koss KS, et al. Bupivacaine 2.5 mg/ml versus bupivacaine 0.625 mg/ml and sufentanil 1 microg/ml with or without epinephrine 1 microg/ml for epidural analgesia in labour. *Int J Obstet Anesth* 1999;8(3):155-60.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: D'Angelo R, Anderson MT, Philip J, et al. Intrathecal sufentanil compared to epidural bupivacaine for labor analgesia. *Anesthesiology* 1994;80(6):1209-15.

Reason(s) for Exclusion: Included in a systematic review (Mardirossoff 2002).

Citation: Dewey KG, Nommsen-Rivers LA, Heinig MJ, et al. Risk factors for suboptimal infant breastfeeding behavior, delayed onset of lactation, and excess neonatal weight loss. *Pediatrics* 2003;112(3 Pt 1):607-19.

Reason(s) for Exclusion: Unclear how investigators distinguished independent from dependent variables. The table listing them is described in the text as “characteristics of the population.” The large number of comparisons makes it likely that some statistically significant associations are due to chance.

Citation: Dickinson JE, Paech MJ, McDonald SJ, et al. The impact of intrapartum analgesia on labour and delivery outcomes in nulliparous women. *Aust N Z J Obstet Gynaecol* 2002;42(1):59-66.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Dounas M, O'Kelly BO, Jamali S, et al. Maternal and fetal effects of adrenaline with bupivacaine (0.25%) for epidural analgesia during labour. *Eur J Anaesthesiol* 1996;13(6):594-8.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Dunn SM, Connelly NR, Steinberg RB, et al. Intrathecal sufentanil versus epidural lidocaine with epinephrine and sufentanil for early labor analgesia. *Anesth Analg* 1998;87(2):331-5.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Eskandar O, Shet D. Risk factors for 3rd and 4th degree perineal tear. *J Obstet Gynaecol* 2009;29(2):119-22.

Reason(s) for Exclusion: No adjustment for correlating factors.

Citation: Fitzpatrick M, Harkin R, McQuillan K, et al. A randomised clinical trial comparing the effects of delayed versus immediate pushing with epidural analgesia on mode of delivery and faecal continence. *BJOG* 2002;109(12):1359-65.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2008).

Citation: Fraser WD, Marcoux S, Krauss I, et al. Multicenter, randomized, controlled trial of delayed pushing for nulliparous women in the second stage of labor with continuous epidural analgesia. The PEOPLE (Pushing Early or Pushing Late with Epidural) Study Group. *Am J Obstet Gynecol* 2000;182(5):1165-72.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2008).

Citation: Frenea S, Chirossel C, Rodriguez R, et al. The effects of prolonged ambulation on labor with epidural analgesia. *Anesth Analg* 2004;98(1):224-9.

Reason(s) for Exclusion: Included in a systematic review (Roberts 2004).

Citation: Gambling DR, Sharma SK, Ramin SM, et al. A randomized study of combined spinal-epidural analgesia versus intravenous meperidine during labor: impact on cesarean delivery rate. *Anesthesiology* 1998;89(6):1336-44.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Gautier PE, Debry F, Fanard L, et al. Ambulatory combined spinal-epidural analgesia for labor. Influence of epinephrine on bupivacaine-sufentanil combination. Reg Anesth 1997;22(2):143-9.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Gillesby E, Burns S, Dempsey A, et al. Comparison of delayed versus immediate pushing during second stage of labor for nulliparous women with epidural anesthesia. J Obstet Gynecol Neonatal Nurs 2010;39(6):635-44.

Reason(s) for Exclusion: Small study that did not look at clinically significant outcomes.

Citation: Golar M, Plaat F, Shennan AH. Upright versus recumbent position in the second stage of labour in women with combined spinal-epidural analgesia. Int J Obstet Anesth 2002;11(1):19-22.

Reason(s) for Exclusion: Included in a systematic review (Roberts 2005).

Citation: Gonen R, Korobochka R, Degani S, et al. Association between epidural analgesia and intrapartum fever. Am J Perinatol 2000;17(3):127-30.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Halpern SH, Leighton BL, Ohlsson A, et al. Effect of epidural vs parenteral opioid analgesia on the progress of labor: a meta-analysis. Jama 1998;280(24):2105-10.

Reason(s) for Exclusion: Superseded by later systematic review (Anim-Somuah 2005).

Citation: Halpern SH, Levine T, Wilson DB, et al. Effect of labor analgesia on breastfeeding success. Birth 1999;26(2):83-8.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Hansen SL, Clark SL, Foster JC. Active pushing versus passive fetal descent in the second stage of labor: a randomized controlled trial. Obstet Gynecol 2002;99(1):29-34.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2008).

Citation: Head BB, Owen J, Vincent RD, Jr., et al. A randomized trial of intrapartum analgesia in women with severe preeclampsia. Obstet Gynecol 2002;99(3):452-7.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Hepner DL, Gaiser RR, Cheek TG, et al. Comparison of combined spinal-epidural and low dose epidural for labour analgesia. Can J Anaesth 2000;47(3):232-6.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Herbst A, Wolner-Hanssen P, Ingemarsson I. Risk factors for fever in labor. Obstet Gynecol 1995;86(5):790-4.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Herman NL, Choi KC, Affleck PJ, et al. Analgesia, pruritus, and ventilation exhibit a dose-response relationship in parturients receiving intrathecal fentanyl during labor. *Anesth Analg* 1999;89(2):378-83.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Howell CJ, Kidd C, Roberts W, et al. A randomised controlled trial of epidural compared with non-epidural analgesia in labour. *BJOG* 2001;108(1):27-33.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Impey LW, Greenwood CE, Black RS, et al. The relationship between intrapartum maternal fever and neonatal acidosis as risk factors for neonatal encephalopathy. *Am J Obstet Gynecol* 2008;198(1):49 e1-6.

Reason(s) for Exclusion: Failed to rule out infection.

Citation: Impey L, MacQuillan K, Robson M. Epidural analgesia need not increase operative delivery rates. *Am J Obstet Gynecol* 2000;182(2):358-63.

Reason(s) for Exclusion: Have a larger, stronger study on the interrelationship of epidural, active management of labor, and operative delivery rate that adjusts for confounding factors (Sharma 2009).

Citation: Jordan S, Emery S, Watkins A, et al. Associations of drugs routinely given in labour with breastfeeding at 48 hours: analysis of the Cardiff Births Survey. *BJOG* 2009;116(12):1622-9; discussion 30-2.

Reason(s) for Exclusion: Have prospective studies specifically on effect of epidurals on breastfeeding.

Citation: Karraz MA. Ambulatory epidural anesthesia and the duration of labor. *Int J Gynaecol Obstet* 2003;80(2):117-22.

Reason(s) for Exclusion: Included in systematic reviews (Roberts 2004; Roberts 2005).

Citation: Kartawiadi L, Vercauteren MP, Van Steenberge AL, et al. Spinal analgesia during labor with low-dose bupivacaine, sufentanil, and epinephrine. A comparison with epidural analgesia. *Reg Anesth* 1996;21(3):191-6.

Reason(s) for Exclusion: Included in systematic reviews (Mardirosoff 2002; Simmons 2007).

Citation: Kelly M, Johnson E, Lee V, et al. Delayed versus immediate pushing in second stage of labor. *MCN Am J Matern Child Nurs* 2010;35(2):81-8.

Reason(s) for Exclusion: Small study with big difference in allocation numbers and gap widened by unequal attrition. Also, did not look at clinically significant outcomes.

Citation: Kiehl EM, Anderson GC, Wilson ME, et al. Social status, mother-infant time together, and breastfeeding duration. *J Hum Lact* 1996;12(3):201-6.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Levin A, Datta S, Camann WR. Intrathecal ropivacaine for labor analgesia: a comparison with bupivacaine. *Anesth Analg* 1998;87(3):624-7.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Lieberman E, Cohen A, Lang J, et al. Maternal intrapartum temperature elevation as a risk factor for cesarean delivery and assisted vaginal delivery. *Am J Public Health* 1999;89(4):506-10.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Lieberman E, Eichenwald E, Mathur G, et al. Intrapartum fever and unexplained seizures in term infants. *Pediatrics* 2000;106(5):983-8.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Lieberman E, Lang JM, Frigoletto F, Jr., et al. Epidural analgesia, intrapartum fever, and neonatal sepsis evaluation. *Pediatrics* 1997;99(3):415-9.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Lieberman E, Lang J, Richardson DK, et al. Intrapartum maternal fever and neonatal outcome. *Pediatrics* 2000;105(1 Pt 1):8-13.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Liu EH, Sia AT. Rates of caesarean section and instrumental vaginal delivery in nulliparous women after low concentration epidural infusions or opioid analgesia: systematic review. *BMJ* 2004;328(7453):1410.

Reason(s) for Exclusion: Superseded by a later systematic review (Anim-Somuah 2005).

Citation: Loughnan BA, Carli F, Romney M, et al. Randomized controlled comparison of epidural bupivacaine versus pethidine for analgesia in labour. *Br J Anaesth* 2000;84(6):715-9.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Lucas MJ, Sharma SK, McIntire DD, et al. A randomized trial of labor analgesia in women with pregnancy-induced hypertension. *Am J Obstet Gynecol* 2001;185(4):970-5.

Reason(s) for Exclusion: (Anim-Somuah 2005).

Citation: Luxman D, Wolman I, Niv D, et al. Effect of second-stage 0.25% epidural bupivacaine on the outcome of labor. *Gynecol Obstet Invest* 1996;42(3):167-70.

Reason(s) for Exclusion: Included in a systematic review (Torvaldsen 2004).

Citation: Lyon DS, Knuckles G, Whitaker E, et al. The effect of instituting an elective labor epidural program on the operative delivery rate. *Obstet Gynecol* 1997;90(1):135-41.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Macaulay JH, Bond K, Steer PJ. Epidural analgesia in labor and fetal hyperthermia. *Obstet Gynecol* 1992;80(4):665-9.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Malone FD, Geary M, Chelmow D, et al. Prolonged labor in nulliparas: lessons from the active management of labor. *Obstet Gynecol* 1996;88(2):211-5.

Reason(s) for Exclusion: Confounding factor: women with more difficult labors might have wanted an early epidural.

Citation: Mardirosoff C, Dumont L. Two doses of intrathecal sufentanil (2.5 and 5 microg) combined with bupivacaine and epinephrine for labor analgesia. *Anesth Analg* 1999;89(5):1263-6.

Reason(s) for Exclusion: Included in a systematic review (Mardirosoff 2002).

Citation: Marucci M, Cinnella G, Perchiazzi G, et al. Patient-requested neuraxial analgesia for labor: impact on rates of cesarean and instrumental vaginal delivery. *Anesthesiology* 2007;106(5):1035-45.

Reason(s) for Exclusion: This systematic review of trials of early versus late epidural administration excluded studies that stratified or adjusted according to cervical dilation, which means reviewers excluded trials that allowed them to determine degree of overlap between groups.

Citation: Mayberry LJ, Hammer R, Kelly C, et al. Use of delayed pushing with epidural anesthesia: findings from a randomized, controlled trial. *J Perinatol* 1999;19(1):26-30.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2004).

Citation: Mayer DC, Chescheir NC, Spielman FJ. Increased intrapartum antibiotic administration associated with epidural analgesia in labor. *Am J Perinatol* 1997;14(2):83-6.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Meister GC, D'Angelo R, Owen M, et al. A comparison of epidural analgesia with 0.125% ropivacaine with fentanyl versus 0.125% bupivacaine with fentanyl during labor. *Anesth Analg* 2000;90(3):632-7.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Nageotte MP, Larson D, Rumney PJ, et al. Epidural analgesia compared with combined spinal-epidural analgesia during labor in nulliparous women. *N Engl J Med* 1997;337(24):1715-9.

Reason(s) for Exclusion: Included in systematic reviews (Mayberry 2002; Roberts 2004).

Citation: Nickells JS, Vaughan DJ, Lillywhite NK, et al. Speed of onset of regional analgesia in labour: a comparison of the epidural and spinal routes. *Anaesthesia* 2000;55(1):17-20.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Nikkola EM, Ekblad UU, Kero PO, et al. Intravenous fentanyl PCA during labour. *Can J Anaesth* 1997;44(12):1248-55.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Parry MG, Fernando R, Bawa GP, et al. Dorsal column function after epidural and spinal blockade: implications for the safety of walking following low-dose regional analgesia for labour. *Anaesthesia* 1998;53(4):382-7.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Philip J, Alexander JM, Sharma SK, et al. Epidural analgesia during labor and maternal fever. *Anesthesiology* 1999;90(5):1271-5.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Plunkett BA, Lin A, Wong CA, et al. Management of the second stage of labor in nulliparas with continuous epidural analgesia. *Obstet Gynecol* 2003;102(1):109-14.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2008).

Citation: Price C, Lafreniere L, Brosnan C, et al. Regional analgesia in early active labour: combined spinal epidural vs. epidural. *Anaesthesia* 1998;53(10):951-5.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Radzimyński S. Neurobehavioral functioning and breastfeeding behavior in the newborn. *J Obstet Gynecol Neonatal Nurs* 2005;34(3):335-41.

Reason(s) for Exclusion: Not relevant. Study measures correlation between neurobehavioral scores on the NACS and breastfeeding scores on the PIBBS.

Citation: Ransjö-Arvidson AB, Matthiesen AS, Lilja G, et al. Maternal analgesia during labor disturbs newborn behavior: effects on breastfeeding, temperature, and crying. *Birth* 2001;28(1):5-12.

Reason(s) for Exclusion: Confounding factor: women in the epidural group could also have received meperidine, a pudendal block, or both.

Citation: Reynolds F, Russell R, Porter J, et al. Does the use of low dose bupivacaine/opioid epidural infusion increase the normal delivery rate? *Int J Obstet Anesth* 2003;12(3):156-63.

Reason(s) for Exclusion: Although published after the close date of the systematic review Lieberman (2002), it is a reanalysis of the same population of a trial included in the review.

Citation: Riordan J, Gross A, Angeron J, et al. The effect of labor pain relief medication on neonatal suckling and breastfeeding duration. *J Hum Lact* 2000;16(1):7-12.

Reason(s) for Exclusion: Problems include: the study was conducted at three hospitals, which means that variation in practices at the hospitals might affect results, high loss to follow up, and no adjustment made for prior breastfeeding experience.

Citation: Roberts CL, Torvaldsen S, Cameron CA, et al. Delayed versus early pushing in women with epidural analgesia: a systematic review and meta-analysis. *BJOG* 2004;111(12):1333-40.

Reason(s) for Exclusion: Superseded by later systematic review (Brancato 2008).

Citation: Robinson JN, Norwitz ER, Cohen AP, et al. Epidural analgesia and third- or fourth-degree lacerations in nulliparas. *Obstet Gynecol* 1999;94(2):259-62.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Russell R, Reynolds F. Epidural infusion of low-dose bupivacaine and opioid in labour. Does reducing motor block increase the spontaneous delivery rate? *Anaesthesia* 1996;51(3):266-73.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Samuelsson E, Ladfors L, Wennerholm UB, et al. Anal sphincter tears: prospective study of obstetric risk factors. *BJOG* 2000;107(7):926-31.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Scott DB, Hibbard BM. Serious non-fatal complications associated with extradural block in obstetric practice. *Br J Anaesth* 1990;64(5):537-41.

Reason(s) for Exclusion: Have prospective studies. This one is retrospective, a weaker design.

Citation: Sharma SK, Alexander JM, Messick G, et al. Cesarean delivery: a randomized trial of epidural analgesia versus intravenous meperidine analgesia during labor in nulliparous women. *Anesthesiology* 2002;96(3):546-51.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Sharma SK, Sidawi JE, Ramin SM, et al. Cesarean delivery: a randomized trial of epidural versus patient-controlled meperidine analgesia during labor. *Anesthesiology* 1997;87(3):487-94.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Sia AT, Chong JL, Chiu JW. Combination of intrathecal sufentanil 10 mug plus bupivacaine 2.5 mg for labor analgesia: is half the dose enough? *Anesth Analg* 1999;88(2):362-6.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Sia AT, Chong JL, Tay DH, et al. Intrathecal sufentanil as the sole agent in combined spinal-epidural analgesia for the ambulatory parturient. *Can J Anaesth* 1998;45(7):620-5.

Reason(s) for Exclusion: Included in a systematic review (Mayberry 2002).

Citation: Simpson KR, James DC. Effects of immediate versus delayed pushing during second-stage labor on fetal well-being: a randomized clinical trial. *Nurs Res* 2005;54(3):149-57.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2008).

Citation: Sinclair M, Simmons S, Cyna A. Incidents in obstetric anaesthesia and analgesia: an analysis of 5000 AIMS reports. *Anaesth Intensive Care* 1999;27(3):275-81.

Reason(s) for Exclusion: Have prospective studies. This is a case series, a weaker design.

Citation: Stoddart AP, Nicholson KE, Popham PA. Low dose bupivacaine/fentanyl epidural infusions in labour and mode of delivery. *Anaesthesia* 1994;49(12):1087-90.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Thomas JA, Pan PH, Harris LC, et al. Dural puncture with a 27-gauge Whitacre needle as part of a combined spinal-epidural technique does not improve labor epidural catheter function. *Anesthesiology* 2005;103(5):1046-51.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Thorp JA, Hu DH, Albin RM, et al. The effect of intrapartum epidural analgesia on nulliparous labor: a randomized, controlled, prospective trial. *Am J Obstet Gynecol* 1993;169(4):851-8.

Reason(s) for Exclusion: Included in a systematic review (Anim-Somuah 2005).

Citation: Tsen LC, Thue B, Datta S, et al. Is combined spinal-epidural analgesia associated with more rapid cervical dilation in nulliparous patients when compared with conventional epidural analgesia? *Anesthesiology* 1999;91(4):920-5.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Ural SH, Roshanfekar D, Witter FR. Fourth-degree lacerations and epidural anesthesia. *Int J Gynaecol Obstet* 2000;71(3):231-3.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Vallejo MC, Firestone LL, Mandell GL, et al. Effect of epidural analgesia with ambulation on labor duration. *Anesthesiology* 2001;95(4):857-61.

Reason(s) for Exclusion: Included in a systematic review (Roberts 2004).

Citation: Vallejo MC, Kaul B, Adler LJ, et al. Chorioamnionitis, not epidural analgesia, is associated with maternal fever during labour. *Can J Anaesth* 2001;48(11):1122-6.

Reason(s) for Exclusion: Diagnosis of chorioamnionitis based on maternal fever plus “one or more” symptoms, a list that includes maternal or fetal tachycardia. Both of these are associated with fever in and of itself.

Citation: Vause S, Congdon HM, Thornton JG. Immediate and delayed pushing in the second stage of labour for nulliparous women with epidural analgesia: a randomised controlled trial. *Br J Obstet Gynaecol* 1998;105(2):186-8.

Reason(s) for Exclusion: Included in a systematic review (Brancato 2004).

Citation: Vernis L, Duale C, Storme B, et al. Perispinal analgesia for labour followed by patient-controlled infusion with bupivacaine and sufentanil: combined spinal-epidural vs. epidural analgesia alone. *Eur J Anaesthesiol* 2004;21(3):186-92.

Reason(s) for Exclusion: Included in a systematic review (Simmons 2007).

Citation: Vinson DC, Thomas R, Kiser T. Association between epidural analgesia during labor and fever. J Fam Pract 1993;36(6):617-22.

Reason(s) for Exclusion: Included in a systematic review (Lieberman 2002).

Citation: Volmanen P, Valanne J, Alahuhta S. Breast-feeding problems after epidural analgesia for labour: a retrospective cohort study of pain, obstetrical procedures and breast-feeding practices. Int J Obstet Anesth 2004;13(1):25-9.

Reason(s) for Exclusion: Weaknesses included long lag time between birth and survey (2-3 y) and low response rate (60%).

Citation: Wassen M, Zuijlen J, Roumen F, et al. Early versus late epidural analgesia and risk on instrumental delivery in nulliparous women: a systematic review. BJOG 2011.

Reason(s) for Exclusion: Includes RCTs that have large overlap in dilation point at which women received epidural.

Citation: Wiklund I, Norman M, Uvnas-Moberg K, et al. Epidural analgesia: breast-feeding success and related factors. Midwifery 2009;25(2):e31-8.

Reason(s) for Exclusion: Women may have had pudendal or paracervical block, which makes the study potentially not generalizable to U.S. practice. Epidural rate only 28%, which makes it likely that women having more difficult labors had epidurals, which could adversely affect early breastfeeding.

Citation: Wilson MJ, MacArthur C, Cooper GM, et al. Ambulation in labour and delivery mode: a randomised controlled trial of high-dose vs mobile epidural analgesia. Anaesthesia 2009;64(3):266-72.

Reason(s) for Exclusion: Not a randomized controlled trial of ambulation versus no ambulation but a comparison of mobility with combined spinal-epidural, low-dose epidural, and high-dose epidural and its correlation with delivery mode.

Citation: Wilson MJ, Moore PA, Shennan A, et al. Long-term effects of epidural analgesia in labor: a randomized controlled trial comparing high dose with two mobile techniques. Birth 2011;38(2):105-10.

Reason(s) for Exclusion: Not relevant. Compares types of regional blocks with each other.

Citation: Wolfler A, Salvo I, Sortino G, et al. Epidural analgesia with ropivacaine and sufentanil is associated with transient fetal heart rate changes. Minerva Anestesiol 2010;76(5):340-5.

Reason(s) for Exclusion: Not available electronically.

Citation: Wong CA, McCarthy RJ, Sullivan JT, et al. Early compared with late neuraxial analgesia in nulliparous labor induction: a randomized controlled trial. Obstet Gynecol 2009;113(5):1066-74.

Reason(s) for Exclusion: Excluded from mini-review on early versus late administration because of the high degree of overlap between women receiving their epidural “early” versus “late.” (Trial included in mini-review on fetal nonreassuring heart rate.)

Citation: Wong CA, Scavone BM, Peaceman AM, et al. The risk of cesarean delivery with neuraxial analgesia given early versus late in labor. N Engl J Med 2005;352(7):655-65.

Reason(s) for Exclusion: Excluded from mini-review on early versus late administration because of the high degree of overlap between women receiving their epidural “early” versus “late.” (Trial included in mini-review on fetal nonreassuring heart rate.)

Citation: Wong CA, Scavone BM, Slavenas JP, et al. Efficacy and side effect profile of varying doses of intrathecal fentanyl added to bupivacaine for labor analgesia. *Int J Obstet Anesth* 2004;13(1):19-24.

Reason(s) for Exclusion: Study too small (18 in each group) to compare side-effect profile.

Citation: Zhang J, Klebanoff MA, DerSimonian R. Epidural analgesia in association with duration of labor and mode of delivery: a quantitative review. *Am J Obstet Gynecol* 1999;180(4):970-7.

Reason(s) for Exclusion: Superseded by a later systematic review (Anim-Somuah 2005).

Chapter 13: Second-Stage Labor: Lead, Follow, or Get Out of the Way?

Citation: Allahbadia G, Vaidya P. Why deliver in the supine position? Australian and New Zealand Journal of Obstetrics and Gynecology 1992;32(2):104-6.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: Bhardwaj N. Randomised controlled trial on modified squatting position of birthing. Int J Gynaecol Obstet 1994;6(2):33-9.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: Bodner-Adler B, Bodner K, Kimberger O, et al. Women's position during labour: Influence on maternal and neonatal outcome. Wien Klin Wochenschr 2003;115(19-20):720-3.

Reason(s) for Exclusion: have better studies. Case control study of 307 women.

Citation: Bomfim-Hyppolito S. Influence of the position of the mother at delivery over some maternal and neonatal outcomes. Int J Gynaecol Obstet 1998;63 Suppl 1:S67-73.

Reason(s) for Exclusion: have better studies. Excluded women with episiotomies, which were cut for "impending tear" - no information was provided on the size or characteristics of this group.

Citation: Crowley P, Elbourne D, Ashurst H, et al. Delivery in an obstetric birth chair: A randomized controlled trial. BJOG 1991;98(7):667-74.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: de Jong PR, Johanson R, Baxen P, et al. Randomised trial comparing the upright and supine positions for the second stage of labour. BJOG 1997;104(5):567-71.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: de Jonge A, Rijnders ME, van Diem MT, et al. Are there inequalities in choice of birthing position? Sociodemographic and labour factors associated with the supine position during the second stage of labour. Midwifery 2009;25(4):439-48.

Reason(s) for Exclusion: Postal survey of mothers 3-4 years after giving birth. Position correlated with demographic factors and midwifery group but not with clinical factors such as birth route, perineal outcome, or intrapartum practices.

Citation: de Jonge A, Teunissen TA, Lagro-Janssen AL. Supine position compared to other positions during the second stage of labor: A meta-analytic review. J Psychosom Obstet Gynaecol 2004;25(1):35-45.

Reason(s) for Exclusion: superseded by Gupta, 2004.

Citation: Eason E, Labrecque M, Wells G, et al. Preventing perineal trauma during childbirth: A systematic review. Obstet Gynecol 2000;95(3):464-71.

Reason(s) for Exclusion: Superseded by Gupta, 2004.

Citation: Hanson L. Second-stage labor care: Challenges in spontaneous bearing down. J Perinat Neonatal Nurs 2009;23(1):31,9; quiz 40-1.

Reason(s) for Exclusion: narrative review.

Citation: Klein MC, Janssen PA, MacWilliam L, et al. Determinants of vaginal-perineal integrity and pelvic floor functioning in childbirth. Am J Obstet Gynecol 1997;176(2):403-10.

Reason(s) for Exclusion: all but 20 of 459 participants were in lithotomy or semi-sitting position; no data on pushing technique or timing.

Citation: Paine LL, Tinker DD. The effect of maternal bearing-down efforts on arterial umbilical cord pH and length of the second stage of labor. J Nurse Midwifery 1992;37(1):61-3.

Reason(s) for Exclusion: small, non-randomized study; only summary data reported.

Citation: Parnell C, Langhoff-Roos J, Iversen R, et al. Pushing method in the expulsive phase of labor. A randomized trial. Acta Obstet Gynecol Scand 1993;72(1):31-5.

Reason(s) for Exclusion: multiple methodological problems. High cross-over led investigators to abandon intent-to-treat analysis. Intervention (directed versus spontaneous pushing) used only from when the head was visible at introitus to birth of the baby. Fetal distress diagnosed in nearly one-third of women and instrumental vaginal delivery was performed in 1 in 4.

Citation: Prins M, Boxem J, Lucas C, et al. Effect of spontaneous pushing versus valsalva pushing in the second stage of labour on mother and fetus: A systematic review of randomised trials. BJOG 2011;118(6):662-70.

Reason(s) for Exclusion: systematic review published after chapter was prepared. Upon evaluation, it was deemed unnecessary to rewrite the mini-reviews to include the systematic review findings as the results remained unchanged. This systematic review includes only 3 trials, two of which are included in the chapter and one of which was not eligible for inclusion and not available for evaluation as it is an unpublished Master's thesis.

Citation: Racinet C, Eymery P, Philibert L, et al. A randomized trial comparing the squatting position and the lithotomy position for the expulsion phase. Journal De Gynecologie, Obstetrique Et Biologie De La Reproduction 1999;23(3):263-70.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: Renfrew MJ, Hannah W, Albers L, et al. Practices that minimize trauma to the genital tract in childbirth: A systematic review of the literature. Birth 1998;25(3):143-60.

Reason(s) for Exclusion: superseded by Gupta, 2004.

Citation: Roberts J, Hanson L. Best practices in second stage labor care: Maternal bearing down and positioning. J Midwifery Womens Health 2007;52(3):238-45.

Reason(s) for Exclusion: narrative review.

Citation: Terry RR, Westcott J, O'Shea L, et al. Postpartum outcomes in supine delivery by physicians vs nonsupine delivery by midwives. J Am Osteopath Assoc 2006;106(4):199-202.

Reason(s) for Exclusion: effect of birth positions confounded by effect of provider (obstetricians versus midwives).

Citation: Thies-Lagergren L, Kvist LJ, Christensson K, et al. No reduction in instrumental vaginal births and no increased risk for adverse perineal outcome in nulliparous women giving birth on a birth seat: Results of a swedish randomized controlled trial. BMC Pregnancy Childbirth 2011;11:22.

Reason(s) for Exclusion: study compared women randomized to sit on a birth chair with women randomized to adopt any other position in the second stage of labor. No information was given about what positions women chose. In addition, more than 50% of women allocated to the birth chair did not use the chair as allocated (high crossover).

Citation: Waldenstrom U, Gottvall K. A randomized trial of birthing stool or conventional semirecumbent position for second-stage labor. Birth 1991;18(1):5-10.

Reason(s) for Exclusion: included in systematic review (Gupta 2004).

Citation: Yildirim G, Beji NK. Effects of pushing techniques in birth on mother and fetus: A randomized study. Birth 2008;35(1):25-30.

Reason(s) for Exclusion: 74 out 174 women were excluded after randomization. Very high episiotomy rate (68%) confounds perineal and length of labor outcomes.

Chapter 14

Instrumental Vaginal Delivery and Fundal Pressure: When Push Comes to Pull—or Shove

Citation: Benedetto C, Marozio L, Prandi G, et al. Short-term maternal and neonatal outcomes by mode of delivery. A case-controlled study. *Eur J Obstet Gynecol Reprod Biol* 2007;135(1):35-40.

Reason(s) for Exclusion: Reported composite outcomes. Underpowered to detect differences in major morbidity.

Citation: Bodner-Adler B, Bodner K, Kaider A, et al. Risk factors for third-degree perineal tears in vaginal delivery, with an analysis of episiotomy types. *J Reprod Med* 2001;46(8):752-6.

Reason(s) for Exclusion: Has problematic statistical analysis. Univariate analysis reports increased risk of anal sphincter tear with forceps delivery (9.3% forceps vs. 2.9% spontaneous, OR 3.4), but forceps is not an independent factor after stepwise logistic regression although prolonged second stage is along with episiotomy and large head diameter. Prolonged second stage is only a risk factor in that it leads to more instrumental deliveries.

Citation: Bodner-Adler B, Bodner K, Kimberger O, et al. Management of the perineum during forceps delivery. Association of episiotomy with the frequency and severity of perineal trauma in women undergoing forceps delivery. *J Reprod Med* 2003;48(4):239-42.

Reason(s) for Exclusion: Fails to consider episiotomy perineal trauma.

Citation: Bofill JA, Rust OA, Devidas M, et al. Shoulder dystocia and operative vaginal delivery. *J Matern Fetal Med* 1997;6(4):220-4.

Reason(s) for Exclusion: Included in a systematic review (O'Mahony 2010).

Citation: Bofill JA, Rust OA, Schorr SJ, et al. A randomized prospective trial of the obstetric forceps versus the M-cup vacuum extractor. *Am J Obstet Gynecol* 1996;175(5):1325-30.

Reason(s) for Exclusion: Included in a systematic review (O'Mahony 2010).

Citation: Casey BM, Schaffer JI, Bloom SL, et al. Obstetric antecedents for postpartum pelvic floor dysfunction. *Am J Obstet Gynecol* 2005;192(5):1655-62.

Reason(s) for Exclusion: Problems with this study include (1) our inability to reconcile data presented in tables and figures, and (2) correlating factors in play such as all women with forceps deliveries having episiotomies but some findings reported only according to univariate analysis.

Citation: Cheng YW, Hopkins LM, Caughey AB. How long is too long: Does a prolonged second stage of labor in nulliparous women affect maternal and neonatal outcomes? *Am J Obstet Gynecol* 2004;191(3):933-8.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Dudding TC, Vaizey CJ, Kamm MA. Obstetric anal sphincter injury: incidence, risk factors, and management. *Ann Surg* 2008;247(2):224-37.

Reason(s) for Exclusion: Abstract describes study as a systematic review, but it lacks information on inclusion/exclusion criteria.

Citation: Fitzpatrick M, Behan M, O'Connell PR, et al. Randomised clinical trial to assess anal sphincter function following forceps or vacuum assisted vaginal delivery. BJOG 2003;110(4):424-9.

Reason(s) for Exclusion: Included in a systematic review (O'Mahony 2010).

Citation: Janni W, Schiessl B, Peschers U, et al. The prognostic impact of a prolonged second stage of labor on maternal and fetal outcome. Acta Obstet Gynecol Scand 2002;81(3):214-21.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Johanson RB, Rice C, Doyle M, et al. A randomised prospective study comparing the new vacuum extractor policy with forceps delivery. Br J Obstet Gynaecol 1993;100(6):524-30.

Reason(s) for Exclusion: Included in a systematic review (O'Mahony 2010).

Citation: Kuo YC, Chen CP, Wang KG. Factors influencing the prolonged second stage and the effects on perinatal and maternal outcomes. J Obstet Gynaecol Res 1996;22(3):253-7.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Menticoglou SM, Manning F, Harman C, et al. Perinatal outcome in relation to second-stage duration. Am J Obstet Gynecol 1995;173(3 Pt 1):906-12.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Moon JM, Smith CV, Rayburn WF. Perinatal outcome after a prolonged second stage of labor. J Reprod Med 1990;35(3):229-31.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Murphy DJ, Macleod M, Bahl R, et al. A randomised controlled trial of routine versus restrictive use of episiotomy at operative vaginal delivery: a multicentre pilot study. BJOG 2008;115(13):1695-702; discussion 702-3.

Reason(s) for Exclusion: Study included only 47 vacuum extractions and 128 forceps deliveries and there was considerable crossover, making it difficult to draw useful conclusions.

Citation: Myles TD, Santolaya J. Maternal and neonatal outcomes in patients with a prolonged second stage of labor. Obstet Gynecol 2003;102(1):52-8.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: O'Connell MP, Hussain J, Maclennan FA, et al. Factors associated with a prolonged second state of labour--a case-controlled study of 364 nulliparous labours. J Obstet Gynaecol 2003;23(3):255-7.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Parnell C, Langhoff-Roos J, Moller H. Conduct of labor and rupture of the sphincter ani. Acta Obstet Gynecol Scand 2001;80(3):256-61.

Reason(s) for Exclusion: Not relevant. Study of effect of perineal management strategies.

Citation: Richter HE, Brumfield CG, Cliver SP, et al. Risk factors associated with anal sphincter tear: a comparison of primiparous patients, vaginal births after cesarean deliveries, and patients with previous vaginal delivery. *Am J Obstet Gynecol* 2002;187(5):1194-8.

Reason(s) for Exclusion: Not relevant. Reference group is women with prior vaginal birth.

Citation: Saunders NS, Paterson CM, Wadsworth J. Neonatal and maternal morbidity in relation to the length of the second stage of labour. *Br J Obstet Gynaecol* 1992;99(5):381-5.

Reason(s) for Exclusion: Included in a systematic review (Altman 2006).

Citation: Serati M, Salvatore S, Khullar V, et al. Prospective study to assess risk factors for pelvic floor dysfunction after delivery. *Acta Obstet Gynecol Scand* 2008;87(3):313-8.

Reason(s) for Exclusion: Not useful. Only 4 women had vacuum extraction and 12 had fundal pressure.

Citation: Towner D, Castro MA, Eby-Wilkens E, et al. Effect of mode of delivery in nulliparous women on neonatal intracranial injury. *N Engl J Med* 1999;341(23):1709-14.

Reason(s) for Exclusion: Fails to control for confounding factors.

Citation: Verheijen EC, Raven JH, Hofmeyr GJ. Fundal pressure during the second stage of labour. *Cochrane Database Syst Rev* 2009(4):CD006067.

Reason(s) for Exclusion: Only includes one trial and that trial is not of manual fundal pressure but an inflatable belt.

Citation: Williams A. Third-degree perineal tears: risk factors and outcome after primary repair. *J Obstet Gynaecol* 2003;23(6):611-4.

Reason(s) for Exclusion: No adjustment for correlating factors.

Citation: Williams MC, Knuppel RA, O'Brien WF, et al. A randomized comparison of assisted vaginal delivery by obstetric forceps and polyethylene vacuum cup. *Obstet Gynecol* 1991;78(5 Pt 1):789-94.

Reason(s) for Exclusion: Included in a systematic review (O'Mahony 2010).

Chapter 15: Episiotomy: The Unkindest Cut

Citation: Abraham S, Child A, Ferry J, et al. Recovery after childbirth: a preliminary prospective study. *Med J Aust* 1990;152(1):9-12.

Reason(s) for Exclusion: Have better studies. Small population with confounding factors and no statistical technique applied to elicit independent variables. Among the 93 women evaluated for perineal pain, some had median and some had mediolateral episiotomies; some had spontaneous delivery and some had forceps delivery; some had episiotomy extensions and some did not.

Citation: Albers LL, Anderson D, Cragin L, et al. Factors related to perineal trauma in childbirth. *J Nurse Midwifery* 1996;41(4):269-76.

Reason(s) for Exclusion: Study does not evaluate the relationship between episiotomy and anal sphincter laceration.

Citation: Argentine Episiotomy Trial Collaborative Group. Routine vs selective episiotomy: a randomised controlled trial. *Lancet* 1993;342(8886-8887):1517-8.

Reason(s) for Exclusion: Included in a systematic review (Carolli 2009).

Citation: Baumann P, Hammoud AO, McNeeley SG, et al. Factors associated with anal sphincter laceration in 40,923 primiparous women. *Int Urogynecol J Pelvic Floor Dysfunct* 2007;18(9):985-90.

Reason(s) for Exclusion: Study states that both median and mediolateral episiotomies were performed, but the database did not distinguish between them.

Citation: Bansal RK, Tan WM, Ecker JL, et al. Is there a benefit to episiotomy at spontaneous vaginal delivery? A natural experiment. *Am J Obstet Gynecol* 1996;175(4 Pt 1):897-901.

Reason(s) for Exclusion: This is a before-and-after study that looks at incidence of anal sphincter injury in correlation with episiotomy rate. Other studies look at the association of episiotomy versus no episiotomy, which is a stronger study design.

Citation: Buhling KJ, Schmidt S, Robinson JN, et al. Rate of dyspareunia after delivery in primiparae according to mode of delivery. *Eur J Obstet Gynecol Reprod Biol* 2006;124(1):42-6.

Reason(s) for Exclusion: No statistical analysis of data.

Citation: Carroli G, Belizan J. Episiotomy for vaginal birth. *The Cochrane Database of Systematic Reviews* 1999(3):CD000081.

Reason(s) for Exclusion: Superseded by later systematic review (Carolli 2009).

Citation: Casey BM, Schaffer JI, Bloom SL, et al. Obstetric antecedents for postpartum pelvic floor dysfunction. *Am J Obstet Gynecol* 2005;192(5):1655-62.

Reason(s) for Exclusion: Problems with this study include (1) our inability to reconcile data presented in tables and figures, and (2) correlating factors in play such as all women with forceps deliveries having episiotomies but some findings reported only according to univariate analysis.

Citation: Connolly A, Thorp J, Pahel L. Effects of pregnancy and childbirth on postpartum sexual function: a longitudinal prospective study. *Int Urogynecol J Pelvic Floor Dysfunct* 2005;16(4):263-7.

Reason(s) for Exclusion: Underpowered to detect differences. Only 47 women completed all questionnaires, including women having c-sections.

Citation: Dandolo V, Chatwani A, Harmanli O, et al. Risk factors for obstetrical anal sphincter lacerations. *Int Urogynecol J Pelvic Floor Dysfunct* 2005;16(4):304-7.

Reason(s) for Exclusion: Investigators had no access to information on parity or macrosomia and therefore could not adjust for these factors.

Citation: Dannecker C, Hillemanns P, Strauss A, et al. Episiotomy and perineal tears presumed to be imminent: randomized controlled trial. *Acta Obstet Gynecol Scand* 2004;83(4):364-8.

Reason(s) for Exclusion: Included in a systematic review (Carolli 2009).

Citation: Dudding TC, Vaizey CJ, Kamm MA. Obstetric anal sphincter injury: incidence, risk factors, and management. *Ann Surg* 2008;247(2):224-37.

Reason(s) for Exclusion: Abstract describes study as a systematic review, but it lacks information on inclusion/exclusion criteria.

Citation: Eason E, Labrecque M, Marcoux S, et al. Anal incontinence after childbirth. *CMAJ* 2002;166(3):326-30.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Eason E, Labrecque M, Marcoux S, et al. Effects of carrying a pregnancy and of method of delivery on urinary incontinence: a prospective cohort study. *BMC Pregnancy Childbirth* 2004;4(1):4.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Eason E, Labrecque M, Wells G, et al. Preventing perineal trauma during childbirth: a systematic review. *Obstet Gynecol* 2000;95(3):464-71.

Reason(s) for Exclusion: Superseded by later systematic review (Carolli 2009).

Citation: Ecker JL, Tan WM, Bansal RK, et al. Is there a benefit to episiotomy at operative vaginal delivery? Observations over ten years in a stable population. *Am J Obstet Gynecol* 1997;176(2):411-4.

Reason(s) for Exclusion: Confounding factor: the type of episiotomy changed from mediolateral to median during the study period.

Citation: Eltorkey MM, Nuaim MA. Episiotomy, elective or selective: a report of a random allocation trial. *J Obstet Gynaecol* 1994;14:317-20.

Reason(s) for Exclusion: Included in a systematic review (Carolli 2009).

Citation: Eskandar O, Shet D. Risk factors for 3rd and 4th degree perineal tear. *J Obstet Gynaecol* 2009;29(2):119-22.

Reason(s) for Exclusion: No adjustment for correlating factors.

Citation: Fleming N, Newton ER, Roberts J. Changes in postpartum perineal muscle function in women with and without episiotomies. *J Midwifery Womens Health* 2003;48(1):53-9.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Flynn P, Franiek J, Janssen P, et al. How can second-stage management prevent perineal trauma? Critical review. *Can Fam Physician* 1997;43:73-84.

Reason(s) for Exclusion: Superseded by later systematic review (Hartmann 2005).

Citation: Fritel X, Schaal JP, Fauconnier A, et al. Pelvic floor disorders 4 years after first delivery: a comparative study of restrictive versus systematic episiotomy. *BJOG* 2008;115(2):247-52.

Reason(s) for Exclusion: Data analyzed according to “intent to treat,” and half the “restricted” group had episiotomy.

Citation: Gordon B, Mackrodt C, Fern E, et al. The Ipswich Childbirth Study, I: a randomised evaluation of two stage postpartum perineal repair leaving the skin unsutured. *Br J Obstet Gynaecol* 1998;105:435-40.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Gupta N, Kiran TU, Mulik V, et al. The incidence, risk factors and obstetric outcome in primigravid women sustaining anal sphincter tears. *Acta Obstet Gynecol Scand* 2003;82(8):736-43.

Reason(s) for Exclusion: Did not report on the effects of episiotomy.

Citation: Klein MC, Gauthier RJ, Jorgensen SH, et al. Does episiotomy prevent perineal trauma and pelvic floor relaxation? *Online J Curr Clin Trials* 1992;Doc No 10:[6019 words; 65 paragraphs].

Reason(s) for Exclusion: Included in a systematic review (Carolli 2009).

Citation: Klein MC, Gauthier RJ, Robbins JM, et al. Relationship of episiotomy to perineal trauma and morbidity, sexual dysfunction, and pelvic floor relaxation. *Am J Obstet Gynecol* 1994;171(3):591-8.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Laine K, Pirhonen T, Rolland R, et al. Decreasing the incidence of anal sphincter tears during delivery. *Obstet Gynecol* 2008;111(5):1053-7.

Reason(s) for Exclusion: Before-and-after study of a new package of care that includes slow, controlled birth of the head, which would be a confounding factor in evaluating effect of episiotomy.

Citation: Larsson PG, Platz-Christensen JJ, Bergman B, et al. Advantage or disadvantage of episiotomy compared with spontaneous perineal laceration. *Gynecol Obstet Invest* 1991;31(4):213-6.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Leeman L, Fullilove AM, Borders N, et al. Postpartum perineal pain in a low episiotomy setting: association with severity of genital trauma, labor care, and birth variables. *Birth* 2009;36(4):283-8.

Reason(s) for Exclusion: Study not about episiotomy but variables affecting perineal pain with no episiotomy and spontaneous birth.

Citation: Lowder JL, Burrows LJ, Krohn MA, et al. Risk factors for primary and subsequent anal sphincter lacerations: a comparison of cohorts by parity and prior mode of delivery. *Am J Obstet Gynecol* 2007;196(4):344 e1-5.

Reason(s) for Exclusion: Data not presented in a way that enables determination of episiotomy on recurrent anal sphincter laceration.

Citation: Mahony R, O'Herlihy C, Foley ME. Correlation of perineal outcome at first and second vaginal deliveries. *Ir Med J* 2008;101(10):302-4.

Reason(s) for Exclusion: Only reports overall rates. No information on how women with anal sphincter injury fared at next birth.

Citation: MacArthur C, Bick DE, Keighley MR. Faecal incontinence after childbirth. *Br J Obstet Gynaecol* 1997;104(1):46-50.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Mikolajczyk RT, Zhang J, Troendle J, et al. Risk factors for birth canal lacerations in primiparous women. *Am J Perinatol* 2008;25(5):259-64.

Reason(s) for Exclusion: Nearly two-thirds of the population had median episiotomy, and 26% of women with episiotomy had anal sphincter laceration versus 6% with no episiotomy, which was highly significant ($p < 0.001$) in the univariate analysis, yet not significantly different in the multivariable analysis. Investigators used a technique we have not seen before for controlling for correlating variables: "forward selection of variables based on the likelihood ratio test with a significance level of $p < 0.05$ " (p. 260). The unusual statistical technique and a result that contradicts the consensus of the research on median episiotomy led us to exclude this study.

Citation: Parnell C, Langhoff-Roos J, Moller H. Conduct of labor and rupture of the sphincter ani. *Acta Obstet Gynecol Scand* 2001;80(3):256-61.

Reason(s) for Exclusion: Cases were matched with controls according to episiotomy use or not and vacuum extraction or not, which prevents evaluation of their effects on the perineum.

Citation: Raisanen S, Vehvilainen-Julkunen K, Heinonen S. Need for and consequences of episiotomy in vaginal birth: a critical approach. *Midwifery* 2010;26(3):348-56.

Reason(s) for Exclusion: Descriptive study of when episiotomy more likely. No adjustment for confounding factors affecting anal sphincter tear rate.

Citation: Renfrew MJ, Hannah W, Albers L, et al. Practices that minimize trauma to the genital tract in childbirth: a systematic review of the literature. *Birth* 1998;25(3):143-60.

Reason(s) for Exclusion: Superseded by later systematic review (Hartmann 2005).

Citation: Richter HE, Brumfield CG, Cliver SP, et al. Risk factors associated with anal sphincter tear: a comparison of primiparous patients, vaginal births after cesarean deliveries, and patients with previous vaginal delivery. *Am J Obstet Gynecol* 2002;187(5):1194-8.

Reason(s) for Exclusion: Fails to consider effect of instrumental vaginal delivery.

Citation: Rockner G. Urinary incontinence after perineal trauma at childbirth. *Scand J Caring Sci*. 1990;4:169-72.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Rockner G, Jonasson A, Olund A. The effect of mediolateral episiotomy at delivery on pelvic floor muscle strength evaluated with vaginal cones. *Acta Obstet Gynecol Scand* 1991;70(1):51-4.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Sartore A, De Seta F, Maso G, et al. The effects of mediolateral episiotomy on pelvic floor function after vaginal delivery. *Obstet Gynecol* 2004;103(4):669-73.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Signorello LB, Harlow BL, Chekos AK, et al. Postpartum sexual functioning and its relationship to perineal trauma: a retrospective cohort study of primiparous women. *Am J Obstet Gynecol* 2001;184(5):881-8; discussion 8-90.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Spydslaug A, Trogstad LI, Skrondal A, et al. Recurrent risk of anal sphincter laceration among women with vaginal deliveries. *Obstet Gynecol* 2005;105(2):307-13.

Reason(s) for Exclusion: Does not consider episiotomy as a variable.

Citation: Viktrup L, Lose G. The risk of stress incontinence 5 years after first delivery. *Am J Obstet Gynecol* 2001;185(1):82-7.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Viktrup L, Lose G, Rolff M, et al. The symptom of stress incontinence caused by pregnancy or delivery in primiparas. *Obstet Gynecol* 1992;79(6):945-9.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Walsh CJ, Mooney EF, Upton GJ, et al. Incidence of third-degree perineal tears in labour and outcome after primary repair. *Br J Surg* 1996;83(2):218-21.

Reason(s) for Exclusion: Included in a systematic review (Hartmann 2005).

Citation: Webb DA, Culhane J. Hospital variation in episiotomy use and the risk of perineal trauma during childbirth. *Birth* 2002;29(2):132-6.

Reason(s) for Exclusion: Study examines association between institutional episiotomy rates and anal laceration rates. Have studies taking more direct approach of incidence of anal laceration with and without episiotomy.

Citation: Williams A. Third-degree perineal tears: risk factors and outcome after primary repair. J Obstet Gynaecol 2003;23(6):611-4.

Reason(s) for Exclusion: No adjustment for correlating factors such as vaginal instrumental delivery.

Citation: Zetterstrom J, Lopez A, Anzen B, et al. Anal sphincter tears at vaginal delivery: risk factors and clinical outcome of primary repair. Obstet Gynecol 1999;94(1):21-8.

Reason(s) for Exclusion: Episiotomy rate only 2%, too few for meaningful analysis of the effect of (mediolateral) episiotomy on anal sphincter injury.

Chapter 16: Third-Stage Labor Active Management: The Wrong Answer to the Right Question

Citation: Amant F, Spitz B, Timmerman D, et al. Misoprostol compared with methylergometrine for the prevention of postpartum haemorrhage: a double-blind randomised trial. *Br J Obstet Gynaecol* 1999;106(10):1066-70.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Begley CM. A comparison of 'active' and 'physiological' management of the third stage of labour. *Midwifery* 1990;6(1):3-17.

Reason(s) for Exclusion: Included in a systematic review (Begley 2010).

Citation: Choy CM, Lau WC, Tam WH, et al. A randomised controlled trial of intramuscular syntometrine and intravenous oxytocin in the management of the third stage of labour. *BJOG* 2002;109(2):173-7.

Reason(s) for Exclusion: Included in a systematic review (McDonald 2007).

Citation: Cook CM, Spurrett B, Murray H. A randomized clinical trial comparing oral misoprostol with synthetic oxytocin or syntometrine in the third stage of labour. *Aust N Z J Obstet Gynaecol* 1999;39(4):414-9.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Fahy KM. Third stage of labour care for women at low risk of postpartum haemorrhage. *J Midwifery Womens Health* 2009;54(5):380-6.

Reason(s) for Exclusion: Have a stronger systematic review of the same trials (Begley 2010).

Citation: Gerstenfeld TS, Wing DA. Rectal misoprostol versus intravenous oxytocin for the prevention of postpartum hemorrhage after vaginal delivery. *Am J Obstet Gynecol* 2001;185(4):878-82.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Giacalone PL, Vignal J, Daures JP, et al. A randomised evaluation of two techniques of management of the third stage of labour in women at low risk of postpartum haemorrhage. *BJOG* 2000;107(3):396-400.

Reason(s) for Exclusion: Included in a systematic review (Soltani 2005).

Citation: Gulmezoglu AM, Villar J, Ngoc NT, et al. WHO multicentre randomised trial of misoprostol in the management of the third stage of labour. *Lancet* 2001;358(9283):689-95.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Karkanis SG, Caloia D, Salenieks ME, et al. Randomized controlled trial of rectal misoprostol versus oxytocin in third stage management. *J Obstet Gynaecol Can* 2002;24(2):149-54.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Khan GQ, John IS, Wani S, et al. Controlled cord traction versus minimal intervention techniques in delivery of the placenta: a randomized controlled trial. *Am J Obstet Gynecol* 1997;177(4):770-4.

Reason(s) for Exclusion: Included in a systematic review (Begley 2010).

Citation: Liabsuetrakul T, Choobun T, Peeyananjarassri K, et al. Prophylactic use of ergot alkaloids in the third stage of labour. *Cochrane Database Syst Rev* 2007(2):CD005456.

Reason(s) for Exclusion: Of the six trials, the largest is included in a systematic review of active management (Begley 2010), four were published before 1970, leaving only one trial published in the mid-1990s.

Citation: Lokugamage AU, Paine M, Bassaw-Balroop K, et al. Active management of the third stage at caesarean section: a randomised controlled trial of misoprostol versus syntocinon. *Aust N Z J Obstet Gynaecol* 2001;41(4):411-4.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Lumbiganon P, Hofmeyr J, Gulmezoglu AM, et al. Misoprostol dose-related shivering and pyrexia in the third stage of labour. *WHO Collaborative Trial of Misoprostol in the Management of the Third Stage of Labour. Br J Obstet Gynaecol* 1999;106(4):304-8.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Lumbiganon P, Villar J, Piaggio G, et al. Side effects of oral misoprostol during the first 24 hours after administration in the third stage of labour. *BJOG* 2002;109(11):1222-6.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: McDonald SJ, Prendiville WJ, Blair E. Randomised controlled trial of oxytocin alone versus oxytocin and ergometrine in active management of third stage of labour. *BMJ* 1993;307(6913):1167-71.

Reason(s) for Exclusion: Included in a systematic review (McDonald 2007).

Citation: Mitchell GG, Elbourne DR. The Salford Third Stage Trial. Oxytocin plus ergometrine versus oxytocin alone in the active management of the third stage of labor. *Online J Curr Clin Trials* 1993;Doc No 83:[2305 words; 32 paragraphs].

Reason(s) for Exclusion: Included in a systematic review (McDonald 2007).

Citation: Mousa HA, Alfirevic Z. Treatment for primary postpartum haemorrhage. *Cochrane Database Syst Rev* 2007(1):CD003249.

Reason(s) for Exclusion: Only three small trials of varied methodology using different agents.

Citation: Ng PS, Chan AS, Sin WK, et al. A multicentre randomized controlled trial of oral misoprostol and i.m. syntometrine in the management of the third stage of labour. *Hum Reprod* 2001;16(1):31-5.

Reason(s) for Exclusion: Included in a systematic review (Gulmezoglu 2007).

Citation: Ploekinger B, Ulm MR, Chalubinski K, et al. Epidural anaesthesia in labour: influence on surgical delivery rates, intrapartum fever and blood loss. *Gynecol Obstet Invest* 1995;39(1):24-7.

Reason(s) for Exclusion: Study fails to adjust for correlated factors.

Citation: Prendiville WJ, Harding J E, Elbourne DR, et al. The Bristol third stage trial: active versus physiological management of third stage of labour. *BMJ* 1988;297(6659):1295-300.

Reason(s) for Exclusion: Included in a systematic review (Begley 2010).

Citation: Rogers J, Wood J, McCandlish R, et al. Active versus expectant management of third stage of labour: the Hinchingsbrooke randomised controlled trial. *Lancet* 1998;351(9104):693-9.

Reason(s) for Exclusion: Included in a systematic review (Begley 2010).

Citation: Sheiner E, Sarid L, Levy A, et al. Obstetric risk factors and outcome of pregnancies complicated with early postpartum hemorrhage: a population-based study. *J Matern Fetal Neonatal Med* 2005;18(3):149-54.

Reason(s) for Exclusion: Defines postpartum hemorrhage as > 500 mL.

Citation: Thilaganathan B, Cutner A, Latimer J, et al. Management of the third stage of labour in women at low risk of postpartum haemorrhage. *Eur J Obstet Gynecol Reprod Biol* 1993;48(1):19-22.

Reason(s) for Exclusion: Included in a systematic review (Begley 2010).

Citation: Villar J, Gulmezoglu AM, Hofmeyr GJ, et al. Systematic review of randomized controlled trials of misoprostol to prevent postpartum hemorrhage. *Obstet Gynecol* 2002;100(6):1301-12.

Reason(s) for Exclusion: Have newer systematic review (Gulmezoglu 2007).

Citation: Yuen PM, Chan NS, Yim SF, et al. A randomised double blind comparison of Syntometrine and Syntocinon in the management of the third stage of labour. *Br J Obstet Gynaecol* 1995;102(5):377-80.

Reason(s) for Exclusion: Included in a systematic review (McDonald 2007).

Chapter 17: Newborn Practices: Don't Just Do Something, Sit There!

Citation: Anderson GC, Chiu SH, Dombrowski MA, et al. Mother-newborn contact in a randomized trial of kangaroo (skin-to-skin) care. *J Obstet Gynecol Neonatal Nurs* 2003;32(5):604-11.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Bergman NJ, Linley LL, Fawcus SR. Randomized controlled trial of skin-to-skin contact from birth versus conventional incubator for physiological stabilization in 1200- to 2199-gram newborns. *Acta Paediatr* 2004;93(6):779-85.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Bystrova K, Widstrom AM, Matthiesen AS, et al. Skin-to-skin contact may reduce negative consequences of "the stress of being born": A study on temperature in newborn infants, subjected to different ward routines in st. petersburg. *Acta Paediatr* 2003;92(3):320-6.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Calais E, Dalbye R, Nyqvist K, et al. Skin-to-skin contact of fullterm infants: An explorative study of promoting and hindering factors in two Nordic childbirth settings. *Acta Paediatr* 2010;99(7):1080-90.

Reason(s) for Exclusion: addressed factors influencing skin-to-skin contact after the initial transitional period.

Citation: Carfoot S, Williamson P, Dickson R. A randomised controlled trial in the north of England examining the effects of skin-to-skin care on breast feeding. *Midwifery* 2005;21(1):71-9.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Carfoot S, Williamson PR, Dickson R. The value of a pilot study in breast-feeding research. *Midwifery* 2004;20(2):188-93.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Christensson K, Cabrera T, Christensson E, et al. Separation distress call in the human neonate in the absence of maternal body contact. *Acta Paediatr* 1995;84(5):468-73.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Christensson K, Siles C, Moreno L, et al. Temperature, metabolic adaptation and crying in healthy full-term newborns cared for skin-to-skin or in a cot. *Acta Paediatr* 1992;81(6-7):488-93.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Ferber SG, Makhoul IR. The effect of skin-to-skin contact (kangaroo care) shortly after birth on the neurobehavioral responses of the term newborn: A randomized, controlled trial. *Pediatrics* 2004;113(4):858-65.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Mathew JL. Timing of umbilical cord clamping in term and preterm deliveries and infant and maternal outcomes: A systematic review of randomized controlled trials. Indian Pediatr 2011;48(2):123-9.

Reason(s) for Exclusion: redundant, includes same trials as those included in another systematic review (Hutton, 2008).

Citation: Moore ER, Anderson GC. Randomized controlled trial of very early mother-infant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health 2007;52(2):116-25.

Reason(s) for Exclusion: data included in Cochrane systematic review (Moore 1997).

Citation: Moore ER, Anderson GC. Randomized controlled trial of very early mother-infant skin-to-skin contact and breastfeeding status. J Midwifery Womens Health 2007;52(2):116-25.

Reason(s) for Exclusion: included in systematic review (Moore 2007).

Citation: Oxford Midwives Research Group. A study of the relationship between the delivery to cord clamping interval and the time of cord separation. Midwifery 1991;7(4):167-76.

Reason(s) for Exclusion: included in systematic review (Hutton 2007).

Citation: Shirvani F, Radfar M, Hashemieh M, et al. Effect of timing of umbilical cord clamp on newborns' iron status and its relation to delivery type. Arch Iran Med 2010;13(5):420-5.

Reason(s) for Exclusion: conducted in a developing country (Iran); delayed cord clamping defined as 15 seconds.

Citation: van Rheenen P, Brabin BJ. Late umbilical cord-clamping as an intervention for reducing iron deficiency anaemia in term infants in developing and industrialised countries: A systematic review. Ann Trop Paediatr 2004;24(1):3-16.

Reason(s) for Exclusion: redundant, include same trials as those included in another systematic review (Hutton, 2008).

Chapter 18: Supportive Care in Labor: Mothering the Mother Versus Serving the Doctor

Citation: Berg M, Lundgren I, Hermansson E, et al. Women's experience of the encounter with the midwife during childbirth. *Midwifery* 1996;12(1):11-5.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Breart G, Mlika-Cabane N, Kaminski M, et al. Evaluation of different policies for the management of labour. *Early Hum Dev* 1992;29(1-3):309-12.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Bryanton J, Fraser-Davey H, Sullivan P. Women's perceptions of nursing support during labor. *J Obstet Gynecol Neonatal Nurs* 1994;23(8):638-44.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Callister LC, Vehvilainen-Julkunen K, Lauri S. Giving birth. Perceptions of Finnish childbearing women. *MCN Am J Matern Child Nurs* 2001;26(1):28-32.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Callister LC. The role of the nurse in childbirth: perceptions of the childbearing woman. *Clin Nurse Spec* 1993;7(6):288-93, 317.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Campbell DA, Lake MF, Falk M, et al. A randomized control trial of continuous support in labor by a lay doula. *J Obstet Gynecol Neonatal Nurs* 2006;35(4):456-64.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Campero L, Garcia C, Diaz C, et al. "Alone, I wouldn't have known what to do": a qualitative study on social support during labor and delivery in Mexico. *Soc Sci Med* 1998;47(3):395-403.

Reason(s) for Exclusion: Included in systematic review (Bowers 2002).

Citation: Chen CH, Wang SY, Chang MY. Women's perceptions of helpful and unhelpful nursing behaviors during labor: a study in Taiwan. *Birth* 2001;28(3):180-5.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Corbett CA, Callister LC. Nursing support during labor. *Clin Nurs Res* 2000;9(1):70-83.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Dickinson JE, Paech MJ, McDonald SJ, et al. Maternal satisfaction with childbirth and intrapartum analgesia in nulliparous labour. *Aust N Z J Obstet Gynaecol* 2003;43(6):463-8.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Dickinson JE, Paech MJ, McDonald SJ, et al. The impact of intrapartum analgesia on labour and delivery outcomes in nulliparous women. Aust N Z J Obstet Gynaecol 2002;42(1):59-66.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Gagnon AJ, Waghorn K, Covell C. A randomized trial of one-to-one nurse support of women in labor. Birth 1997;24(2):71-7.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Green JM, Baston HA. Feeling in control during labor: concepts, correlates, and consequences. Birth 2003;30(4):235-47.

Reason(s) for Exclusion: Study evaluated control, not satisfaction.

Citation: Halldorsdottir S, Karlsdottir SI. Empowerment or discouragement: women's experience of caring and uncaring encounters during childbirth. Health Care Women Int 1996;17(4):361-79.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Halldorsdottir S, Karlsdottir SI. Journeying through labour and delivery: perceptions of women who have given birth. Midwifery 1996;12(2):48-61.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Hanson L, VandeVusse L, Harrod KS. The theater of birth: scenes from women's scripts. J Perinat Neonatal Nurs 2001;15(2):18-35.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Hemminki E, Virta AL, Koponen P, et al. A trial on continuous human support during labor: feasibility, interventions and mothers' satisfaction. J Psychosom Obstet Gynaecol 1990;11:239-50.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Hodnett ED, Lowe NK, Hannah ME, et al. Effectiveness of nurses as providers of birth labor support in North American hospitals: a randomized controlled trial. JAMA 2002;288(11):1373-81.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Hodnett ED, Osborn RW. A randomized trial of the effects of monitrice support during labor: mothers' views two to four weeks postpartum. Birth 1989;16(4):177-83; discussion 83-4.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Hodnett ED, Osborn RW. Effects of continuous intrapartum professional support on childbirth outcomes. Res Nurs Health 1989;12(5):289-97.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Hodnett ED. Pain and women's satisfaction with the experience of childbirth: a systematic review. Am J Obstet Gynecol 2002;186(5 Suppl Nature):S160-72.

Reason(s) for Exclusion: This systematic review includes systematic reviews. We think that reviews that incorporate other reviews remove us too far from the original sources and therefore the ability to evaluate them.

Citation: Hofmeyr GJ, Nikodem VC, Wolman WL, et al. Companionship to modify the clinical birth environment: effects on progress and perceptions of labour, and breastfeeding. Br J Obstet Gynaecol 1991;98(8):756-64.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Kennell J, Klaus M, McGrath S, et al. Continuous emotional support during labor in a US hospital. A randomized controlled trial. JAMA 1991;265(17):2197-201.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Koumoutzes-Douvia J, Carr CA. Women's Perceptions of Their Doula Support. J Perinat Educ 2006;15(4):34-40.

Reason(s) for Exclusion: This is a small convenience sample of women who had doulas who were recruited by doulas contacting their clients. This would introduce potential bias.

Citation: Langer A, Campero L, Garcia C, et al. Effects of psychosocial support during labour and childbirth on breastfeeding, medical interventions, and mothers' wellbeing in a Mexican public hospital: a randomised clinical trial. Br J Obstet Gynaecol 1998;105(10):1056-63.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Mackey MC, Stepan ME. Women's evaluations of their labor and delivery nurses. J Obstet Gynecol Neonatal Nurs 1994;23(5):413-20.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Madi BC, Sandall J, Bennett R, et al. Effects of female relative support in labor: a randomized controlled trial. Birth 1999;26(1):4-8.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Manning-Orenstein G. A birth intervention: the therapeutic effects of Doula support versus Lamaze preparation on first-time mothers' working models of caregiving. Altern Ther Health Med 1998;4(4):73-81.

Reason(s) for Exclusion: The study is a small (N = 35) nonrandomly selected prospective study of women some of whom chose to have doulas, and we have randomized controlled trials of the effect of doula care.

Citation: Matthews R, Callister LC. Childbearing women's perceptions of nursing care that promotes dignity. J Obstet Gynecol Neonatal Nurs 2004;33(4):498-507.

Reason(s) for Exclusion: Study evaluated control, not satisfaction.

Citation: McGrath SK, Kennell JH. A randomized controlled trial of continuous labor support for middle-class couples: effect on cesarean delivery rates. Birth 2008;35(2):92-7.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: McKay S, Smith SY. "What are they talking about? Is something wrong?" Information sharing during the second stage of labor. *Birth* 1993;20(3):142-7.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Nikodem VC, Nolte AG, Wolman W, et al. Companionship by a lay labour supporter to modify the clinical birth environment: long-term effects on mother and child. *Curationis* 1998;21(1):8-12.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Rosen P. Supporting women in labor: analysis of different types of caregivers. *J Midwifery Womens Health* 2004;49(1):24-31.

Reason(s) for Exclusion: Superseded by later systematic review (Hodnett 2011).

Citation: Scott KD, Berkowitz G, Klaus M. A comparison of intermittent and continuous support during labor: a meta-analysis. *Am J Obstet Gynecol* 1999;180(5):1054-9.

Reason(s) for Exclusion: Superseded by later systematic review (Hodnett 2011).

Citation: Singh D, Newburn M. Feathering the nest: what women want from the birth environment. *RCM Midwives* 2006;9(7):266-9.

Reason(s) for Exclusion: Unable to obtain study.

Citation: Tumblin A, Simkin P. Pregnant women's perceptions of their nurse's role during labor and delivery. *Birth* 2001;28(1):52-6.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002)

Citation: Van Zandt SE, Edwards L, Jordan ET. Lower epidural anesthesia use associated with labor support by student nurse doulas: implications for intrapartal nursing practice. *Complement Ther Clin Pract* 2005;11(3):153-60.

Reason(s) for Exclusion: The study is a small (N = 89 woman-student nurse pairs) retrospective analysis, and we have randomized controlled trials of the effect of doula care.

Citation: Vandevusse L. Decision making in analyses of women's birth stories. *Birth* 1999;26(1):43-50.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: VandeVusse L. The essential forces of labor revisited: 13 Ps reported in womens' stories. *MCN Am J Matern Child Nurs* 1999;24(4):176-84.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Walker JM, Hall S, Thomas M. The experience of labour: a perspective from those receiving care in a midwife-led unit. *Midwifery* 1995;11(3):120-9.

Reason(s) for Exclusion: Included in a systematic review (Bowers 2002).

Citation: Wolman WL, Chalmers B, Hofmeyr GJ, et al. Postpartum depression and companionship in the clinical birth environment: a randomized, controlled study. Am J Obstet Gynecol 1993;168(5):1388-93.

Reason(s) for Exclusion: Included in a systematic review (Hodnett 2011).

Citation: Zhang J, Bernasko JW, Leybovich E, et al. Continuous labor support from labor attendant for primiparous women: a meta-analysis. Obstet Gynecol 1996;88(4 Pt 2):739-44.

Reason(s) for Exclusion: Superseded by later systematic review (Hodnett 2011).

Chapter 19: Midwife-Led Care: Organizing an Optimal Maternity Care System

Citation: Alran S, Sibony O, Oury JF, et al. Differences in management and results in term-delivery in nine european referral hospitals: Descriptive study. Eur J Obstet Gynecol Reprod Biol 2002;103(1):4-13.

Reason(s) for Exclusion: intervention rates not reported by provider type.

Citation: Berglund A, Lindberg M, Nystrom L, et al. Combining the perspectives of midwives and doctors improves risk assessment in early pregnancy. Acta Obstet Gynecol Scand 2007;86(2):177-84.

Reason(s) for Exclusion: no outcome data presented.

Citation: Biro MA, Waldenstrom U, Brown S, et al. Satisfaction with team midwifery care for low- and high-risk women: A randomized controlled trial. Birth 2003;30(1):1-10.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Biro MA, Waldenstrom U, Pannifex JH. Team midwifery care in a tertiary level obstetric service: A randomized controlled trial. Birth 2000;27(3):168-73.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Brown SA, Grimes DE. A meta-analysis of nurse practitioners and nurse midwives in primary care. Nurs Res 1995;44(6):332-9.

Reason(s) for Exclusion: All included studies were published prior to 1990, the cut-off for our analysis. In addition, this meta-analysis is superceded by a more recent systematic review, Hatem 2008.

Citation: Butler J, Abrams B, Parker J, et al. Supportive nurse-midwife care is associated with a reduced incidence of cesarean section. Am J Obstet Gynecol 1993;168(5):1407-13.

Reason(s) for Exclusion: Does not control for parity or other significant differences across groups.

Citation: Campbell R, Macfarlane A, Hemsall V, et al. Evaluation of midwife-led care provided at the royal bournemouth hospital. Midwifery 1999;15(3):183-93.

Reason(s) for Exclusion: Compares two models of delivering midwifery care. The Cochrane systematic review of midwife-led care (Hatem 2008) provides a more robust analysis of the organization of midwifery care.

Citation: Carroll JC, Reid AJ, Ruderman J, et al. The influence of the high-risk care environment on the practice of low-risk obstetrics. Fam Med 1991;23(3):184-8.

Reason(s) for Exclusion: This study compares obstetricians and family practice physicians and does not analyze practice patterns of midwives.

Citation: Clarke SC, Martin JA, Taffel SM. Trends and characteristics of births attended by midwives. Stat Bull Metrop Insur Co 1997;78(1):9-18.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Declercq ER. Midwifery care and medical complications: The role of risk screening. Birth 1995;22(2):68-73.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Declercq ER, Williams DR, Koontz AM, et al. Serving women in need: Nurse-midwifery practice in the united states. J Midwifery Womens Health 2001;46(1):11-6.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Dresden GM, Baldwin LM, Andrilla CH, et al. Influence of obstetric practice on workload and practice patterns of family physicians and obstetrician-gynecologists. Ann Fam Med 2008;6 Suppl 1:S5-11.

Reason(s) for Exclusion: Not relevant. Study looks at the costs and impact of liability insurance, but does not analyze intrapartum care practices per se.

Citation: Eide BI, Vika Nilsen AB, Rasmussen S. Births in two different delivery units in the same clinic - A prospective study of healthy primiparous women. BMC Pregnancy Childbirth 2009;9(1):25.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Elferink-Stinkens PM, Van Hemel OJ, Brand R. Differences in obstetrical intervention rates between dutch hospitals. Eur J Obstet Gynecol Reprod Biol 1994;53(3):165-73.

Reason(s) for Exclusion: outcomes/practices not reported by provider type.

Citation: Evans K, Hayes E, Halawa S, et al. Midwife-led assessment of non-catastrophic obstetric emergencies; work activity and patient attitudes. J Obstet Gynaecol 2009;29(4):296-300.

Reason(s) for Exclusion: not relevant to intrapartum care.

Citation: Fereday J, Collins C, Turnbull D, et al. An evaluation of midwifery group practice part II: Women's satisfaction. Women Birth 2009;22(1):11-6.

Reason(s) for Exclusion: Not relevant to our outcomes of interest.

Citation: Fischler NR, Harvey SM. Setting and provider of prenatal care: Association with pregnancy outcomes among low-income women. Health Care Women Int 1995;16(4):309-21.

Reason(s) for Exclusion: unable to access full-text manuscript.

Citation: Fullerton JT, Hollenbach KA, Wingard DL. Practice styles. A comparison of obstetricians and nurse-midwives. J Nurse Midwifery 1996;41(3):243-50.

Reason(s) for Exclusion: Relies on midwives' and physicians' questionnaire responses regarding beliefs and practices. Birthing women not included in the study population.

Citation: Giles W, Collins J, Ong F, et al. Antenatal care of low risk obstetric patients by midwives. A randomised controlled trial. Med J Aust 1992;157(3):158-61.

Reason(s) for Exclusion: The study provides no information on intrapartum care provider (compares antepartum care by midwives vs. antepartum care by physicians).

Citation: Graveley EA, Littlefield JH. A cost-effectiveness analysis of three staffing models for the delivery of low-risk prenatal care. Am J Public Health 1992;82(2):180-4.

Reason(s) for Exclusion: does not report process or outcome data.

Citation: Grumbach K, Hart LG, Mertz E, et al. Who is caring for the underserved? A comparison of primary care physicians and nonphysician clinicians in California and Washington. Ann Fam Med 2003;1(2):97-104.

Reason(s) for Exclusion: included in systematic review (Raisler & Kennedy 2005).

Citation: Haire DB, Elsberry CC. Maternity care and outcomes in a high-risk service: The north central Bronx hospital experience. Birth 1991;18(1):33-7.

Reason(s) for Exclusion: no comparison group.

Citation: Harvey S, Jarrell J, Brant R, et al. A randomized, controlled trial of nurse-midwifery care. Birth 1996;23(3):128-35.

Reason(s) for Exclusion: included in systematic review (Hatem 2008).

Citation: Harvey S, Rach D, Stainton MC, et al. Evaluation of satisfaction with midwifery care. Midwifery 2002;18(4):260-7.

Reason(s) for Exclusion: included in systematic review (Hatem, 2008).

Citation: Heins HC, Jr, Nance NW, McCarthy BJ, et al. A randomized trial of nurse-midwifery prenatal care to reduce low birth weight. Obstet Gynecol 1990;75(3 Pt 1):341-5.

Reason(s) for Exclusion: The study compares antepartum care by midwives vs. physicians. No information about intrapartum care is provided.

Citation: Heres MH, Pel M, Elferink-Stinkens PM, et al. The Dutch obstetric intervention study--variations in practice patterns. Int J Gynaecol Obstet 1995;50(2):145-50.

Reason(s) for Exclusion: only looks at specialist (obstetrician) births.

Citation: Hicks C, Spurgeon P, Barwell F. Changing childbirth: A pilot project. J Adv Nurs 2003;42(6):617-28.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Homer CS, Davis GK, Brodie PM, et al. Collaboration in maternity care: A randomised controlled trial comparing community-based continuity of care with standard hospital care. BJOG 2001;108(1):16-22.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Homer CS, Davis GK, Brodie PM, et al. Collaboration in maternity care: A randomised controlled trial comparing community-based continuity of care with standard hospital care. BJOG 2001;108(1):16-22.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Hueston WJ, Lewis-Stevenson S. Provider distribution and variations in statewide cesarean section rates. J Community Health 2001;26(1):1-10.

Reason(s) for Exclusion: Relies on birth certificate data to determine care provider. This would assign CNM clients to physicians in the case of a cesarean or other transfer of care. In addition, the researchers used the number of board certified obstetricians as a proxy for the number of practicing obstetricians. Some obstetricians may not have been practicing, or may not have been providing intrapartum obstetrical care. The researchers also controlled for very few potential confounding variables.

Citation: Joyce R, Webb R, Peacock JL. Associations between perinatal interventions and hospital stillbirth rates and neonatal mortality. Arch Dis Child Fetal Neonatal Ed 2004;89(1):F51-6.

Reason(s) for Exclusion: Does not evaluate midwifery practice or midwives themselves. Study methodology correlates perinatal outcomes with hospital staffing levels, but not with who actually provided care.

Citation: Khan-Neelofur D, Gulmezoglu M, Villar J. Who should provide routine antenatal care for low-risk women, and how often? A systematic review of randomised controlled trials. WHO antenatal care trial research group. Paediatr Perinat Epidemiol 1998;12 Suppl 2:7-26.

Reason(s) for Exclusion: superceded by Hatem 2008.

Citation: Knedle-Murray ME, Oakley DJ, Wheeler JR, et al. Production process substitution in maternity care: Issues of cost, quality, and outcomes by nurse-midwives and physician providers. Med Care Rev 1993;50(1):81-112.

Reason(s) for Exclusion: narrative review.

Citation: MacVicar J, Dobbie G, Owen-Johnstone L, et al. Simulated home delivery in hospital: A randomised controlled trial. Br J Obstet Gynaecol 1993;100(4):316-23.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Malin M, Hemminki E, Stephenson P, et al. Careprovider and obstetrical interventions--a comparative study of four european countries. Scand J Caring Sci 1993;7(3):161-8.

Reason(s) for Exclusion: unable to access full-text manuscript.

Citation: Mead M, Bogaerts A, Reynolds M. Midwives' perception of the intrapartum risk of healthy nulliparae in spontaneous labour, in the flanders, belgium. Midwifery 2007;23(4):361-71.

Reason(s) for Exclusion: relies on midwives' reports of how often they performed various intrapartum tasks and procedures. Response rate to questionnaire was low (36%).

Citation: Nixon SA, Avery MD, Savik K. Outcomes of macrosomic infants in a nurse-midwifery service. J Nurse Midwifery 1998;43(4):280-6.

Reason(s) for Exclusion: No physician comparison group.

Citation: North Staffordshire Changing Childbirth Research Team. A randomised study of midwifery caseload care and traditional 'shared-care'. Midwifery 2000;16(4):295-302.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Paine LL, Lang JM, Strobino DM, et al. Characteristics of nurse-midwife patients and visits, 1991. Am J Public Health 1999;89(6):906-9.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Pel M, Heres MH, Hart AA, et al. Provider-associated factors in obstetric interventions. Eur J Obstet Gynecol Reprod Biol 1995;61(2):129-34.

Reason(s) for Exclusion: Study compared obs who employed midwives with obs who did not. No separate analysis of midwifery care/outcomes.

Citation: Rowley MJ, Hensley MJ, Brinsmead MW, et al. Continuity of care by a midwife team versus routine care during pregnancy and birth: A randomised trial. Med J Aust 1995;163(6):289-93.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Sandall J, Devane D, Soltani H, et al. Improving quality and safety in maternity care: The contribution of midwife-led care. J Midwifery Womens Health 2010;55(3):255-61.

Reason(s) for Exclusion: narrative review.

Citation: Scheepers HC, Thans MC, de Jong PA, et al. Eating and drinking in labor: The influence of caregiver advice on women's behavior. Birth 2001;28(2):119-23.

Reason(s) for Exclusion: obstetricians' and midwives' clients were not similar.

Citation: Schimmel LM, Schimmel LD, DeJoseph J. Toward lower cesarean birth rates and effective care: Five years' outcomes of joint private obstetric practice. Birth 1997;24(3):181-7.

Reason(s) for Exclusion: Descriptive study with no obstetrician comparison group.

Citation: Scupholme A, DeJoseph J, Strobino DM, et al. Nurse-midwifery care to vulnerable populations. phase I: Demographic characteristics of the national CNM sample. J Nurse Midwifery 1992;37(5):341-8.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Shields N, Turnbull D, Reid M, et al. Satisfaction with midwife-managed care in different time periods: A randomised controlled trial of 1299 women. Midwifery 1998;14(2):85-93.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Skinner JP, Foureur M. Consultation, referral, and collaboration between midwives and obstetricians: Lessons from new zealand. J Midwifery Womens Health 2010;55(1):28-37.

Reason(s) for Exclusion: no clinical outcome data reported.

Citation: Stewart SD. Economic and personal factors affecting women's use of nurse-midwives in michigan. Fam Plann Perspect 1998;30(5):231-5.

Reason(s) for Exclusion: Included in systematic review (Raisler & Kennedy 2005).

Citation: Tucker JS, Hall MH, Howie PW, et al. Should obstetricians see women with normal pregnancies? A multicentre randomised controlled trial of routine antenatal care by general practitioners and midwives compared with shared care led by obstetricians. BMJ 1996;312(7030):554-9.

Reason(s) for Exclusion: Focus is antepartum care. Does not evaluate intrapartum care by midwives.

Citation: Turan C, Kutlay B. Cesarean section rates and perinatal outcomes in resident and midwife attended low risk deliveries. Eur J Obstet Gynecol Reprod Biol 1995;62(1):3-5.

Reason(s) for Exclusion: The midwives and the obstetricians practiced in different hospitals, so the setting was a potential confounding factor. The researchers did not control for any maternal, fetal/newborn, or other factors.

Citation: Turnbull D, Holmes A, Shields N, et al. Randomised, controlled trial of efficacy of midwife-managed care. Lancet 1996;348(9022):213-8.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Turnbull D, Holmes A, Shields N, et al. Randomised, controlled trial of efficacy of midwife-managed care. Lancet 1996;348(9022):213-8.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Waldenstrom U, Brown S, McLachlan H, et al. Does team midwife care increase satisfaction with antenatal, intrapartum, and postpartum care? A randomized controlled trial. Birth 2000;27(3):156-67.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Waldenstrom U, McLachlan H, Forster D, et al. Team midwife care: Maternal and infant outcomes. Aust N Z J Obstet Gynaecol 2001;41(3):257-64.

Reason(s) for Exclusion: Included in systematic review (Hatem, 2008).

Citation: Waldenstrom U, Turnbull D. A systematic review comparing continuity of midwifery care with standard maternity services. Br J Obstet Gynaecol 1998;105(11):1160-70.

Reason(s) for Exclusion: superseded by Hatem 2008.

Citation: Wildschut HI, ten Hoop-Bender P, Borkent-Polet M, et al. Practice variation of test procedures reportedly used in routine antenatal care in the netherlands. Acta Obstet Gynecol Scand 1999;78(1):27-32.

Reason(s) for Exclusion: does not address intrapartum care practices.

Citation: Williams JL, Abelman SM, Fassett EM, et al. Health care provider knowledge and practices regarding folic acid, united states, 2002-2003. Matern Child Health J 2006;10(5 Suppl):S67-72.

Reason(s) for Exclusion: does not address intrapartum care practices.

Citation: Yankou D, Petersen BA, Oakley D, et al. Philosophy of care. A pilot study comparing certified nurse-midwives and physicians. J Nurse Midwifery 1993;38(3):159-64.

Reason(s) for Exclusion: Does not report actual use of interventions, only beliefs/philosophy about interventions and self-reported rates of interventions.

Chapter 20: The Place of Birth: Birth Homes

Citation: Bernitz S, Rolland R, Blix E, et al. Is the operative delivery rate in low-risk women dependent on the level of birth care? A randomised controlled trial. BJOG 2011.

Reason(s) for Exclusion: study evaluates an "along-side" birth center, situated within the hospital close to the main obstetric unit.

Citation: Borquez HA, Wiegers TA. A comparison of labour and birth experiences of women delivering in a birthing centre and at home in the netherlands. Midwifery 2006;22(4):339-47.

Reason(s) for Exclusion: no hospital birth comparison group.

Citation: Chamberlain M, Nair R, Nimrod C, et al. Evaluation of a midwifery birthing center in the Canadian north. Int J Circumpolar Health 1998;57 Suppl 1:116-20.

Reason(s) for Exclusion: unable to obtain article.

Citation: Coyle KL, Hauck Y, Percival P, et al. Normality and collaboration: Mothers' perceptions of birth centre versus hospital care. Midwifery 2001;17(3):182-93.

Reason(s) for Exclusion: did not report data on outcomes of interest.

Citation: Coyle KL, Hauck Y, Percival P, et al. Ongoing relationships with a personal focus: Mothers' perceptions of birth centre versus hospital care. Midwifery 2001;17(3):171-81.

Reason(s) for Exclusion: did not report data on outcomes of interest.

Citation: Esposito NW. Marginalized women's comparisons of their hospital and freestanding birth center experiences: A contrast of inner-city birthing systems. Health Care Women Int 1999;20(2):111-26.

Reason(s) for Exclusion: did not report data on outcomes of interest.

Citation: Garite TJ, Snell BJ, Walker DL, et al. Development and experience of a university-based, freestanding birthing center. Obstet Gynecol 1995;86(3):411-6.

Reason(s) for Exclusion: reported descriptive data only; no hospital comparison group.

Citation: Holt J, Vold IN, Backe B, et al. Child births in a modified midwife managed unit: Selection and transfer according to intended place of delivery. Acta Obstet Gynecol Scand 2001;80(3):206-12.

Reason(s) for Exclusion: reported descriptive data only; no hospital comparison group.

Citation: Hundley VA, Cruickshank FM, Milne JM, et al. Satisfaction and continuity of care: Staff views of care in a midwife-managed delivery unit. Midwifery 1995;11(4):163-73.

Reason(s) for Exclusion: did not report data on outcomes of interest.

Citation: Jackson DJ, Lang JM, Dickinson CP, et al. Use of the nurse-midwifery clinical data set for classification of subjects in birth center research. J Nurse Midwifery 1994;39(4):197-213.

Reason(s) for Exclusion: this pilot study did not report comparative outcomes data.

Citation: Khoury AJ, Summers L, Weisman CS. Characteristics of current hospital-sponsored and nonhospital birth centers. *Matern Child Health J* 1997;1(2):89-99.

Reason(s) for Exclusion: this study addresses organizational philosophy and administration and does not report clinical outcomes.

Citation: Laws PJ, Tracy SK, Sullivan EA. Perinatal outcomes of women intending to give birth in birth centers in australia. *Birth* 2010;37(1):28-36.

Reason(s) for Exclusion: most if not all included birth centers were hospital-based.

Citation: Laws PJ, Tracy SK, Sullivan EA. Perinatal outcomes of women intending to give birth in birth centers in australia. *Birth* 2010;37(1):28-36.

Reason(s) for Exclusion: most if not all included birth centers were hospital-based.

Citation: Malloy MH. Infant outcomes of certified nurse midwife attended home births: United States 2000 to 2004. *J Perinatol* 2010;30(9):622-7.

Reason(s) for Exclusion: no information about intended birth site, no information about transfers, relies on birth certificate data.

Citation: Nordeng H, Eskild A, Nesheim BI. Post natal use of analgesics: Comparisons between conventional postnatal wards and a maternity hotel. *Pharm World Sci* 2010;

Reason(s) for Exclusion: postnatal use of analgesics is a surrogate outcome.

Citation: Palmer L, Cook A, Courtot B. Comparing models of maternity care serving women at risk of poor birth outcomes in Washington, DC. *Altern Ther Health Med* 2010;16(5):48-56.

Reason(s) for Exclusion: unable to obtain full-text manuscript.

Citation: Roberts L, Sward K. Birth center outcomes reported through automated technology. *J Obstet Gynecol Neonatal Nurs* 2001;30(1):110-20.

Reason(s) for Exclusion: reports descriptive data only; no hospital comparison group.

Citation: Stone PW, Walker PH. Cost-effectiveness analysis: Birth center vs. hospital care. *Nurs Econ* 1995;13(5):299-308.

Reason(s) for Exclusion: provides only cost data.

Citation: Stone PW, Zwanziger J, Hinton Walker P, et al. Economic analysis of two models of low-risk maternity care: A freestanding birth center compared to traditional care. *Res Nurs Health* 2000;23(4):279-89.

Reason(s) for Exclusion: too few participants to detect statistically significant differences.

Citation: Stotland NE, Declercq ER. The safety of out-of-hospital birth in industrialized nations: A review. *Curr Prob: Obstet Gynecol Fertil* 2002;25:134-44.

Reason(s) for Exclusion: not indexed in PubMed.

Citation: Swartz W, Jackson D, Lang J, et al. The BirthPlace collaborative practice model: Results from the San Diego birth center study. Prim Care Update Ob Gyns 1998;5(4):207.

Reason(s) for Exclusion: secondary analysis of data from another study that was included in our chapter (Jackson 2003).

Citation: Tracy SK, Dahlen H, Caplice S, et al. Birth centers in australia: A national population-based study of perinatal mortality associated with giving birth in a birth center. Birth 2007;34(3):194-201.

Reason(s) for Exclusion: reports data from "along-side" birth centers, not freestanding birth centers.

Citation: Walker PH, Stone PW. Exploring cost and quality: Community-based versus traditional hospital delivery systems. J Health Care Finance 1996;23(1):23-47.

Reason(s) for Exclusion: paper presents various models for evaluating cost-effectiveness of birth centers. No clinical data presented.

Citation: Walsh D. Subverting the assembly-line: Childbirth in a free-standing birth centre. Soc Sci Med 2006;62(6):1330-40.

Reason(s) for Exclusion: no outcome data presented.

Citation: Walsh D, Downe SM. Outcomes of free-standing, midwife-led birth centers: A structured review. Birth 2004;31(3):222-9.

Reason(s) for Exclusion: Reviewers pooled data from contexts too dissimilar to draw any conclusions. In addition, including this systematic review did not offer any benefit in terms of statistical power and would have prohibited us from assessing the methodological quality of individual studies.

Citation: Watts K, Fraser DM, Munir F. The impact of the establishment of a midwife managed unit on women in a rural setting in England. Midwifery 2003;19(2):106-12.

Reason(s) for Exclusion: Have better studies. This case study surveyed women who had given birth in a midwife-led unit in a community that had previously been served by a consultant-led (doctor-led) unit.

Citation: Wax JR, Pinette MG, Cartin A, et al. Maternal and newborn morbidity by birth facility among selected united states 2006 low-risk births. Am J Obstet Gynecol 2010;202(2):152.e1,152.e5.

Reason(s) for Exclusion: does not report intended place of birth.

Chapter 21: The Place of Birth: Home Births

Citation: Aikins Murphy P, Feinland JB. Perineal outcomes in a home birth setting. Birth 1998;25(4):226-34.

Reason(s) for Exclusion: no comparison group.

Citation: Anthony S, Buitendijk SE, Offerhaus PM, et al. Maternal factors and the probability of a planned home birth. BJOG 2005;112(6):748-53.

Reason(s) for Exclusion: not relevant.

Citation: Borquez HA, Wieggers TA. A comparison of labour and birth experiences of women delivering in a birthing centre and at home in the netherlands. Midwifery 2006;22(4):339-47.

Reason(s) for Exclusion: no hospital birth comparison group.

Citation: Chang JJ, Macones GA. Birth outcomes of planned home births in missouri: A population-based study. Am J Perinatol 2011;28(7):529-36.

Reason(s) for Exclusion: included women from 36-44 weeks of gestation which captures both preterm and postterm infants at significantly higher risk of death; more than half of planned home births were attended by unlicensed midwives which raises several issues: first, there is no information about the training of such midwives; second outcomes may have been affected by fear of legal trouble; third outcomes may have been attributed to unplanned home birth group if unlicensed midwife refused to sign the birth certificate. (Attending a home birth as an unlicensed midwife was a felony during the study period.).

Citation: Dahlen HG, Barclay LM, Homer C. Preparing for the first birth: Mothers' experiences at home and in hospital in Australia. J Perinat Educ 2008;17(4):21-32.

Reason(s) for Exclusion: not relevant.

Citation: Davies J, Hey E, Reid W, et al. Prospective regional study of planned home births. home birth study steering group. BMJ 1996;313(7068):1302-6.

Reason(s) for Exclusion: descriptive study with no comparative data.

Citation: Dowswell T, Thornton JG, Hewison J, et al. Should there be a trial of home versus hospital delivery in the united kingdom? BMJ 1996;312(7033):753-7.

Reason(s) for Exclusion: Insufficient size to provide any useful data (n=11).

Citation: Fullerton JT, Navarro AM, Young SH. Outcomes of planned home birth: An integrative review. J Midwifery Womens Health 2007;52(4):323-33.

Reason(s) for Exclusion: researchers used appropriate methodology to review the body of literature on perinatal mortality in planned home birth, but including this integrative review in lieu of the studies themselves did not offer any benefit in terms of statistical power and would have prohibited us from assessing the methodological quality of individual studies.

Citation: Kennare RM, Keirse MJ, Tucker GR, et al. Planned home and hospital births in south australia, 1991-2006: Differences in outcomes. Med J Aust 2010;192(2):76-80.

Reason(s) for Exclusion: home birth cohort included high-risk women; hospital group included all live hospital births during the study period.

Citation: Lindgren HE, Hildingsson IM, Christensson K, et al. Transfers in planned home births related to midwife availability and continuity: A nationwide population-based study. Birth 2008;35(1):9-15.

Reason(s) for Exclusion: no relevant data.

Citation: Malloy MH. Infant outcomes of certified nurse midwife attended home births: United States 2000 to 2004. J Perinatol 2010;30(9):622-7.

Reason(s) for Exclusion: no information about intended birth site, no information about transfers, relies on birth certificate data.

Citation: McMurtrie J, Catling-Paull C, Teate A, et al. The St. George homebirth program: An evaluation of the first 100 booked women. Aust N Z J Obstet Gynaecol 2009;49(6):631-6.

Reason(s) for Exclusion: no hospital comparison data.

Citation: Northern Region Perinatal Mortality Survey Coordinating Group. Collaborative survey of perinatal loss in planned and unplanned home births. BMJ 1996;313(7068):1306-9.

Reason(s) for Exclusion: Unreliable method for excluding unplanned home births, as well as unreliable method for ensuring all planned home births were included.

Citation: Olsen O. Meta-analysis of the safety of home birth. Birth 1997;24(1):4,13; discussion 14-6.

Reason(s) for Exclusion: study is a meta-analysis of six studies, 4 of which did not meet eligibility criteria, one of which reported no intrapartum fetal or neonatal deaths in either group, and one of which we have included (Woodcock 1994). In addition, including this systematic review in lieu of the studies themselves did not offer any benefit in terms of statistical power and would have prohibited us from assessing the methodological quality of individual studies.

Citation: Olsen O, Jewell MD. Home versus hospital birth. Cochrane Database Syst Rev 2000;(2)(2):CD000352.

Reason(s) for Exclusion: Only one trial was included (n=11). The sample was too small to draw any conclusions about the safety of home birth.

Citation: Pang JW, Heffelfinger JD, Huang GJ, et al. Outcomes of planned home births in washington state: 1989-1996. Obstet Gynecol 2002;100(2):253-9.

Reason(s) for Exclusion: study methodology did not adequately separate planned and unplanned home births and included some with unqualified attendants.

Citation: Stotland NE, Declercq ER. The safety of out-of-hospital birth in industrialized nations: A review. Curr Prob: Obstet Gynecol Fertil 2002;25:134-44.

Reason(s) for Exclusion: not indexed in PubMed.

Citation: Wax JR, Lucas FL, Lamont M, et al. Maternal and newborn outcomes in planned home birth vs planned hospital births: A metaanalysis. Am J Obstet Gynecol 2010;

Reason(s) for Exclusion: multiple reasons. See text box "What About Wax" in chapter on home birth.

Citation: Wax JR, Pinette MG, Cartin A, et al. Maternal and newborn morbidity by birth facility among selected united states 2006 low-risk births. Am J Obstet Gynecol 2010;202(2):152.e1,152.e5.

Reason(s) for Exclusion: does not report intended place of birth.

Citation: Wiegers TA, Van der Zee J, Kerssens JJ, et al. Home birth or short-stay hospital birth in a low risk population in the netherlands. Soc Sci Med 1998;46(11):1505-11.

Reason(s) for Exclusion: data relate to women's decision making. No clinical outcome data presented.