Induction of labour

2008 update

National Collaborating Centre for Women's and Children's Health

Commissioned by the National Institute for Health and Clinical Excellence

Evidence tables

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Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
Shetty A; 2005 Nov 1 17 Country: UK	Study Type: Cohort Study Evidence Level: 2+	to assess women's actual experience of the process of induced labour and their satisfaction with labour	Total No. of Patients = 699 Women who laboured spontaneously N = 385 women undergoing labour induction at term (with vaginal PGE2) N = 314	women undergoing labour induction at term and those labouring spontaneously	satisfaction with labour Perception of pain of labour: more painful Complications with labour: more expected Perception of length of labour: longer Satisfaction with information received about induction prior to induction	70% 80% (RR 0.89, 95% CI 0.8 to 0.96) 50% 56% (NS) 37% 37% (NS) 33% 29% (NS) NA 65%	Funding: not stated observational study: questionnaire survey, likelihood of bias

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
					Aspects women liked to see changed if women were to have another induction	All women: Liked to change speed of induction: 40% Fewer vaginal exam: 7% fewer complications: 9%	

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Jacoby A; 1987 [16] Country: UK	Study Type: Other Evidence Level: 3	to assess women's preferences for and satisfaction with procedures in childbirth	Total No. of Patients = 1920	women who had recently given birth	women's preferences over obstetric procedures (preferred not to/hope it would not be necessary Induction by drug: 83% membranes ruptured: 72% epidural: 72% Women achieving their wishes (those who had wanted it) Induction by drug: 59% membranes ruptured: 78% epidural: 66% Women achieving their wishes (those who had not wanted it) Induction by drug: 23% membranes ruptured: 59% epidural: 11% women's preferences over the social aspects (wanted the following) move freely in first stage of labour: 73% father present all/some of labour: 90% father present at delivery: 88% hold baby as soon as born: 93% Labour/delivery managed as liked Able to move freely: 69% (yes); 45% (no) Baby's father present: 65% (all	Source of Funding: MRC Comments: response rate 75% retrospective: likelihood of bias in recall subjective data non-comparative result may not be generalisable

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
					labour), 49% (part), 51% (not at all) Baby's father present: 64% (at birth), 47% (not at birth) Able to hold baby: 65% (yes), 35% (no) Procedures managed as liked (those who wanted the procedure) induction by drugs: 59% had it, 62% didn't have it epidural: 54% had it, 59% didn't have it Overall: 18% women whose labours were managed as they liked reported feeling depressed postnatally, 25% of those whose labour were managed as they liked in some ways but not in others, and 30% of those whose labours were not managed as they liked, did so	

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Cartwright A; 1977 Sep 17 [15] Country: UK	Study Type: Other Evidence Level: 3	to assess women's experiences of pregnancy, labour and birth	Total No. of Patients = 524	women who had undergone induction of labour and had a livebirth	No clear association between induction and the mother's age and parity Despite being given more pain relief, those induced reported similar intensities of pain during the 1st and 2nd stages of labour to those whose labour started spontaneously The period they had contractions was shorter for the induced than for those starting spontaneously, and the intensity of pain at delivery was rated somewhat less by those who were induced Two-fifth of mothers who were induced would have liked more information about induction Two-fifth of mothers said they had not discussed induction with a doctor, midwife or nurse during pregnancy 17% of mothers who had induction said they would prefer to be induced again, 63% of those who had epidural would opt for the same procedures next time	Source of Funding: DHSS Comments: retrospective: recall bias non-comparative, non-interventional subjective data may not be generalisable study published in 1977

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Stewart P; 1977 Sep 17 [14] country: UK	Study Type: Other Evidence Level: 3	to assess women's attitudes towards planned induction of labour (amniotomy with oxytocin or oxytocin with delayed amniotomy)	Total No. of Patients = 137	women due for induction of labour (24 hours before and 12 hours after delivery)	source of information on induction before this pregnancy relatives and friends: 37% newspaper/TV: 14% hospital: 5% cannot remember: 1% never heard of induction: 22% from previous induction: 25% Opinions on induction before this pregnancy would prefer natural labour: 19% adverse opinions: 1.5% in favour of induction: 2% accept induction for sake of baby: 13% thought induction was carried out for the convenience of the hospital: 0.7% frightened: 0.7% non-committal: 14% never heard of induction: 22% women's attitude towards own induction glad: 66% accept for baby's sake: 6% relieved to know outcome: 0.7% indifferent: 16% reluctant:11% Women's description of methods of induction	Source of Funding: not stated Comments: non comparative subjective data likelihood of bias may not be generalisable study published 1977

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
					painful: amniotomy (15%), IV infusion (10%) uncomfortable: amniotomy (53%), IV infusion (54%) frightening: amniotomy (5%), IV infusion (2%) indifferent: amniotomy (28%), IV infusion (35%)	

Chapter 4 Induction of labour: Prolonged pregnancy

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Hilder 1998 [22] UK	Observational: Retrospective analysis	171,527 births	Notified births in NE Thames Region, London 1989 - 1991	Still birthrate and infant mortality rates at term and post term gestation	Still birth/1000 ongoing pregnancies 37 weeks GA 0.35 (95% CI 0.26 to 0.44) 38 weeks GA 0.56 (95% CI 0.44 to 0.68) 39 weeks GA 0.57 (95% CI 0.44 to 0.70) 40 weeks GA 0.86 (95% CI 0.68 to 1.05) 41 weeks GA 1.27(95% CI 0.92 to 1.62) 42 weeks GA 1.55 (95% CI 0.79 to 2.31) ≥43 weeks GA 2.12 (95% CI 0.55 to 5.43) Neonatal and post neonatal mortality/1000 ongoing pregnancies 37 weeks GA 0.34 (95% CI 0.25 to 0.43) 38 weeks GA 0.70 (95% CI 0.56 to 0.83) 39 weeks GA 0.83 (95% CI 0.68 to 0.99) 40 weeks GA 1.57 (95% CI 1.31 to 1.82) 41 weeks GA 1.48 (95% CI 1.10 to 1.85) 42 weeks GA 3.29 (95% CI 2.19 to 4.40) ≥43 weeks GA 3.71 (95% CI 1.53 to 7.63) Total pregnancy loss rate/1000 ongoing pregnancies 37 weeks GA: 0.7	

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					38 weeks GA: 1.3 39 weeks GA: 1.4 40 weeks GA: 2.4 41 weeks GA: 2.8 42 weeks GA; 4.8 ≥43 weeks GA: 5.8	
Olesen 2003[28] Denmark	Cross-sectional EL=3	Postterm delivery (n=77,956) Gestational age: 42 weeks (87.5%) 43 weeks (11.6%) 44 weeks (0.8%) 45+ weeks (0.1%) Induced delivery after 42 weeks: 24.5% Term delivery (n=34,140) Gestational age: 37-39 weeks (34.5%) 40-41 weeks (65.5%)	Registry data 1978-1993 All deliveries singletons	Postterm delivery vs Term delivery	Perinatal outcomes Aspiration: 1.3% vs 0.7% (Adjusted OR 1.75, 95% CI 1.52 to 2.02) Asphyxia before delivery: 0.8% vs 0.4% (Adjusted OR 1.90, 95% CI 1.58 to 2.30) Asphyxia during delivery: 0.2% vs 0.1% (Adjusted OR 2.00, 95% CI 1.33 to 3.01) Asphyxia in perinatal period: 1.5% vs 0.9% (Adjusted OR 1.63, 95% CI 1.43 to 1.85) Asphyxia in neonatal period: 2.4% vs 1.6% (Adjusted OR 1.33, 95% CI 1.62 to 1.85) Apgar score at 5 min <7: 0.95 vs 0.6% (Adjusted OR 1.44, 95% CI 1.23 to 1.69) Pneumonia: 0.2% vs 0.2% (Adjusted OR 1.47 95% CI 1.07 to 2.01) Septicaemia: 0.5% vs 0.4% (Adjusted OR 1.37, 95% CI 1.12 to 1.67) Stillbirth: 0.2% vs 0.2%	Not clear if women were low-risk Postterm pregnancy: ≥42 weeks

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					(Adjusted OR 1.24, 95% CI 0.93 to 1.66) Death day 1-7: 0.1% vs 0.1% (Adjusted OR 1.60, 95% CI 1.07 to 2.37) Perinatal death: 0.4% vs 0.3% (Adjusted OR 1.36 95% CI 1.08 to 1.72) Maternal complications Puerperal infection: 0.8% vs 0.7% (Adjusted OR 1.21 95% CI 1.03 to 1.41) Post-partum haem: 5.0% vs 3.6% (Adjusted OR 1.37 95% CI 1.28 to 1.46) Large fetus: 0.6% vs 0.2% (Adjusted OR 3.58 95% CI 2.72 to 4.70) Cephalopelvic disproportion: 4.6% vs 2.4% (Adjusted OR 1.91 95% CI 1.77 to 2.07) Vulval incomplete rupture: 5.5% vs 5.8% (Adjusted OR 0.96 95% CI 0.91 to 1.02) Vulval complete rupture: 0.7% vs 0.6% (Adjusted OR 1.11 95% CI 0.95 to 1.30) Cervical rupture: 1.1% 0.7% (Adjusted OR 1.45 95% CI 1.26 to	

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					1.67) Delivery with threatening asphyxia: 8.0% vs 3.9% (Adjusted OR 2.03 95% CI 1.91 to 2.16) Dystocia: 0.3% vs 0.2% (Adjusted OR 1.71 95% CI 1.30 to 2.25) Acute CS: 12.8% vs 8.2% (Adjusted OR 1.58 95% CI 1.51 to 1.66)	
Smith 2001[27] Scotland	Case-series EL=3	Birth data (n=700,878)	National database in Scotland 1985-1996 All deliveries singletons	Perinatal death at term and postterm	Cumulative probability of antepartum stillbirth (per 1000 ongoing pregnancy) At 37 weeks: 0.4 At 38 weeks: 0.8 At 39 weeks: 1.3 At 40 weeks: 2.2 At 41 weeks: 3.4 At 42 weeks: 5.3 At 43 weeks: 11.5 Probability of intrapartum stillbirth (per 1000 live birth): At 37 weeks: 0.7 At 38 weeks: 0.3 At 39 weeks: 0.2 At 40 weeks: 0/3 At 41 weeks: 0.3 At 42 weeks: 0.4 At 43 weeks: 0	Excluded: multiple pregnancies and deaths caused by congenital abnormalities Funding: Wellcome Trust

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Heimstad 2006[29] Norway	Prospective study EL=3	Pregnancies (n=27,514, labour induced in 2,500) Para 0: 43% Para 1: 38% Para 2: 20%	Gestations beyond 37 weeks All deliveries singletons	Pregnancy outcomes by weeks of gestation	Maternal complications: Induced vs spontaneous labour Cesarean delivery At 37 weeks: OR 1.2 (95% CI 0.8 to 1.8) At 38 weeks: OR 2.5 (95% CI 1.8 to 3.4) At 39 weeks: OR 3.8 (95% CI 2.7 to 5.2) At 40 weeks: OR 3.8 (95% CI 2.8 to 5.0) At 41 weeks: OR 4.0 (95% CI 3.0 to 5.4) At 42 weeks: OR 2.8 (95% CI 2.2 to 3.7) Operational vaginal delivery At 37 weeks: OR 2.0 (95% CI 1.2 to 3.2) At 38 weeks: OR 2.2 (95% CI 1.5 to 3.0) At 39 weeks: OR 1.7 (95% CI 1.2 to 2.3) At 40 weeks: OR 1.6 (95% CI 1.2 to 2.1) At 41 weeks: OR 2.0 (95% CI 1.6 to 2.7) At 42 weeks: OR 1.0 (95% CI 0.8 to 1.3) Maternal haemorrhage At 37 weeks: OR 1.9 (95% CI 1.2 to 2.9) At 38 weeks: OR 1.8 (95% CI 1.3 to 2.7) At 39 weeks: OR 1.9 (95% CI 1.3 to 2.7) At 40 weeks: OR 2.2 (95% CI 1.7 to 2.8) At 41 weeks: OR 2.3 (95% CI 1.7 to 3.1) At 42 weeks: OR 1.5 (95% CI 1.1 to	Not clear if women were low-risk Funding: not stated

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					2.0) Fetal complications Meconium aspiration (per 1000 births) At 37 weeks: 2.5 At 38 weeks: 2.3 At 39 weeks: 1.8 At 40 weeks: 2.9 At 41 weeks: 5.1 At 42 weeks: 4.7 Intrauterine fetal death (per 1000 ongoing pregnancies) At 37 weeks: 0.35 At 38 weeks: 0.25 At 39 weeks: 0.43 At 40 weeks: 0.51 At 41 weeks: 0.84 At 42 weeks: 1.55 Risk factors for delivery complications by logistic regression Analysis: Induction of labour: OR 1.3 to 2.8, independent of gestational age	
Caughey 2006[30] US	Retrospective cohort study EL= 3	Pregnant women (n=32,828) Nulliparous: 52.1% Labour induced: 12.2% Birthweight ≥4000g: 12.6% Augmentation of labour: 25.7% Caesarean delivery: 17.6% Primary caesarean rate: 11.7%	Low-risk women 37 to 40 weeks gestation All deliveries singletons	Mode of delivery Maternal complications by weeks of gestation	Mode of delivery Primary caesarean (%) At 37 weeks: 9.7 At 38 weeks: 8.7 At 39 weeks: 9.2 At 40 weeks: 10.4** At 41 weeks: 14.1** At 42 weeks: 18.1*** Operative vaginal delivery (%) At 37 weeks: 14.9 At 38 weeks: 14.0 At 39 weeks: 14.8*	Funding: NICHHD

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
		Operative vaginal delivery: 15%			At 40 weeks: 16.4** At 41 weeks: 17.4** At 42 weeks: 20.2*** Mode of delivery Primary cesarean (%) At 37 weeks: 10.9 At 38 weeks: 10.2 At 39 weeks: 11.4 At 40 weeks: 14.2** At 41 weeks: 18.9*** At 42 weeks: 25.9*** Operative vaginal delivery (%) At 37 weeks: 22.0 At 38 weeks: 20.7 At 39 weeks: 21.9 At 40 weeks: 23.1* At 41 weeks: 23.0 At 42 weeks: 26.4*** Maternal complications by weeks of gestation Postpartum haem At 37 weeks: 14.2 At 38 weeks: 12.6 At 39 weeks: 13.4 At 40 weeks: 12.8 At 41 weeks: 16.0*** At 42 weeks: 15.8 *< 0.05, ** <0.01, *** <0.001 (Statistical sig as compared to the rate in the prior week of gestation)	

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Gulmezoglu 2006[32] Austria, France, Norway, Turkey, India, Thailand, China, UK, US, Canada	Systematic review EL=1++	19 RCTs (7984 women)	Trials conducted between 1969 to 2005 Participants were low-risk women with certain gestational age Induction at 38-40 weeks (3 trials) Induction at 41 completed weeks (11 trials) Induction after 42 completed weeks (5 trials)	Planned induction of labour (All methods, singly or in combination: membrane sweeping, AROM, laminaria tents, prostaglandins, misoprostal, oxytocin) Vs No induction (Expectant management: monitoring with fetal movements, nonstress tests, amniotic fluid measurement and ultrasound etc.)	Perinatal death: Induction at 41 completed weeks (0/2835 vs 6/2808; RR 0.25, 95% CI 0.05 to 1.18, 10 trials) Induction at 41 and 42 completed weeks (RR 0.30, 95% CI 0.09 to 0.99, 12 trials) Excluding death due to congenital anomalies: 0 vs 9 Birth asphyxia: Induction at 38-40 weeks (29/481 vs 7/235; RR 2.02, 95% CI 0.90 to 4.55, one trial) Induction at 41 completed weeks (1/124 vs 0/125, one trial) Meconium aspiration syndrome: Induction at 41 completed weeks (RR 0.29, 95% CI 0.12 to 0.68, 4 trials) Induction after 42 completed weeks (RR 0.66, 95% CI 0.24 to 1.81, 2 trials Mean birth weight (g): Induction at 41 completed weeks Similar between groups Induction after 42 completed weeks WMD −101.67, 95% CI −179.12 to −24.23, 3 trials) Cesarean section: Induction at 38-40 weeks (RR 0.58, 95% CI 0.34 to 0.99)	Gestational age not confirmed by ultrasound in some trials 9 trials conducted after 1990 4 trials conducted in developing countries Funding: WHO, University of Adelaide

Bibliographic Details

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					Induction at 41 completed weeks (RR 0.92, 95% CI 0.76 to 1.12) Induction after 42 completed weeks (RR 0.97, 95% CI 0.72 to 1.31) Assisted vaginal birth Induction at 38-40 weeks (RR 1.71, 95% CI 1.23 to 2.39) Induction at 41 completed weeks (RR 1.05, 95% CI 0.94 to 1.17) Induction after 42 completed weeks (RR 0.95, 95% CI 0.65 to 1.38) Cervical status (8 trials): No sig diff between induction and expectant management for CS or assisted vaginal birth Maternal anxiety/satisfaction: Not reported in any of the trials	

	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Hannah ME;Hannah WJ;Hellmann J;Hewson S;Milner R;Willan A; 1992 [34]	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 3407 Induction of labour with intracervical PGE2 gel N = 1701 Serial monitoring N = 1706	uncomplicated pregnancies =/> 41 weeks GA Nulliparity Induction: 68% monitoring: 68% Cervical dilatation before entry 0cm Induction: 40% monitoring: 40% 1-2cm Induction: 51% monitoring: 49% 3-4cm Induction: 1% monitoring: 1%	Induction of labour with PGE2 gel vs Serial monitoring	Cesarean section rate: 21.2% vs 24.5% (p=0.003) instrumental vaginal birth rate: 35.3% vs 34.9% (NS) intrapartum fever >38 degrees C: 2.9% vs 3.6% (NS) Apgar score <7 at 5 min: 1.1% vs 1.2% (NS) seizures: 0.2% vs 0.3% (NS) admission to NICU: 14.1% vs 15.5% (NS) stillbirth: 0 vs 2 neonatal death: 0 vs 0	Source of Funding: MRC, Canada Central randomisation Unclear method of allocation concealment Power calculation Serial monitoring: underwent non-stress tests 3 times/week, ultrasound assessment of amniotic fluid volume 2-3 times/week Women asked to count no. of times they felt fetus kick over a 2-hour period each day (kick counts), and to contact their physicians if they counted <6 kicks in 2 hours and to have a non-stress test within 12 hours

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
McNellis D;Medearis AL;Fowler S;Romero R;Sibai BM;Caritis SN;Paul RH;Depp R;Witter F;Hobbins JC;Horenstein J;Cefalo RC;Gordon T;Yaffe S;Klebanoff M;Berendes H;Catz C;Walla C;Cotroneo P; 1994 33	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 265 Intracervical PGE2 gel N = 174 Placebo N = 91	Uncomplicated pregnancies 41-43 weeks GA (verified by US) Nulliparity PGE2: 60% Placebo: 59% Mean Bishop score PGE2: 4 (SD 1.4) Placebo: 3.8 (SD 1.4)	Intracervical PGE2 gel vs Placebo	Randomisation -to-delivery interval (hr): 36 (6-492) vs 35 (7-387)(NS) Maternal infection: 19% vs 14% (NS) Maternal need for transfusion: 1% vs 0% (NS) Uterine hyperactivity: 1% vs 1% (NS) Vaginal delivery: 77% vs 82% (NS) CS: 22% vs 18% (NS) Apgar score < 4 at 5 mins (No.): 0 vs 0 (NS) No meconium (No.): 131 (75%) vs 71 (78%) (NS)	Source of Funding: NICHHD, US Part of a RCT to assess effects of induction of labour vs expectant management. Women in the induction group underwent induction within 24 hr of randomisation to PGE2 gel or placebo prior to induction with oxytocin Power calculation Computer randomisation in a 2:1 scheme (PGE2 :placebo)

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					Thin meconium (No.) 31 (18%) vs 12 (13%) (NS) Thick meconium (No.) 10 (6%) vs 7 (8%)(NS) Meconium aspirated pneumonia (No.) 1 vs 1 (NS)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Naef III RW;Allbert JR;Ross EL;Weber BM;Martin RW;Morrison JC; 1998 [45] Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1++	Total number of patients = 120 induction with IV oxytocin N = 57 conservative management by observation N = 63	women with preterm premature rupture of membrane between 34 and 37 weeks gestation (mixed parity)	induction with IV oxytocin vs conservative management by observation	admission-to-delivery interval (hours) chorioamanionitis hospital stay (days) CS Apgar score at 5 minutes NICU admission sepsis total hospital stay (days)	9.8 (7.8) vs 119 (223) (p=0.001) 2% vs 16% (p=0.007) 2.6 (1.6) vs 5.2 (6.8) (p=0.006) 7% vs 5% (NS) 9.1 (0.9) vs 9.1 (0.7) (NS) 19% vs 24% (NS) 0% vs 5% (NS) 4.5 (4.9) vs 4.8 (5.1) (NS)	Source of Funding: not stated computer-generated randomisation, allocation in sealed opaque envelopes Power calculation All women received antibiotic prophylaxis No tocolytics or corticosteroids given

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Haghighi L; 2006 47 Country: Iran	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 108 vaginal misoprostol 25 mg N = 54 IV oxytocin N = 54	women with preterm premature rupture of membrane and unfavourable cervix at 29 to 36 weeks gestation	vaginal misoprostol 25 mg vs IV oxytocin	admission to delivery interval (minutes, mean) CS due to failed induction vaginal birth Apgar score < 7 at 5 minutes (no) 	507.68 (248.0) vs 596.66 (246.38)(p<0.005) 9% vs 19% (p<0.004) vs 83% vs 76% (NS) vs 1 vs 1 (NS)	Source of Funding: not stated Sequential sealed envelopes numbered by means of random number tables No power calculation All women received antibiotics and dexamethasone if gestation < 34 weeks

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Cox SM; 1995 44 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 129 intentional delivery (oxytocin or caesarean birth) N = 61 expectant management N = 68	women with preterm premature rupture of membrane (PPROM) at 30 to 34 weeks gestation	intentional delivery (oxytocin or caesarean birth) vs expectant management	admission to delivery intervals < 24 hrs CS chorioamnionitis stillbirth neonatal death special care nursery stay	97% vs 25% (p<0.001) 23% vs 12% (NS) 2% vs 15% (p=0.009) 0% vs 1.4% (NS) (1 death from E coli sepsis) 5% (3 deaths: 1 from group B streptococcal sepsis, 1 from staphylococcus aureus and 1 from pulmonary hypoplasia) vs 0 (NS) 19.9 days vs 19.3 days (NS)	Source of Funding: not stated randomisation using random number tables allocation predetermined and placed in consecutively numbered sealed envelopes no power calculation No tocolytics, corticosteroids or prophylactic antibiotics were used during the trial

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Frohn WE; 2002 Feb 46 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 109 vag misoprostol 50 mcg N = 54 vag PGE2 2.5 mg N = 55	women with preterm premature rupture of membrane (PPROM) = 34 weeks gestation (median 36 weeks)	vaginal misoprostol 50 mcg vs vaginal PGE2 2.5 mg	Insertion to delivery (hr, mean) delivery within 12 hours Tachysystole uterine hyperstimulation CS	16.4 +/- 10.2 vs 22.0 +/- 12.9 (p=0.01) 41% vs 16% (p=0.005) 20% vs 6% (p=0.02) 9% vs 0% (p=0.02) 19% vs 26% (NS)	Source of Funding: not stated Computer-generated randomisation Allocations placed in consecutively numbered sealed opaque envelopes power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Mercer BM; 1993 Oct 43 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 93 induction of labour N = 46 expectant management (Expectant management included hospitalisation, assessment of fetal heart rate, chorioamnionitis and labour. Digital cervical examinations were prohibited until progress labour occurred) N = 47	with preterm premature rupture of membrane (PPROM) at 32 to 36 weeks gestation	induction of labour vs expectant management	Latency from randomisation to delivery (hr, median) maternal hospitalisation (days, median) Overall chorioamnionitis CS Apgar score < 7 at 5 minutes neonatal hospital stay (days, median) suspected neonatal sepsis	14 vs 36 (p<0.001) 2.3 vs 3.5 (p<0.001) 11% vs 28% (p=0.06) 9% vs 6% (NS) 0% vs 0% (NS) 6.2 vs 7.3 (p=0.09) 28% vs 60% (P=0.003)	Source of Funding: not stated Computer-generated randomisation Methods of allocation concealment not reported No power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					antimicrobial therapy (neonates) 35% vs 79% (P=0.001)	

Chapter 5. Induction of labour in specific circumstances: Presence of fetal growth restriction

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
van den Hove MM; 2006 Mar 1 60 Country: The Netherlands	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 33 labour induction N = 16 Expectant management N = 17	women with IUGR at term	induction of labour (PGE2 gel for cervical priming and amniotomy and IV oxytocin) vs expectant management	Obstetric interventions (spontaneous birth, forceps, vacuum, CS) 25% 24% (NS) neonatal morbidity 50% 35% (NS)	Source of Funding: not reported allocation by statistician at random and put in consecutively numbered envelopes No power calculation

Chapter 5. Induction of labour in specific circumstances: Previous caesarean section

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Vause S;Macintosh M; 1999 69 Country: UK, US, Sweden, Israel	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	1 RCT, 42 women 6 observational studies, 724 women	women with a caesarean birth scar undergoing labour induction	Vaginal PGE2 2.5 mg followed by amniotomy vs amniotomy + IV oxytocin (1 RCT) 6 observational studies (Blanco 1992, Goldberger 1989, Mackenzie 1988, Norman 1992, Stone 1994, Williams 1995)	1 RCT (see review of individual RCT) 6 observational studies (PGE2 vs comparison group) No of vaginal births Blanco 1992: 17 (81%, 95% CI 58% to 94%) vs 15 (71%, 95% CI 48% to 89%) Goldberger 1989: 18 (74%, 95% CI 51% to 87%) vs 46 (82%, 95% CI 72% to 92%) Mackenzie 1988: 329 (75%, 95% CI 71% to 79%) (no comparison group) Norman 1992: 22 (73%, 95% CI 54% to 88%) (no comparison group) Stone 1994: 60 (64%, 95% CI 54% to 74%) vs 598 (69%, 95% CI 66% to 72%) Williams 1995: 59 (50%, 95% CI 41% to 59%) vs 241 (68%, 95% CI 63% to 73%) Uterine rupture or dehiscence Blanco 1992: 0 vs 0 Goldberger 1989: 0 vs 0 Mackenzie 1988: 1 rupture, 4 dehiscence (no comparison group)	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Norman 1992: 0 (no comparison group) Stone 1994: 0 rupture and 2 dehiscence vs 0 Williams 1995: 0 vs 0	Source of Funding: none
McDonagh MS;Osterweil P;Guise JM; 2005 Aug 68	Study Type: Systematic Review/Meta-Analysis Evidence Level: 3	2 RCTs, 326 women 12 observational studies, 39170 women		Oral mifepristone 200 mg vs placebo (1 RCT) Weekly vaginal PGE2 vs expectant management (1 RCT) 12 observational studies	RCTs: see review of individual RCTs Observational studies: compared with spontaneous labour, induction was more likely to result in caesarean delivery (20% [range 11-35%] vs 32% [range 18-44%]) Caesarean occurred in 24% (range 18-51%) of spontaneous labour compared with 48% (range 28-51%) of PGE2 induction There was a non-significant increase in uterine rupture s among those induced compared with spontaneous labours There were no maternal deaths; other maternal complications were infrequently and inadequately reported.	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Dodd J;Crowther C; 2004 Oct 67 Country: US, UK, France	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	3 RCTs, 112 women	women with a previous caesarean birth, undergoing induction of labour	Vaginal PGE2 2.5 mg followed by amniotomy vs amniotomy + IV oxytocin (1 RCT) Vaginal misoprostol 25 mcg 6-hourly vs IV oxytocin (1 RCT) Oral mifepristone 200 mg vs placebo (1 RCT)	Insufficient evidence (refer to review of individual RCT)	Source of Funding: not stated
Dodd JM; 2006 66	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	No RCTs was identified	women with previous caesarean birth	No RCTs was identified		Source of Funding: University of Adelaide, Australia

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Rayburn WF; 1999 Aug [73] Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 294 weekly PGE2 gel 0.5 mg, repeated at weekly office visits for up to three dose N = 143 expectant management N = 151	women at term who had one previous caesarean birth and unfavourable cervix (Bishop score < 6)	weekly PGE2 gel 0.5 mg, repeated at weekly office visits for up to three dose vs expectant management	Undelivered at 40 weeks 34% vs 44% (NS) Undelivered at 41 weeks 28% vs 24% (NS) Spontaneous vaginal birth 49% vs 49% (NS) instrumental vaginal birth 8% vs 6% (NS) CS 43% vs 45% (NS) Uterine hyperstimulation 0.7% vs 0% (NS) Uterine rupture 0% vs 0% (NS) maternal nausea and vomiting 1.4% vs 1.3% (NS)	Source of Funding: Pharmacia & Upjohn Co, Kalamazoo, MI, US Computer-generated randomisation Blind to investigators Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Wing DA;Lovett K;Paul RH; 1998 [72] Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1-	Total number of patients = 38 vaginal misoprostol 25 mcg at 6 hourly interval (maximum 4 doses) N = 17 IV oxytocin N = 21	women with a prior CS requiring induction of labour	vaginal misoprostol 25 mcg 6-hourly (maximum 4 doses) vs IV oxytocin	maternal diarrhoea Uterine rupture maternal fever apgar score <7 at 5 mins need for resuscitation	0.7% vs 2/17 (NS) 1.4% vs 0/21 (OR 6.94, 95% CI 0.21 to 154.86) 0% (NS) 8% vs 9% (NS) 12% vs 7% (NS)	Source of Funding: not reported Method of randomisation and power calculation not reported The trial was stopped because of safety concerns

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Taylor AVG;Sellers S;Ah-Moye M;MacKenzie IZ; 1993 [71] Country: UK	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 42 Vaginal PGE2 2.5 mg followed by amniotomy N = 21 Amniotomy + IV oxytocin N = 21	women with a previous caesarean birth, undergoing induction of labour because of prolonged pregnancy or pre-eclampsia (Bishop score <9)	vaginal PGE2 2.5 mg followed by amniotomy vs amniotomy + IV oxytocin	Induction to delivery interval (hr) Spontaneous vaginal birth operative vaginal birth CS Epidural usage Apgar score <7 at 5 min Uterine rupture	10.8 (4.2) vs 8.9 (2.4)(NS) vs 57% vs 52% (NS) vs 24% vs 19% (OR 1.33, 95% CI 0.30 to 5.84) vs 19% vs 29% (OR 0.59, 95% CI 0.14 to 2.49) vs 81% vs 57% (OR 3.19, 95% CI 0.79 to 12.80) vs 0 vs 0 (NS) vs 1/21 vs 0/21 (NS) vs	Source of Funding: not reported Randomisation using a predetermined code contained in sealed envelopes No power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					repeat CS 0/4 vs 5/6 ($p<0.05$)	

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Chilaka VN; 2004 Apr 61	Study Type: noncomparative: case series Evidence Level: 3	to determine the risk of uterine rupture	Total No. of Patients = 130	women with a previous caesarean section undergoing labour induction with PGE2	spontaneous vaginal delivery: 65/130 (50%) instrumental vag delivery: 14/130 (11%) CS: 51/130 (39%) Admission to NICU: 6/130 Neonatal death:) Suspected uterine rupture: 2 cases, not confirmed	

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Kayani SI; 2005 Apr 62	Study Type: case series: review of hospital delivery records Evidence Level: 3	to estimate the risk of uterine rupture or dehiscence	Total No. of Patients = 205	women with one previous caesarean section undergoing induction of labour (vaginal PGE2 n=97; PGE2 + oxytocin, n=52; ARM, n=11; ARM + oxytocin, n=45UK)	spontaneous vag delivery PGE2: 47% PGE2 + oxytocin: 38.5% ARM only: 73% ARM + oxytocin: 62% Instrumental vag delivery PGE2: 10% PGE2 + oxytocin: 15.5% ARM only: 0 ARM + oxytocin: 13.5% CS PGE2: 43% PGE2 + oxytocin: 46% ARM only: 27% ARM + oxytocin: 24.5% Uterine dehiscence PGE2: 0 PGE2 + oxytocin: 0 ARM only: 0 ARM + oxytocin: 2% Uterine rupture PGE2: 1% PGE2 + oxytocin: 4% ARM only: 0 ARM + oxytocin: 2% Adverse neonatal outcomes (seizures, death, admission to NICU, Apgar score <7 at 5 min) PGE2: 0 PGE2 + oxytocin: 1	

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
					ARM only: 2 ARM + oxytocin: 1	

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
Grobman WA;Gilbert S;Landon MB;Spong CY;Leveno KJ;Rouse DJ;Varner MW;Moawad AH;Caritis SN;Harper M;Wapner RJ;Sorokin Y;Miodovnik M;Carpenter M;O'Sullivan MJ;Sibai BM;Langer O;Thorp JM;Ramin SM;Mercer BM; 2007 65 Country: US	Study Type: Cohort Study Evidence Level: 2+	to compare pregnancy outcomes after induction with pregnancy outcomes after spontaneous labour	Total No. of Patients = 11778 With with no prior vaginal delivery (n=6132) With with prior vaginal delivery (n=5646)	women with one previous caesarean birth undergoing induction of labour	vaginal delivery uterine rupture (no oxytocin or PGE2) uterine rupture (PGE2 only) uterine rupture (oxytocin without PGE2)	51% 64.7% (OR 0.57, 95% CI 0.51 to 0.63) 83.3% 88.3% (OR 0.66, 95% CI 0.56 to 0.78) 0 NA 0 NA 0 NA 0 NA 1.8%	Funding: National Institute of Child Health , US

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
					uterine rupture (oxytocin without PGE2)	NA (OR 2.19, 95% CI 1.28 to 3.76)	
						0.6%	
						NA (OR 1.53, 95% CI 0.66 to 3.54)	
					uterine rupture (oxytocin with PGE2)	1.2%	
						NA (OR 1.47, 95% CI 0.57 to 3.76)	
						0.5%	
						NA (OR 1.17, 95% CI 0.16 to 8.86)	
					Endometritis	3.8%	
						3.7% (OR 1.03, 95% CI 0.77 to 1.38)	
						1.3%	
						1.8% (OR 0.72, 95% CI 0.43 to 1.18)	
					Blood transfusion	2.3%	
						1.4% (OR 1.65, 95% CI 1.10 to 2.48)	
						1.2%	

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
					Blood transfusion	1.1% (OR 1.13, 95% CI 0.66 to 1.95)	
					hysterectomy	0.4%	
						0.1% (OR 3.92, 95% CI 1.10 to 13.9)	
						0.1%	
						0.1% (OR 0.87, 95% CI 0.18 to 4.34)	
					Venous thromboembolism	0.2%	
						0% (NS)	
						0%	
						0% (NA)	
					Intensive care unit admission	0.4%	
						0.2% (OR 1.74, 95% CI 0.62 to 4.89)	
						0.3%	
						0.2% (OR 1.05, 95% CI 0.33 to 3.35)	
					composite maternal morbidity	2.5%	

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
					composite maternal morbidity	1.4% (OR 1.78, 95% CI 1.20 to 2.65) 1.2% 1.1% (OR 1.11, 95% CI 0.65 to 1.90)	

Chapter 5. Induction of labour in specific circumstances: Maternal request

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Cole RA;Howie PW;Macnaughton MC; 1975 Apr 5 82 Country: UK	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 228 elective induction of labour (forewater amniotomy followed by IV oxytocin) N = 111 expectant management N = 117	pregnant women at 39-40 weeks gestation (mixed parity)	elective induction of labour (forewater amniotomy followed by IV oxytocin) vs expectant management	spontaneous birth 65% 70% (NS) Forceps births 31% 22% (NS) CS 5% 8% (NS) Mean length of labour (hrs) 6.4 (3.1) 7.0 (3.4) (NS) Mean dose of pethidine (mg) 157 155 (NS) No. of epidurals 22 14 (NS) Mean blood loss after vaginal birth (ml) 185 (139) 233 (150) (p=0.05)	Source of Funding: not stated Methods of randomisation and power calculation not reported

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Breart G;Goujard J;Maillard F;Chavigny C;Rumeau-Rouquette C;Sureau C; 1982 [81] Country: France	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 716 elective induction of labour (oxytocin and AROM) N = 481 expectant management (fetal heart rate checking and amnioscopy every 2-3 days) N = 235	women with low risk pregnancy at 37-39 weeks gestation (no indication or contraindication for labour induction)	elective induction of labour (oxytocin and AROM) vs expectant management (fetal heart rate checking and amnioscopy every 2-3 days)	CS 4% 7% (NS) Assisted vaginal births 26% 15% (RR 1.74, 95% CI 1.24 to 2.45)	Source of Funding: not reported Randomised, allocation using envelopes (2:1 allocation) Power calculation not clear 36% of the intervention group and 86% of the control group followed the trial protocol

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
Rojansky N; 2001 [88] Country: Israel	Study Type: Case-Control Study Evidence Level: 2-	assess effects of breech induction	Total No. of Patients = 175	women with breech presentation	Vaginal birth CS Apgar score < 7 	66% vs 68% vs 0% (NS) 34% vs 32% vs 100% (NS) 0% vs < 1% vs 0% (NS)	Funding: not stated

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments

Bibliographic Details	Study Type & Evidence Level		Intervention & Comparison		Outcome Measures, Follow-Up & Effect Size	
Fait G; 1998 87	Study Type: retrospective matched-paired study Evidence Level: 2-	assess the effects of breech induction	Total No. of Patients = 69 breeech induction (extra-amniotic saline and concomitant oxytocin) N = 23 vertex induction N = 46	women with breech presentation	Vaginal birth 52% vs 83%, OR 0.23, 95% CI 0.07 to 0.8 Caesarean birth rate 48% vs 17%, OR 4.3, 95% CI 1.3 to 15.6) Rates of Apgat score, birth trauma and maternal morbidity were similar in the groups	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size		Comments
Irion O;Boulvain M; 1998 [109] Cabrol D; 1990 Aug [92] Country: Israel, US Country: France and South Africa	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++ Study Type: Randomised Controlled Trial Evidence Level: 1+	2 RCTs, 313 women Total number of patients = 94 Mifepristone 600mg (200mg three times a day) for 2 days N = 48 Placebo for 2 days N = 46	Non-diabetic women with suspected fetal macrosomia,for induction of labour Women (mean age between 27.8-28.9 years) with a gestational age>16 weeks (mean 197-199 days of amenorrhea) and absence of signs of inminent labor based in obstetric and gynecology departments.	Labour induction (with prostaglandins and IV oxytocin) vs expectant management Mifepristone 600mg (200mg three times a day) for 2 days vs Placebo	Labour within 72 hours Uterine bleeding Nausea and vomiting	63% 17.4% (p<0.001) 3/46 0 2/46	Source of Funding: One author associated with Roussel Uclaf Sample size calculation attempted Reported double-blind but not clear who was blind Randomisation obtained by the method of random permutations Allocation concealment unclear Two women from the Mifepristone group were excluded after randomisation

Labour induction vs expectant management (2 RCTs): Caesarean birth: 22/153 vs 38/160, RR 0.88 (95% CI 0.59 to 1.34) Instrumental birth: 17/153 vs 18/160, RR 0.98 (95% CI 0.53 to 1.82) Spontaneous birth: 104/153 vs 104/160, RR 1.05 (95% CI 0.89 to 1.22) Third and fourth degree perineal tear: 0 Mean birthweight: WMD -61.44 (95% CI -132.00 to 11.12) Low Apgar score (5 minutes): 0 Shoulder dystocia: 9/153 vs 9/160, RR 1.06 (95% CI 0.44 to 2.56) Brachial plexus injury: 0/153 vs 2/160, RR 0.21 (95% CI 0.01 to 4.28) Fracture (any): 0/153 vs 4/160, RR 0.12 (95% CI 0.01 to 2.12) Admission to neonatal intensive care unit: 0 Intracranial haemorrhage: 3/63 vs 2/52, RR 1.06 (95% CI 0.19 to 5.96) Convulsions: 0 Perinatal mortality: 0	Source of Funding: University of Geneva

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Sanchez-Ramos 2002 110 Country: US, Europe	Study Type: Systematic Review/Meta-Analysis Evidence Level: 2+	2 RCTs 9 Observational studies	women with suspected fetal macrosomia	expectant management vs induction of labour (2 RCTs, 9 Observational studies)	2 RCTs: CS: OR 1.17, 95% CI 0.69 to 2.01 Spontaneous vaginal birth: OR 0.90, 95% CI 0.54 to 1.48 Operative vaginal birth: OR 1.02, 95% CI 0.50 to 2.08 Rate of shoulder dystocia: OR 0.93, 95% CI 0.35 to 2.46 9 Observational studies: CS: OR 0.39, 95% CI 0.30 to 0.50 Spontaneous vaginal birth: OR 2.07, 95% CI 1.34 to 3.19 Operative vaginal birth: OR 0.89, 95% CI 0.68 to 1.17 Rate of shoulder dystocia: OR 0.81, 95% CI 0.50 to 1.31	Source of Funding: not stated

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Oei SG;Jongmans L;Mol BWJ; 2000 115 Country: The Netherlands	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 126 endocervical PGE2 gel 0.5 mg in morning between 0.800 – 0900 hours N = 58 endocervical PGE2 gel 0.5 mg in evening between 22.00 –23.00 hours N = 68	women at term (Bishop score < 6) scheduled for induction of labour	endocervical PGE2 gel 0.5 mg in morning between 0.800 – 0900 vs endocervical PGE2 gel 0.5 mg in evening between 22.00 –23.00 hours	Delivery between 18.00 and 08.00 hours: 9 9 (NS) Vacuum /forceps delivery in nulliparous women: 3 19 (RR 4.2, 95% CI 1.4 to 13) CS: 7 5 (NS) maternal satisfaction: 77% 62% Report of bad sleep: 34% 73% (RR 1.7, 95% CI 1.1 to 2.5)	Source of Funding: not reported randomisation using random number table concealment by means of sequentially numbered sealed envelopes Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					Would choose the same time of induction in next pregnancy 8% 23% (RR 2.4, 95% CI 0.86 to 6.6)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Dodd JM;Crowther CA;Robinson JS; 2006 Aug 114 Country: Australia	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 620 morning admission (0800 hours) for labour induction N = 280 evening admission (2000 hours) for labour induction N = 340	women at = 36 +6 weeks gestation	morning admission (0800 hours) for induction vs evening admission (2000 hours) for induction	achieving vaginal birth within 24 hours: 43% 44% (NS) incidence of uterine hyperstimulation with FHR changes: 2% 0% (NS) and caesarean birth: 22% 26% (NS) women's satisfaction: Disliked lack of sleep: 0.4% Disliked lack of sleep: 4.4% (RR 0.08, 95% CI 0.01 to 0.61) maternal complications: NS	Source of Funding: Royal Australian and NZ Coll Obs & Gynae Computer generated randomisation Not blinded Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					fetal complications NS	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Biem SR; 2003 Jan 111 Country: Canada	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 300 out patient labour induction with controlled-release PGE2 N = 150 inpatient labour induction with controlled-release PGE2 N = 150	women at term (~ 80% postdates) with a Bishop score of = 6	out patient labour induction with controlled-release PGE2 inpatient labour induction with controlled-release PGE2	Delivery by 24 hrs 77% 71% (NS) median time to delivery (hrs) 21.4 20.7 (NS) CS 23% 25% (NS) Apgar score at 5 min (median) 8.81 8.71 (NS)	Source of Funding: Not reported Computer generated randomisation No power calculations

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Somerset DA; 1995 Feb 116 Country: UK	Study Type: Cohort Study Evidence Level: 2+	Total number of patients = 80 labour induction with vaginal PGE2 gel 2 mg inserted at 1400 hours N = 40 labour induction with vaginal PGE2 gel 2 mg inserted at 2200 hours N = 40	women at 37-42 weeks gestation scheduled for induction of labour	labour induction with vaginal PGE2 gel 2 mg inserted at 1400 hours vs labour induction with vaginal PGE2 gel 2 mg inserted at 2200 hours	Forceps birth 27% 33% (NS) CS 10% 25% (NS) days in hospital 4.4 5.3 (p<0.01) total costs of admission (£) 1461 1811 (p=0.01)	Source of Funding: not reported

Bibliographic Details	Study Type & Evidence Level	No. of Women	Aims/Objectives	No. of Women	Women's Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Chen L;Hsu H;Lin C;Huang C;Tsai S;Lee C;Hsieh F; 2001 Nov [112] Country: US [113] Country: Taiwan	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 111 outpatient cervical priming with transcervical Foley catheter N = 61 inpatient cervical priming with transcervical Foley catheter N = 50	Total No. of Patients = 120	women at term and a Bishop score of <5	outpatient cervical priming with transcervical Foley catheter vs inpatient cervical priming with transcervical Foley catheter	Change in Bishop score CS Apgar score at 5 min Maternal discomfort (1-10 visual analogue scale, 1 being no discomfort and 10 worst pain)	3.0 3.0 (NS) 29% 43% (NS) 8.0 8.0 (NS) 4.8 (2.4) 3.9 (2.3) (NS)		Source of Funding: not reported Computer generated randomisation No power calculation

	Women undergoing induction of labour			Funding: National Science Council, Republic of China
epidural (fentanyl)anto relieve early first stage of labour pain during the early period of the first stage of induced labour (IV oxytocin) N = 60		CS	17%	methods of randomisation not reported no power calculation
			15%	
			29% (Group A vs B [NS]; Group A vs C, p=0.09; Group B vs C, p=0.05)	
		Pain scores (VAS visual analogue scale)	Lower in group A than in group B and C (p<0.001)	
		duration of labour: early first stage	Groups A vs B vs C (NS)	
no epidural (fentanyl)to relieve early first stage of labour pain during the early period of the first stage of induced labour (IV oxytocin) N = 60		Apgar score at 5 min	Groups A vs B vs C (NS)	
		Quality of analgesia rated as 'excellent'	80%	
			0% (p<0.001)	

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes	Comments
			convenience control sample (no analgesia during entire labour course) N = 198			
Balladur A; 1989 120 Country: France	Study Type: Randomised Controlled Trial Evidence Level: 1+		Total No. of Patients = 88 Epidural (fentanyl) started at beginning of induction N = 41 Epidural (fentanyl) once labour became 'active' N = 47	in women at term (37 -42 weeks gestation) undergoing induction (oxytocin)	Duration of labour (mins) Primiparous: 445 Multiparous: 213 Primiparous: 360 ($p<0.05$) Multiparous: 282 ($p<0.05$) Forceps birth 6 9 CS 2 4 Assisted births 0 4	Funding: not stated Methods of randomisation not reported No power calculation

Bibliographic Information	Study Type & Evidence Level	Study Aims/Objectives	No. of Women	Women Characteristics	Outcomes		Comments
Capogna G; 2001 May 119 Country: Italy	Study Type: Cohort Study Evidence Level: 2+	to compare analgesia requirement of women in spontaneous labour and in induced labour	Total No. of Patients = 61 spontaneous labour N = 30 induction of labour (with PGE2) N = 31	in women (= 37 weeks gestation with cervical dilatation 2-4 cm) requesting epidural pain relief in labour	Minimum analgesic dose of sufentanil	22.2 ug (95% CI 19.6 to 22.8)	Funding: not stated prospective, double-blind study, sequential allocation: to reduce bias from confounders
						27.3 ug (95% CI 23.8 to 30.9) (p=0.0014) by a factor of 1.3 (95% CI 1.1 to 1.5)	
					duration of anlgesia	88 mins	
						95 min (NS)	
					sedation (measured by VAS)	55 (34-70)	
						70 (50-80)(p=0.024)	
					Nausea (measured by VAS)	0	
						1 (NS)	
					Maternal hypotension(< 90 mmHg)	0	
						3 (NS)	

Chapter 7. Methods of induction (Acupuncture, homeopathy, castor oil, sexual intercourse, breast stimulation)

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Harper TC;Coeytaux RR;Chen W;Campbell K;Kaufman JS;Moise Jr KJ;Thorp Jr JM; 2006 125	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 56	Nulliparous women >/=39 weeks GA with singleton pregnancy Median Bishop score 4	Outpatient acupuncture treatment plus usual medical care vs Usual medical care (not specified) only	Time to delivery from enrolment	124 (SD 86.7) hrs vs 145 (SD 82.7) hours (NS)	Source of Funding: Bowes Cefalo Young Researcher Award Computer generated randomisation in equal blocks of two and four Group assignment in numbered sealed envelopes opened by principle investigator Care providers and patients not blind
					Spontaneous labour	70% vs 50% (OR 2.33, 95% CI 0.78 to 6.98)	
					caesarean births	17% vs 39% (OR 3.13, 95% CI 0.99 to 10.8)	
					5 min Apgar score	NS	
					Admission to NICU	 NS	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Kelly AJ;Kavanagh J;Thomas J; 2001 128	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 103	1 quasi-RCT, 103 women requiring induction of labour Singleton pregnancy intact membranes Bishop score <4 Parity unknown	Castor oil (60 ml) diluted in orange juice vs No treatment	caesarean birth 19% vs 8.3% (RR 2.31, 95% CI 0.77 to 6.87) meconium-stained liquor 9.6% vs 12.5% (RR 0.77, 95% CI 0.25 to 2.36) 5 min Apgar score <7 RR 0.92, 95% CI 0.02 to 45.71 vs Nausea with ingestion of castor oil RR 97.08, 95% CI 6.16 to 1530.41	Source of Funding: no funding
Smith CA;Crowther C; 2004 124	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 56	1 RCT, 56 women with uncomplicated singleton pregnancies Bishop score <5 Mixed parity	Acupuncture every two days vs No acupuncture		Source of Funding: University of Adelaide, Australia 20% drop out rate Imbalance in post randomisation exclusions (5 in acupuncture group, 8 in control group) No outcomes provided on these women Overall, no meaningful outcomes for interpretation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Kavanagh J;Kelly AJ;Thomas J; 2005 133	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 719	6 RCTs, 719 pregnant women (low and high risk) due for 3rd trimester induction of labour carrying a viable fetus Bishop score 5-7 Mixed parity	Breast stimulation vs No breast stimulation or oxytocin infusion	caesarean births	9% vs	Source of Funding: CESU, RCOG, London UK EPPI-Centre, IOE, London
						10% (RR 0.90, 95% CI 0.38 to 2.12) (1 RCT)	
					uterine hyperstimulation	0 vs	
						0% vs	
					unchanged/unfavourable cervix after 12-24 hours		
						5% (RR 0.39, 95% CI 0.02 to 8.97) (1 RCT)	
					Perinatal death	1.8% vs	
						0% (RR 8.17, 95% CI 0.45 to 147.76) (3 RCTs)	
					meconium staining	25.6% vs	
						30% (RR 0.85, 95% CI 0.56 to 1.28) (2 RCTs)	
					post-partum haemorrhage	0.7% vs	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
					post-partum haemorrhage	6% (RR 0.16, 95% CI 0.03 to 0.87) (2 RCTs)	
					women's satisfaction	No report vs no report	
Kavanagh J;Kelly AJ;Thomas J; 2001 191	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 28	1 RCT, 56 women with > 39 weeks gestation Bishop score and parity nor known (paper in Dutch)	sexual intercourse for 3 consecutive nights with vaginal sperm deposit vs No sexual intercourse	5 min Apgar score <7	0% vs 0%	Source of Funding: CESU, RCOG, London UK EPPI-Centre, IOE, London UK
					Mean change in Bishop score	1.0 vs 0.5 (p,0.05)	
					women delivered within 3 days of intervention	46% vs 47% (RR 0.99, 95% CI 0.45 to 2.20)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Smith CA; 2003 127	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 133	2 RCTs, 133 women with GA 36-42 weeks 40 women with cervical score ≤ 4 cm and PROM (1 RCT)(in German) No information from the other RCT (in French)	Homeopathy (herb Caulophyllum) vs Placebo	Vaginal delivery within 24 hours	1 vs 0 (RR 5.0, 95% CI 0.26 to 98.00)	Source of Funding: University of Adelaide, Australia
					caesarean births	2 vs 0 (RR 5.0, 95% CI 0.26 to 98.00)	
					Uterine hyperstimulation	no data	
					serious maternal morbidity (postpartum haem, admission to intensive care, septicaemia)	no data	
					serious neonatal morbidity (Apgar score, NICU admission)	No data	
					oxytocin augmentation	9 vs 9 (RR 1.0, 95% CI 0.50 to 1.98)	
					instrumental delivery	RR 1.0, 95% CI 0.54 to 1.86	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
					Mean length of labour	5.1 hr vs	
					Vaginal delivery within 24 hours	0 (RR 0.33, 95% CI 0.01 to 7.72)	
					Report of difficult labour	6 vs	
						16 (RR 0.28, 95% CI 0.12 to 0.66) (1 RCT)	
					caesarean births	2 vs	
						0 (RR 5.0, 95% CI 0.26 to 98.00)	
					Uterine hyperstimulation	no data	
					serious maternal morbidity (postpartum haem, admission to intensive care, septicaemia)	No data	
					serious neonatal morbidity (Apgar score, NICU admission)	No data	
					oxytocin augmentation	9 vs	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
					oxytocin augmentation	9 (RR 1.0, 95% CI 0.50 to 1.98)	
					instrumental delivery	RR 1.0, 95% CI 0.54 to 1.86	
					Mean length of labour	5.1 hr vs	
						8.48 hr (p<0.001) (1RCT)	
					Report of difficult labour	11.3% vs	
						40% (RR 0.28, 95% CI 0.12 to 0.66) (1 RCT)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Kelly AJ;Kavanagh J;Thomas J; 2001 134	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 267	4 RCTs, 267 women requiring induction of labour Bishop score 3-6	Vaginal/intracervical Relaxin (human recombinant or porcine) vs Placebo	caesarean births	15% vs 14% (RR 0.79, 95% CI 0.42 to 1.50) (4 RCTs, 257 women)	Source of Funding: CESU, RCOG, London UK
					cervix remaining unfavourable following relaxin	22% vs 49% (RR 0.45, 95% CI 0.28 to 0.72) (3 RCTs, 371 women)	
					reduction in oxytocin augmentation	58% vs 71% (RR 0.83, 95% CI 0.65 to 1.06) (3 RCTs, 196 women)	
					uterine hyperstimuation with FHR changes	0 vs	
					Uterine hyperstimulation without FHR changes		

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					Uterine hyperstimulation without FHR changes 0	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Kavanagh J;Kelly AJ;Thomas J; 2006 135	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 168	1 RCT, 168 women at term with normal pregnancy, primip and multip and previous CS	IM hyaluronidase 20,000 units vs Placebo injection	caesarean births: 18% vs 49% (RR 0.37, 95% CI 0.22 to 0.61) Unchanged cervix after 24 hours: 60% vs 98% (RR 0.62, 95% CI 0.52 to 0.74) oxytocin augmentation: 10% vs 47% (RR 0.20, 95% CI 0.10 to 0.41) Maternal pain: 11% vs 21% (RR 0.51, 95% CI 0.24 to 1.07)	Source of Funding: EPPI Centre, IOE, London UK

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Kelly AJ;Kavanagh J;Thomas J; 2006 136	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 66	1 RCT, women with >/= 41 weeks GA Favourable cervix	IM dexamethasone followed by IV oxytocin vs IV oxytocin only	caesarean births: 6% vs 15% (RR 0.40, 95% CI 0.08 to 1.92) uterine hyperstimulation with FHR changes: 0 vs 0 uterine hyperstimulation without FHR changes: 0 vs 0 Apgar score <7: 0 vs 0 Maternal fever: 0 vs 0	Source of Funding: EPPI Centre, IOE, London UK
Thomas J;Kelly AJ;Kavanagh J; 2001 137	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	Total number of patients = 341	6 RCTs, 341 women requiring induction of labour Bishop score <3	oestradiol (iv, oral, vaginal or extra-amniotic) vs placebo or prostaglandin or oxytocin	caesarean births: 7.1% vs 10.3 % (RR 0.70, 95% CI 0.30 to 1.62)	Source of Funding: CESU, RCOG, London UK oestrogen vs PGE2: insufficient data oestrogen vs oxytocin: insufficient data oestrogen vs extra-amniotic PGE2: insufficient data

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Chanrachakul B; 2000 Oct 138 Country: Thailand	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 110 6-hourly vaginal glyceryl trinitrate (GTN) N = 54	women with = 40 weeks gestation unfavourable cervix (Bishop score = 6)	6-hourly vaginal glyceryl trinitrate vs 6-hourly PGE2	5 min Apgar score < 7		Source of Funding: not stated Computer-generated randomisation Allocation method not reported Power calculation
					achieving a median Bishop score of > 6 within 24 hours	39% vs 59% (p=0.06)	
					duration from start of medication to delivery	26.2 (6.4) vs 21.8 (7.5)(p=0.01)	
					need for oxytocin	78% vs 43% (p<0.001)	
					tachysystole	0% vs 9% (p=0.02)	
					side effects	headaches: 10% Palpitation: 7% vs headaches: 0% (p=0.02) Palpitation: 0% (p=0.04)	
					vaginal birth	65% vs 64% (NS)	
					CS	35% vs 36% (NS)	

	0 vs
	2% (NS)
Admission to NICU	0% vs
	2% (NS)

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Osman I; 2006 Apr 141 Country: Glasgow, UK	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 398 Nitrous oxide donor isosorbide mononitrate (IMN) N = 199 Prostaglandins E2 gel (PGE2) N = 199	Primigravid women singleton, > 38 weeks GA Bishop score < 6	IMN vs PGE2 gel	mean time from treatment to delivery (hours) Changes in Bishop score at 24 hours Abnoraml fetal heart rates Nausea hot flushes headaches faintness	39.7 (12) vs 26.9 (12.5)(p<0.0001) 1.35 (1.15) vs 2.79 (2.00)(mean difference 1.45, 95% CI 0.95 to 1.95) 0% vs 0.5% (NS) 20% vs 11% (p=0.024) 22% vs 11% (p=0.004) 88% vs 10% (p=0.0001) 5% vs	Source of Funding: Sir Jules Thorn Charitable Trust Computer generated randomisation Allocation in sequentially numbered opaque envelopes blind to investigators and patients power calculation

	6.5% (p=0.0002)
vaginal bleeding	0% vs

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
					faintness	1% (p=0.04)	
					drowsiness	8% vs	
						6% (NS)	
					Abdominal/pelvic pain visual analogue scale >7	0% vs	
						15% (p<0.0001)	
					maternal satisfaction (VAS 1-10, 10 very satisfied)	7.0 (2.7) vs	
						5.8 (3.1)(p<0.0001)	
					preference for treatment as an outpatient	55% vs	
						17% (p<0.0001)	
					Preference for outpatient treatment if a safe, nonpainful method was available	83% vs	
						69% (p=0.0006)	

Chapter 8. Methods of cervical priming /induction of labour: membrane sweeping

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Allot 1993 [153] UK Study included in SR [144]	RCT EL=1+	195 women	Low-risk pregnancy beyond 40 weeks (confirmed by US) Primigravida Membrane sweeping: 43% VE: 46% Bishop's score (BS) ≤ 6 Membrane sweeping: 44% VE: 44% ≥ 7 Membrane sweeping: 56% VE: 56% Exclusion: closed cervix	Membrane sweeping (n=99) Vs Vaginal exam (VE)(n=96) Frequency of sweeping: not reported	Not delivered within 48 hours 47% vs 76% (RR 0.62, 95% CI 0.49 to 0.79) Formal induction of labour required: 8% vs 19% (p=0.035) Caesarean section 5.3% vs 4% (RR 0.78, 95% CI 0.21 to 2.80) Instrumental vaginal delivery 11% vs 12% (RR0.89, 95% CI 0.41 to 1.92) Epidural in labour 19% vs 21% (RR 0.92, 95% CI 0.53 to 1.62) Maternal pyrexia 1% vs 1% (RR 0.97, 95% CI 0.06 to 15.28) Apgar score <7 at 5 min 0% vs 0% Serious neonatal infection 0% vs 1% Cumulative proportions of spontaneous labour within 3 days All women: 65% vs 31% (p= 0.0001) Primig: 61% vs 31% (p= 0.0021) Multip: 68% vs 31% (p= 0.0003) Low BS: 71% vs 21% (p= 0.0001) High BS: 60% vs 39% (p= 0.04) Primig + low BS: 69% vs 13% (p= 0.0002) Primig + high BS: 56% vs 41% (p= 0.42) Multip + low BS: 73% vs 26% (p= 0.0023) Multip + high BS: 63% vs 36% (p= 0.03)	Computer randomization: assignment in sealed envelopes Power calculation Closed cervix excluded Bishop's score ≤ 6: low Bishop's score: ≥ 7: high Funding: not stated

					Women's views on sweeping: Not reported	
el-Torkey 1992[154] UK Study included in SR [144]	RCT EL=1+	65 women	Women with pregnancy between 41-42 weeks GA Primigravida Membrane sweeping: 51% Control: 44% Cervix > 4 cm at first exam: Sweeping 49% No sweping 16% (p=0.005)	Membrane sweeping (n=33) Vs No sweeping (n=32) 6 women in sweeping group required cervical massage due to unfavourable cervix Frequency of sweeping not reported	Spontaneous labour (self-admission to hospital with regular contractions occurring ≥ twice in 10 mins) 76% vs 37% (OR 4.65, 95% CI 1.85 to 12.31) In sweeping group 89% had spontaneous labour (44% within 24 hrs, 72% within 48 hrs and 84% within 72 hrs) vs 17% of women with unfavourable cervix had spontaneous labour Cervical dilatation ≥ 4 cm at first exam 48% vs 16% (OR 4.39, 95% CI 1.56 to 12.32) Pyrexia in labour/puerperium, requiring antibiotics 0% vs 12% (OR 0.12, 95% CI 0.02 to 0.88) Analgesia use/Modes of delivery/Neonatal outcomes Similar in the two groups Serious infection none Perinatal death None Women's views on sweeping: Not reported	Randomisation by random permuted blocks, codes placed in opaque sealed envelopes Power calculation Funding: not stated Trial stopped early because of high % of women achieving spontaneous labour
Boulvain 1998 [151] Canada Study included in SR [144]	RCT EL=1+	200 women	Women with non-urgent medical indications for induction of labour (85% post-term: ≥ 287 days GA; 3.5% hypertension, 2.5% diabetes,	Membrane sweeping (n=99) Vs Vaginal exam (VE)(n=99) Frequency of sweeping not reported	Duration of labour (hour) 8.7 vs 8.8 (NS) Formal induction of labour required 49% vs 59% (RR 0.83, 95% CI 0.64 to 1.07) Epidural use	Computer randomization, in blocks of six and eight, stratified by hospital Assignment in opaque sealed

			1.5% IUGR, 6.5% others: ≥ 266 days GA) GA confirmed by LMP and US Nulliparous: Membrane sweeping: 58% Control: 50% Bishop's score: < 6: Membrane sweeping: 46% Control: 51%		75 vs 69 (NS) Caesarean section 12 vs 12 (NS) Forceps/vacuum 36 vs 27 (NS) Maternal pyrexia 8 vs 8 (NS) Apgar score <7 at 5 min 3 vs 0 (NS) Neonatal infection 1 vs 1 (NS) Admission to NICU 6 vs 6 (NS) Adjusted for parity and Bishop's score RR 0.82, 95% CI 0.63 to 1.07 Pain (VAS) during VE 2.4 vs 1.5 (p=0.001) Bleeding before onset of labour 45% vs 26% (p=0.02) Recommended sweeping to friends 87% Advantages more superior to disadvantages 77% Sweeping as useless 9% unpleasant 31% painful 22%	envelopes Power calculation Included pregnancies with medical complications Funding: Health Canada, Astra Pharma, MRC

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Magann EF;Chauhan SP;Nevils BG;McNamara MF;Kinsella MJ;Morrison JC; 1998 Jun 150 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 105 daily membrane sweeping N = 35 daily PGE2 gel N = 35 daily cervical examination N = 35	women at 41 weeks gestation mean Bishop score of < 3	daily membrane sweeping vs daily PGE2 gel vs daily cervical examination	Induction at 42 weeks duration of labour Bishop score on admission to labour ward spontaneous vaginal birth instrumental birth CS	17% vs 20% vs 63% (p<0.0001) 10.1 (6.1) vs 14.2 (6.0) vs 20 (7.0)(p<0.05) vs control (p<0.001)(no data) 26 vs 24 vs 25 (NS) 4 vs 3 vs 5 (NS) 5 vs 8 vs 5 (NS)	Source of Funding: Vicksburg Hospital Medical Foundation Randomisation using random number table Allocation in a series of sealed opaque envelopes Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					5 min Apgar score at <7 0 vs 1 vs 1 (NS) Admission to well-baby nursery 33 vs 32 vs 35 (NS)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Magann EF;Chauhan SP;McNamara MF;Bass JD;Estes CM;Morrison JC; 1999 Mar 192 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 182 daily membrane sweeping N = 91 daily placement of a dinoprostol vaginal suppository N = 91	women of mixed parity at 41 weeks gestation mean Bishop score of <3	daily membrane sweeping vs daily placement of a dinoprostol vaginal suppository	Bishop score on admission to labour ward: 8.56 (2.50) vs 6.63 (2.55) (p<0.001) Mean admission to delivery interval (hr): 10.8 (6.9) vs 13.1 (6.7)(p=0.01) Spontaneous vaginal birth: 74% vs 65% (NS) Instrumental birth: 8% vs 8% (NS) CS: 19% vs 27% (NS) 5 min Apgar score < 7: 0 vs 0 NICU admission: 1 vs 5 (NS) Induction at 42 weeks: 4% vs	Source of Funding: Vicksburg Hospital Medical Foundation Randomisation using table of random numbers allocation in sealed opaque envelopes power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					Induction at 42 weeks 14% (p=0.041)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Wiriyasirivaj B;Vutyavanich T;Ruangsri RA; 1996 May 147 Country: Thailand	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 120 weekly membrane sweeping N = 61 weekly gentle pelvic examination N = 59	women at 38 weeks gestation mean Bishop score of < 3	weekly membrane sweeping vs weekly gentle pelvic examination	delivery within 7 days of first pelvic exam 41% vs 20% (p=0.014) Oxytocin use 44% vs 44% (NS) spontaneous vaginal birth 74% vs 76% (NS) instrumental vaginal birth 16% vs 19% (NS) CS 10% vs 5% (NS) 5 min Apgar < 7 9.9 (0.2) vs 9.9 (0.1)(NS) Postpartum fever 2% vs 0% (NS) postpartum haem 3% vs 3% (NS)	Source of Funding: not stated randomisation using table of random numbers allocation kept in sealed black opaque envelope No power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Magann EF;McNamara MF;Whitworth NS;Chauhan SP;Thorpe RA;Morrison JC; 1998 Oct 148 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 65 membrane sweeping every 3 days N = 33 gentle vaginal examination every 3 days N = 32	women of mixed parity at 39 weeks gestation median Bishop score <3	membrane sweeping every 3 days vs gentle vaginal examination every 3 days	Bishop score at delivery =/>8: 19 vs 6 (p=0.0002) Induction at 42 weeks: 0 vs 18 (p<0.0001) vaginal birth: 29 vs 27 (NS) CS: 4 vs 5 (NS) NICU: 2 vs 2 (NS)	Source of Funding: not stated randomisation using random number table Allocation in consecutive series of sealed apaque envelopes Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Berghella V;Rogers RA;Lescale K; 1996 Jun 146 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 142 weekly membrane sweeping N = 73 weekly gentle cervical examination N = 69	women = 38 weeks gestation mean Bishop score of < 4	weekly membrane sweeping vs weekly gentle cervical examination	Days to delivery 8.2 (6.3) vs 12.1 (7.1)(p<0.002) spontaneous vaginal birth 90% vs 86% (NS) Instrumental birth 10% vs 10% (NS) CS 0% vs 4% (NS) Days to delivery in women with Bishop score =/< 3 8.6 (6.4) (n=39) vs 12.5 (6.8)(p<0.02)(n=44) Days to delivery in women with Bishop score > 3 6.5 (5.4)(n=34) vs 11.5 (8.2) (NS)(n=25)	Source of Funding: not stated Computer-generated randomisation Allocation in sealed opaque envelops Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
					Days to delivery in nulliparous women	7.8 (6.0)(n=35) vs	
						12.9 (6.6)(p<0.009)(n=43)	
					Days to delivery in multiparous women	7.2 (5.9)(n=38) vs	
						11.0 (7.9)(NS)(26)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Cammu H;Haitsma V; 1998 Jan 145 Country: Belgium	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 278 weekly membrane sweeping N = 140 normal digital examination N = 139	nulliparous women with uncomplicated pregnancies 39 completed weeks gestation mean Bishop score of <4	weekly membrane sweeping vs normal digital examination	randomisation to delivery interval: 9.4 days vs 10.6 days (NS) spontaneous labour: 51% vs 42% (NS) Induced labour: 11% vs 26% (OR 0.34, 95% CI 0.18 to 0.66) epidural: 38% vs 38% (NS) instrumental birth: 16% vs 13% (NS) CS: 4% vs 6% (NS) 5 min Apgar score: 3 vs 7 (NS)	Source of Funding: not stated Computer-generaterd randomisation Allocation in sealed numbered envelopes, opeened after entry to trial Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Dare FO;Oboro VO; 2002 May 152 Country: Nigeria	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 137 membrane sweeping N = 69 control (gentle cervical examination) N = 68	women at 38 weeks gestation mean Bishop score of >4	membrane sweeping vs gentle cervical examination	Mean time to delivery (days) spontaneous vaginal birth instrumental vaginal birth CS CS due to acute fetal distress CS due to non-progress of labour maternal discomfort during vaginal exam	4.8 (0.9) vs 12.1 (1.4) (p<0.001) 68% vs 65% (NS) 23% vs 16% (NS) 9% vs 19% (p=0.09) 2 vs 8 (p=0.055) 4 vs 5 (NS) 66% vs 21% (p<0.001)	Source of Funding: not stated Computer-generated randomisation Allocation in numbered opaque sealed envelope drawn in consecutive order Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					prelabour rupture of membranes 11% vs 9% (NS) intrapartum chorioamnionitis 2 vs 1 (NS) 5 min Apgar < 7 2 vs 1 (NS) NICU admission 13% vs 16% (NS) vaginal bleeding 3%	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Boulvain M;Stan C;Irion O; 2005 144 Country: US, UK, Belgium, Canada, India, Thailand, China	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	22 RCTs, 27097 women	Women from 37- = 40 weeks GA Bishop score (from closed cervix to >/=6) Mixed parity Mixed case load	Membrane sweeping vs no treatment (19 RCTs) Women at 37-40 weeks GA (13 RCTs) =40 weeks GA (6 RCTs) Membrane sweeping vs prostaglandins (3 RCTs) =40 weeks GA Membrane sweeping vs oxytocin (1 RCT) Sweeping frequency Weekly sweeping (7 RCTs) Sweeping every 3 days (1 RCT) Daily sweeping (2 RCTs) Sweeping frequency not reported (12 RCTs)	Membrane sweeping vs no treatment (for all women): Formal induction of labour: RR 0.60, 95% CI 0.51 to 0.71, 12 RCTs CS: RR 0.90, 95% CI 0.70 to 1.15, 18 RCTs Reduced frequency of pregnancy beyond 41 weeks RR 0.59, 95% CI 0.46 to 0.74, 6 RCTs Reduced frequency of pregnancy beyond 42 weeks RR 0.28, 95% CI 0.15 to 0.50, 6 RCTs NNT to avoid one formal induction of labour: 8 Perinatal death *2/401 vs **2/399 (RR 1.0, 95% CI 0.20 to 4.88) * congenital heart defect, stillbirth: meconium-stained liquor ** congenital heart defect, double nuchal cord Serious maternal death: 0, 6 RCTs oxytocin augmentation: RR 0.96, 95% CI 0.80 to 1.14, 3 RCTs Epidural usage: RR 1.08, 95% CI 0.94 to 1.23, 6 RCTs	Source of Funding: University of Geneva

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Instrumental delivery: RR 1.15, 95% CI 0.94 to 1.42, 14 RCTs PPH: RR 0.31, 95% CI 0.11 to 0.89, 3 RCTs PROM: RR 1.14, 95% CI 0.89 to 1.45, 10 RCTs Maternal infection/fever RR 1.05, 95% CI 0.68 to 1.65, 11 RCTs Neonatal infection: RR 0.92, 95% CI 0.30 to 2.82, 6 RCTs Meconium-stained liquor: RR 0.67, 95% CI 0.33 to 1.35, 2 RCTs Apgar score <7 at 5 min: RR 1.13, 95% CI 0.53 to 2.43, 8 RCTs Admission to NICU: RR 0.92, 95% CI 0.52 to 1.63, 7 RCTs Pain and discomfort reported: RR 2.83, 95% CI 2.03 to 3.96, 2 RCTs Sig higher median score (pain index and visual analogue scale) 70% reported that membrane sweeping associated with sig discomfort and pain Vaginal bleeding: RR 1.75, 95% CI 1.08 to 2.83, 3 RCTs Membrane sweeping vs prostaglandins: CS: RR 0.70, 95% CI 0.44 to 1.10, 3 RCTs	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Oxytocin augmentation: RR 0.83, 95% CI 0.50 to 1.36, 1 RCT Instrumental vag birth: RR 1.67, 95% CI 0.81 to 3.46, 3 RCTs Meconium-stained liquor: RR 1.37, 95% CI 0.61 to 3.10, 1 RCT Apgar score < 7 at 5 min: RR 0.83, 95% CI 0.14 to 4.92, 3 RCTs NICU admission: RR 0.37, 95% CI 0.12 to 1.17, 3 RCTs PPH: 0, 1 RCT Not delivered before 42 weeks: RR 0.50, 95% CI 0.25 to 1.02, 2 RCTs Membrane sweeping vs oxytocin: CS: RR 0.69, 95% CI 0.12 to 3.85, 1 RCT Formal induction of labour: RR 0.51, 95% CI 0.05 to 5.42, 1 RCT In women with an unfavourable cervix Sweeping vs no treatment Requiring formal induction of labour: RR 0.51, 95% CI 0.37 to 0.71, 3 RCTs Caesarean births: RR 0.98, 95% CI 0.49 to 1.95, 3 RCTs Instrumental vaginal	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					delivery: RR 0.87, 95% CI 0.33 to 2.24, 2 RCTs 5 min Apgar score <7: RR 0.97, 95% CI 0.06 to 4.85, 1 RCT Neonatal intensive care unit admission: RR 0.97, 95% CI 0.15 to 6.47, 1 RCT Serious maternal or neonatal morbidity/perinatal death: 0, 1 RCT Maternal infection: RR 0.11, 95% CI 0.01 to 1.93, 1 RCT Prelabour rupture of membranes: RR 2.00, 95% CI 0.39 to 10.22, 1 RCT Epidural analgesia: RR 0.70, 95% CI 0.42 to 1.18, 1 RCT Membrane sweeping vs vaginal prostaglandins Not delivered before 42 weeks: RR 0.50, 95% CI 0.25 to 1.02, 2 RCTs Caesarean births: RR 0.67, 95% CI 0.41 to 1.08, 2 RCTs Instrumental vaginal delivery: RR 1.10, 95% CI 0.48 to 2.50, 2 RCTs 5 min Apgar score <7: RR 0.33, 95% CI 0.01 to 7.91, 1 RCT Neonatal intensive care unit admission: RR 0.38, 95% CI 0.10 to 1.38, 2 RCTs Requiring 'formal' induction of labour: RR 0.85, 95% CI 0.44 to 1.62, 1 RCT	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Prelabour rupture of membranes: RR 0.57, 95% CI 0.18 to 1.78, 1 RCT Membrane sweeping vs oxytocin Requiring 'formal' induction of labour: RR 0.51, 95% CI 0.05 to 5.42, 1 RCT Caesarean births: RR 0.69, 95% CI 0.12 to 3.85, 1 RCT	

Chapter 8. Methods of induction: prostaglandins

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
French L; 2001 155 Country: UK, US, Thailand, Europe, Singapore	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	19 RCTs, 2688 women	Women requiring induction of labour Bishop score =3 to 7	Oral PGE2 vs no treatment or placebo (3 RCTs, 195 women) Oral PGE2 vs vaginal PGE2 (3 RCTs, 108 women) Oral PGE2 vs cervical PGE2 (2 RCTs, 80 women) Oral PGE2 vs intravenous oxytocin (7 RCTs, 779 women) Oral PGE2 vs intravenous oxytocin plus amniotomy (4 RCTs, 435 women) Oral PGE2 vs oral oxytocin (4 RCTs, 822 women) Oral PGE2 vs oral oxytocin plus amniotomy (2 RCTs, 223 women) and Oral PGE2 dose incremental or high dose versus oral PGE2 constant or low dose (2 RCTs, 46 women)	PGE2 vs no treatment CS RR 0.54, 95% CI 0.29 to 0.98 (3 RCTs) vs other treatments (NS) PGE2 vs all oxytocin Vaginal delivery not achieved within 24 hours (3 RCTs) RR 1.97, 95% CI 0.86 to 4.48 Uterine hyperstimulation with FHR changes (4 RCTs) RR 7.0, 95% CI 0.37 to 132.22) Perinatal death (1 RCT) 2 deaths due to congenital malformations Serious maternal morbidity (1 RCT) None Gastrointestinal side effects, nausea and vomiting (19 RCTs) Significantly more reported in the PGE2 group Oxytocin augmentation (3 RCTs) Oxytocin needed more in the no treatment group Uterine hyperstimulation without FHR changes (8 RCTs) NS	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Epidural analgesia (3 RCTs) NS Instrumental vaginal delivery (17 RCTs) NS Meconium-stained liquor (2 RCTs) NS Apgar score <7 at 5 min (7 RCTs) NS Admision to NICU (1 RCT) NS Postpartum haem (6 RCTs) NS Maternal and neonatal infection requiring antibiotics (1 RCT, premature rupture of membranes) A trend favouring oral PGE2 group for use of antibiotics Women's satisfaction (1 RCT) Women preferred oral treatment than intravenous medication Carer's satisfaction (1 RCT) No clear preference Oral prostaglandins vs placebo/no treatment	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					(unfavourable cervix) Caesarean birth (3 RCTs): RR 0.54, 95% CI 0.29 to 0.98 Uterine hyperstimulation without FHR changes (2 RCTs): RR 4.00, 95% CI 0.46 to 34.81 Instrumental vaginal birth (1 RCT): RR 1.25, 95% CI 0.47 to 3.33 Oral prostaglandins vs vaginal prostaglandins (unfavourable cervix) Caesarean birth (2 RCTs): RR 0.69, 95% CI 0.33 to 1.47 Cervix unfavourable/unchanged after 12-24 hours (1 RCT): RR 2.13, 95% CI 0.21 to 21.22 Instrumental vaginal birth (3 RCTs): RR 0.82, 95% CI 0.44 to 1.54 Oral prostaglandins vs intracervical prostaglandins (unfavourable cervix) Caesarean birth (1 RCT): RR 0.63, 95% CI 0.24 to 1.65 Instrumental vaginal birth (1 RCT): RR 1.25, 95% CI 0.38 to 4.12 Apgar score <7 at 5 minutes (1 RCT): RR 1.00, 95% CI 0.07 to 15.12 Oral prostaglandins vs oral	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					oxytocin (unfavourable cervix) Caesarean birth (1 RCT): RR 2.22, 95% CI 0.70 to 7.02 Oxytocin augmentation (1 RCT): RR 0.63, 95% CI 0.28 to 1.41 Instrumental vaginal birth (1 RCT): RR 0.87, 95% CI 0.45 to 1.67 Apgar score <7 at 5 minutes (1 RCT): RR 1.97, 95% CI 0.18 to 21.46 Oral prostaglandins vs intravenous oxytocin (unfavourable cervix) Caesarean birth (3 RCTs): RR 1.05, 95% CI 0.53 to 2.09 Uterine hyperstimulation without FHR changes (1 RCT): RR 0.20, 95% CI 0.01 to 4.06 Instrumental vaginal birth (2 RCTs): RR 0.85, 95% CI 0.43 to 1.68 Apgar score <7 at 5 minutes (1 RCT): RR 1.00, 95% CI 0.06 to 15.53 Gastrointestinal effects (1 RCT): RR 5.00, 95% CI 0.61 to 41.22 Postpartum haemorrhage (1 RCT): RR 0.11, 95% CI 0.01 to 2.01	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Luckas M;Bricker L; 2000 156 Country: UK, US, Belgium, The Netherlands, Denmark	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	13 RCTs, 1165 women	Women requiring induction of labour mixed Bishop score	Intravenous PGE2 vs intravenous oxytocin (4 RCTs) Intravenous PGE2 vs extra amniotic prostaglandin infusion (1 RCT) Intravenous PGF2a vs intravenous oxytocin (8 RCTs)	Intravenous prostaglandins vs IV oxytocin uterine hyperstimulation with changes in the fetal heart rate (RR 6.76, 95% CI 1.23 to 37.11) uterine hyperstimulation without changes in the fetal heart rate (RR 4.25, 95% CI 1.48 to 12.24) maternal side-effects, such as gastrointestinal, thrombophlebitis and pyrexia (RR 3.75, 95% CI 2.46 to 5.70). Combination of oxytocin/prostaglandin F2a and oxytocin or extra-amniotic prostaglandin E2 No significant differences in maternal or fetal outcomes reported Intravenous PGE2 vs intravenous oxytocin (primiparous women with unfavourable cervix Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.71, 95% CI 0.24 to 2.10 Caesarean births (1 RCT): RR 0.71, 95% CI 0.24 to 2.10 Seroius maternal morbidity or death (1 RCT): 0	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Intravenous PGF2a vs intravenous oxytocin (multiparous women with unfavourable cervix Vaginal delivery not achieved within 24 hours (1 RCT): RR 3.00, 95% CI 0.33 to 26.92	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Hutton E;Mozurkewich E; 2001 157 Country: US, UK, Europe	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	10 RCTs, 920 women	mixed parity and Bishop score	Extra-amniotic prostaglandin E2 vs extra-amniotic placebo: 3 RCTs Extra-amniotic PGF2a vs extra-amniotic placebo gel: 1 RCT Extra-amniotic prostaglandin E2 vs vaginal prostaglandin: 4 RCTs Extra-amniotic prostaglandin E2 vs intravenous oxytocin: 1 RCT Extra-amniotic PGF2a vs mechanical method (Foley catheter): 1 RCT	extra-amniotic prostaglandins vs placebo oxytocin use to initiate or augment labour: RR 0.50, 95% CI 0.38 to 0.66 All other maternal and fetal outcomes comparable For women with unfavourable cervix Extra-amniotic prostaglandin E2 vs extra-amniotic placebo (in women with unfavourable cervix) Uterine hyperstimuation with FHR changes (1 RCT): 0 Caesarean birth (3 RCTs): RR 0.47, 95% CI 0.20 to 1.08 Oxytocin augmentation (3 RCTs): RR 0.50, 95% CI 0.38 to 0.66 Uterine hyperstimuation without FHR changes (2 RCTs): RR 7.00, 95% CI 0.37 to 132.40 Instrumental vaginal birth (1 RCT): RR 1.40, 95% CI 0.56 to 2.35 Maternal side-effects (2 RCTs): RR 5.00, 95% CI 0.26 to 96.13 Extra-amniotic PGF2a vs extra-amniotic placebo (in women with unfavourable cervix) Caesarean birth (1 RCT): RR 0.33, 95% CI 0.03 to 3.20	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Serious maternal morbidity or death (1 RCT): RR 2.06, 95% CI 0.09 to 46.11 Uterine hyperstimuation without FHR changes (1 RCT): RR 2.06, 95% CI 0.09 to 46.11 Instrumental vaginal birth (1 RCT): RR 0.57, 95% CI 0.27 to 1.20 Perinatal death (1 RCT): RR 2.06, 95% CI 0.09 to 46.11 Extra-amniotic PGF2a vs extra-amniotic placebo (in primiparous women with unfavourable cervix) Same as above Extra-amniotic prostaglandin E2 vs vaginal PGE2 (women with unfavourable cervix) Vaginal delivery not achieved in 24 hours (1 RCT): RR 1.05, 95% CI 0.81 to 1.36 Uterine hyperstimuation with FHR changes (1 RCT): 0 Caesarean birth (3 RCTs): RR 0.89, 95% CI 0.42 to 1.89 Extra-amniotic prostaglandin E2 vs vaginal PGE2 (in primiparous women with unfavourable cervix) Vaginal delivery not achieved in 24 hours (1 RCT): RR 1.03, 95% CI	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Kelly AJ;Kavanagh J;Thomas J; 2003 159 Country: UK, US, Europe, Australia, New Zealand	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	57 RCTs, 10039 women	women requiring induction of labour mixed parity mixed Bishop score	Vaginal PGE2 gel vs placebo/no treatment (35 RCTs) Vaginal PF2a vs placebo (3 RCTs) Vaginal PF2a vs PGE2 (2 RCTs) Vaginal PGE2 gel vs PGE2 tablet (5 RCTs) Vaginal PGE2 gel vs PGE2 pessary/suppository (2 RCTs) Vaginal PGE2 tablet vs PGE2 pessary/suppository (3 RCTs) Vaginal PGE2 (slow release) vs PGE2 (any vehicle) (7 RCTs) Vaginal PGE2 low dose vs PGE2 high dose (7 RCTs)	Vaginal PGE2 vs placebo/no treatment (all women), vaginal delivery not achieved within 24 hours (18% vs 99%, RR 0.19, 9%% CI 0.14 to 0.25; 2 RCTs) caesarean birth rates (RR 0.89, 95% CI 0.79 to 1.00) uterine hyperstimulation with FHR (4.6% vs 0.51%, RR 4.14, 95% CI 1.93 to 8.90, 13 RCTs). vaginal prostaglandin F2a vs placebo caesarean birth (NS) improved cervical score (15% vs 60%, RR 0.25, 95% CI 0.13 to 0.49, 5 RCTs) oxytocin augmentation (53.9% vs 89%, RR 0.60, 95% CI 0.43 to 0.84, 11 RCTs) Comparisons of vaginal PGE2 and PGF2a. PGE2 tablet, gel and pessary insufficient data to make meaningful conclusions, appeared to be efficacious as each other Lower dose vs higher dose regimens (NS) PGE2 vs placebo/no treatment (all women, unfavourable cervix)	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.88, 95% CI 0.67 to 1.15) Uterine hyperstimulation with FHR changes (12 RCTs): RR 4.47, 95% CI 2.01 to 9.93) Caesarean birth (22 RCTs): RR 0.87, 95% CI 0.75 to 1.02 Serious neonatal morbidity or perinatal death (4 RCTs): 0 Serious maternal morbidity or death (2 RCTs): RR 4.84, 95% CI 0.24 to 96.66 Cervix unfavourable/unchanged after 12-24 hours (2 RCTs): RR 0.53, 95% CI 0.35 to 0.79 Oxytocin augmentation (8 RCTs): RR 0.72, 95% CI 0.61 to 0.85 Uterine hyperstimulation without FHR changes (9 RCTs): RR 2.63, 95% CI 0.99 to 7.01) Uterine rupture (1 RCT): RR 2.90, 95% CI 0.12 to 68.50 Epidural analgesia (5 RCTs): RR 1.46, 95% CI 1.22 to 1.75 Instrumental vaginal birth (7 RCTs): RR 0.88, 95% CI 0.61 to 1.27 Meconium-stained liquor (5 RCTs): RR 0.65, 95% CI 0.47 to 0.89 Apgar score < 7 at 5 minutes (11 RCTs): RR	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					1.08, 95% CI 0.59 to 1.99 Neonatal intensive care admission (7 RCTs): RR 0.80, 95% CI 0.51 to 1.27 Perinatal death (3 RCTs): 0 Maternal side effects (all)(10 RCTs): RR 1.08, 95% CI 0.73 to 1.59 Maternal nausea (1 RCT): 0 Maternal vomiting (2 RCTs): RR 0.97, 95% CI 0.15 to 6.41 Maternal diarrhoea (3 RCTs): 0 Other maternal side effects (7 RCTs): 0.97, 95% CI 0.62 to 1.51 Postpartum haemorrhage (7 RCTs): RR 0.99, 95% CI 0.47 to 2.05 Serious maternal complications (1 RCT): RR 2.90, 95% CI 0.12 to 68.50 PGE2 vs placebo/no treatment (primiparous women, unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.88, 95% CI 0.67 to 1.15) Uterine hyperstimulation with FHR changes (3 RCTs): RR 3.00, 95% CI 0.13 to 68.57) Caesarean birth (8 RCTs): RR 0.88, 95% CI 0.66 to 1.17	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Serious neonatal morbidity or perinatal death (2 RCTs): 0 Serious maternal morbidity or death (1 RCT): 0 Oxytocin augmentation (3 RCTs): RR 0.59, 95% CI 0.47 to 0.73 Uterine hyperstimulation without FHR changes (2 RCTs): RR 0.35, 95% CI 0.02 to 8.10) Epidural analgesia (3 RCTs): RR 1.95, 95% CI 1.50 to 2.54 Instrumental vaginal birth (3 RCTs): RR 0.94, 95% CI 0.60 to 1.47 Meconium-stained liquor (2 RCTs): RR 0.57, 95% CI 0.29 to 1.13 Apgar score < 7 at 5 minutes (3 RCTs): RR 0.74, 95% CI 0.17 to 3.27 Neonatal intensive care admission (3 RCTs): RR 1.06, 95% CI 0.54 to 2.09 Perinatal death (1 RCT): 0 Maternal side effects (all)(2 RCTs): RR 0.87, 95% CI 0.50 to 1.50 Other maternal side effects (2 RCTs): 0.87, 95% CI 0.50 to 1.50 Postpartum haemorrhage (2 RCTs): RR 0.67, 95% CI 0.24 to 1.84 PGE2 vs placebo/no treatment (multiparous women, unfavourable	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					cervix) Uterine hyperstimulation with FHR changes (1 RCT): 0 Caesarean birth (2 RCTs): RR 1.95, 95% CI 0.30 to 12.59 PGF2a vs placebo/no treatment (unfavourable cervix) Uterine hyperstimulation with FHR changes (1 RCT): RR 3.00, 95% CI 0.13 to 68.57) Caesarean birth (1 RCT): RR 0.33, 95% CI 0.04 to 2.87 Oxytocin augmentation (1 RCT): RR 0.88, 95% CI 0.73 to 1.05 Epidural analgesia (1 RCT): RR 0.85, 95% CI 0.56 to 1.27 PGF2a vs PGE2 (all women, unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.51, 95% CI 0.05 to 5.42) Uterine hyperstimulation with FHR changes (2 RCTs): RR 1.00, 95% CI 0.07 to 14.64) Caesarean birth (2 RCTs): RR 1.02, 95% CI 0.47 to 2.22 Oxytocin augmentation (1	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					RCT): RR 2.33, 95% CI 1.21 to 4.51 Epidural analgesia (1 RCT): RR 1.57, 95% CI 0.82 to 3.00 Apgar score < 7 at 5 minutes (1 RCT): RR 0.21, 95% CI 0.01 to 4.14 PGF2a vs PGE2 (primiparous women, unfavourable cervix) Uterine hyperstimulation with FHR changes (1 RCT): RR 1.00, 95% CI 0.07 to 14.64 Caesarean birth (1 RCT): RR 1.00, 95% CI 0.07 to 14.64 Oxytocin augmentation (1 RCT): RR 2.33, 95% CI 1.21 to 4.51 Epidural analgesia (1 RCT): RR 1.57, 95% CI 0.82 to 3.00 PGE2 gel vs PGE2 tablet (all women, unfavourable cervix) maternal and fetal outcomes (NS, 4 RCTs) PGE2 gel vs PGE2 tablet (primiparous women, unfavourable cervix) maternal and fetal outcomes (NS, 3 RCTs) (No pooled data for multiparous women)	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					PGE2 gel vs PGE2 suppositories/pessary (all women, unfavourable cervix) Uterine hyperstimulation with FHR changes (RR 0.16, 95% CI 0.03 to 0.87) other maternal and fetal outcomes (NS, 2 RCTs) (No pooled data for primiparous and multiparous women) PGE2 tablet vs PGE2 suppositories/pessary (all women, unfavourable cervix) Oxytocin augmentation was less likely to occur with the use of PGE2 tablet when compared with PGE2 suppositories/pessary. other maternal and fetal outcomes (NS, 3 RCTs) PGE2 (controlled release) vs all PGE2 delivery systems (all women, unfavourable cervix) Oxytocin augmentation (RR 0.55, 95% CI 0.35 to 0.88) other maternal and fetal outcomes (NS, 4 RCTs) PGE2 (controlled release) vs all PGE2 delivery systems (primiparous women, unfavourable cervix)	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Oxytocin augmentation (RR 0.44, 95% CI 0.22 to 0.91 other maternal and fetal outcomes (NS, 2 RCTs) PGE2 (controlled release) vs all PGE2 delivery systems (multiparous women, unfavourable cervix) Oxytocin augmentation (RR 0.41, 95% CI 0.20 to 0.86) other maternal and fetal outcomes (NS, 1 RCT) PGE2 low dose vs PGE2 high dose (all women, unfavourable cervix) Uterine hyperstimulation with FHR changes (RR 0.18, 95% CI 0.03 to 0.99) other maternal and fetal outcomes (NS, 4 RCTs)	

Chapter 8. Methods of induction: oxytocin

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Kelly AJ;Tan B; 2001 122 Country: US, UK, Europe, Canada, Australia, New Zealand	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	58 RCTs, 11.129 women	mixed parity and Bishop score	Intravenous oxytocin vs expectant management (26 RCTs, 6660 women) Intravenous oxytocin vs vaginal prostaglandins (27 RCTs, 4649 women)	Intravenous oxytocin vs expectant management (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.17, 95% CI 0.09 to 0.33 Caesarean birth (13 RCTs): RR 1.20, 95% CI 0.89 to 1.62 Serious neonatal morbidity or prenatal death, excluding congenital anomalies (6 RCTs): RR 1.03, 95% CI 0.21 to 4.97 Serious maternal morbidity or death (1 RCT): 0 Uterine hyperstimulation without FHR changes (1 RCT): 0 Epidural analgesia (3 RCTs): RR 0.89, 95% CI 0.69 to 1.16 Instrumental vaginal birth (5 RCTs): RR 1.15, 95% CI 0.73 to 1.83 Meconium-stained liquor (1 RCT): RR 1.33, 95% CI 0.34 to 5.21 Apgar score < 7 at 5 minutes (5 RCTs): RR 0.37, 95% CI 0.09 to 1.50 Neonatal intensive care unit admission (1 RCT): RR 3.51, 95% CI 1.34 to 9.22 Perinatal death, excluding major congenital anomalies (5 RCTs): RR 1.00, 95% CI 0.15 to 6.85 Post partum haemorrhage	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					(2 RCTs): RR 2.00, 95% CI 0.38 to 10.60 Chorioamnionitis (6 RCTs): RR 1.49, 95% CI 1.06 to 2.10 Endometritis (6 RCTs): RR 0.67, 95% CI 0.36 to 1.28 Neonatal infection (7 RCTs): RR 0.35, 95% CI 0.13 to 0.96 Neonatal antibiotics (1 RCT): RR 3.36, 95% CI 1.13 to 10.01 Neonatal jaundice (2 RCTs): RR 0.88, 95% CI 0.43 to 1.80 Neonatal respiratory distress syndrome (1 RCT): RR 0.86, 95% CI 0.24 to 3.10 Intravenous oxytocin vs vaginal PGE2 (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (4 RCT): RR 1.85, 95% CI 1.41 to 2.43 Uterine hyperstimulation with FHR changes (2 RCT): RR 0.36, 95% CI 0.01 to 8.69 Caesarean birth (16 RCTs): RR 1.27, 95% CI 0.95 to 1.68 Serious neonatal morbidity or prenatal death, excluding congenital anomalies (3 RCTs): 0 Serious maternal morbidity	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					or death (1 RCT): 0 Cervix unfavourable/unchanged after 12-24 hours (3 RCTs): RR 2.44, 95% CI 1.39 to 4.31 Uterine hyperstimulation without FHR changes (5 RCTs): RR 1.54, 95% CI 0.72 to 3.31 Epidural nalgesia (3 RCTs): RR 0.72, 95% CI 0.42 to 1.25 Instrumental vaginal birth (9 RCTs): RR 0.98, 95% CI 0.73 to 1.31 Meconium-stained liquor (2 RCTs): RR 0.75, 95% CI 0.40 to 1.41 Apgar score < 7 at 5 minutes (7 RCTs): RR 2.22, 95% CI 0.35 to 13.95 Perinatal death, excluding major congenital anomalies (3 RCTs): 0 Maternal nausea (2 RCTs): RR 0.33, 95% CI 0.02 to 7.32 Maternal vomiting (3 RCTs): RR 0.33, 95% CI 0.04 to 3.02 Maternal diarrhoea (2 RCTs): 0 Post partum haemorrhage (2 RCTs): RR 1.61, 95% CI 0.62 to 4.19 Women not satisfied (1 RCT): RR 2.32, 95% CI 0.68 to 7.89 Endometritis (2 RCTs): RR 3.00, 95% CI 0.14 to 65.90	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Maternal antibiotics (2 RCTs): RR 1.74, 95% CI 0.46 to 6.53 Neonatal infection (3 RCTs): RR 3.00, 95% CI 0.49 to 18.48 Neonatal antibiotics (1 RCT): RR 0.17, 95% CI 0.01 to 3.07	

Chapter 8. Methods of induction: misoprostol

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Alfirevic Z;Weeks A; 2006 162 Country: US, UK, South Africa, Iran, Egypt, China, Europe	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	41 RCTs, 8606 women	mixed parity Bishop score ranged from = 4 to = 8	Oral misoprostol vs placebo: 4 RCTs, 474 women Oral misoprostol vs vaginal dinoprostone: 9 RCTs, 2627 women Oral misoprostol vs intracervical prostaglandiE2: 2 RCTs, 391 women Oral misoprostol vs intravenous oxytocin: 7 RCTs, 1017 women Oral misoprostol vs vaginal misoprostol: 16 RCTs, 3645 women	Oral misoprostol vs placebo (all women) long labour (RR 0.16, 95% CI 0.05 to 0.49) needed oxytocin (RR 0.32, 95% CI 0.24 to 0.43) caesarean birth rate (RR 0.62, 95% CI 0.40 to 0.96) Oral misoprostol vs vaginal dinoprostone (all women with intact membrane) caesarean birth (RR 0.78, 95% CI 0.66 to 0.94) uterine hyperstimulation (RR 1.63, 95% CI 1.09 to 2.44), not associated with any fetal adverse events Oral misoprostol vs intravenous oxytocin (all women) There was a significant increase in meconium-stained liquor in women with ruptured membranes following oral misoprostol (RR 1.72, 95% CI 1.08 to 2.74). Oral misoprostol vs intracervical misoprostol (all women) no significant difference in maternal and fetal outcomes Oral misoprostol vs vaginal misoprostol (all women) uterine hyperstimulation without FH changes (RR	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					0.37, 95% CI 0.23 to 0.59). increased need for oxytocin augmentation (RR 1.28, 95% CI 1.11 to 1.48) meconium-stained liquor (RR1.27, 95% CI 1.01 to 1.60) Oral vs vaginal misoprostol (in primiparous women with unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 1.25, 95% CI 1.01 to 1.55 Caesarean birth (2 RCTs): RR 1.89, 95% CI 0.76 to 4.71 Serious neonatal morbidity or perinatal death (2 RCTs): 0 Serious maternal morbidity or death (2 RCTs): 0 Instrumental vaginal birth (1 RCT): RR 0.43, 95% CI 0.06 to 3.28 Oral vs vaginal misoprostol (in multiparous women with unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 1.41, 95% CI 0.94 to 2.11 Caesarean birth (1 RCT): RR 0.85, 95% CI 0.06 to 12.01 Serious neonatal morbidity or perinatal death (2 RCTs): 0 Serious maternal morbidity	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					or death (2 RCTs): 0 Instrumental vaginal birth (1 RCT): RR 0.85, 95% CI 0.06 to 12.01 Oral misoprostol vs vaginal PGE2 (in women with unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.98, 95% CI 0.70 to 1.37	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Kipikasa JH;Adair CD;Williamson J;Breen JM;Medford LK;Sanchez-Ramos L; 2005 164 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 52 misoprostol 25 ug N = 23 oral misoprostol 50 ug N = 29	women = 41 weeks gestation Bishop score = 6	misoprostol 25 ug vs misoprostol 50 ug	Interval to delivery (days) needing one dose misoprostol needing two doses misoprostol oxytocin induction CS 5 min Apgar < 6 meconium-stained fluid NICU admission	3.9 (0.7) vs 2.4 (0.3) (p=0.0001) 48% vs 77% (p=0.04) 22% vs 12% (NS) 9% vs 4% (NS) 22% vs 23% (NS) 0% vs 4% (NS) 17% vs 19% (NS) 4% vs 8% (NS)	Source of Funding: none Computer-generated randomisation Investigators and women blind to group assignment Tablets (cut into equivalent quarter portions using 100 ug or 200 ug tablets) placed in opaque envelopes

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
De A; 2006 Aug 193 Country: India	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 200 oral misoprostol 25 ug 3 hourly N = 100 oral misoprostol 25 ug 3 hourly, followed by routine oxytocin N = 1002	women of 38 weeks mean gestation age Bishop score = 6 mixed parity	oral misoprostol 25 ug 3 hourly vs oral misoprostol 25 ug 3 hourly, followed by routine oxytocin	Improvement in Bishop score from baseline Induction delivery interval vaginal birth within 24 hours CS 1 min Apgar <7 NICU admission	3.0 to 6.9 vs 2.8 to 6.3 (p<0.0001) 17.15 (7.25) vs 17.86 (6.81)(NS) 75% vs 72% (NS) 13% vs 15% (NS) 2% vs 1% (NS) 1% vs 1% (NS)	Source of Funding: not stated Computer-generated randomisation methods of allocation not reported Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Gherman RB; 2001 Jul 165 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 58 oral misoprostol 50 ug N = 28 vaginal prostaglandin PGE2 4 mg N = 30	women with mean gestation age of 39 weeks mixed parity Bishop score of = 6	oral misoprostol 50 ug vs vaginal prostaglandin PGE2 4 mg	Delivery within 48 hours 96% vs 77% (p=0.03) Vaginal birth 68% vs 80% (NS) CS 32% vs 20% (NS) Epidural usage 82% vs 88% (NS) oxytocin use 82% vs 47% (p=0.007) chorioamnioitis 4% vs 0% (NS) No of 5 min Apgar at < 7 0 vs meconium passage 4% vs 10% (NS)	Source of Funding: Nay Bureau of Medicine and Surgery, Washington DC computer-generated randomisation allocation concealed in sequentially numbered, opaque sealed envelopes prepared by assistant not involved with the trial Care givers blind to allocation No power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women		Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
			women at 37-42 weeks gestation Bishop score <6 mixed parity		15.8 hr (4.6 to 42.6)(NS) total dose of misoprostol used (ug): 200 (100 to 400) vs 100 (50 to 125)(NS)	Source of Funding: not stated Computer-generated randomisation Method of allocation concealment not reported Power calculation

		Women Characteristics			
Paungmora N; 2004 Oct 163 Country: Thailand	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 153 oral misoprostol 100 ug N = 75 vaginal misoprostol 100 ug N = 76	oral misoprostol 100 ug vs vaginal misoprostol 100 ug	Induction to delivery interval	14.3 hr (3.5 to 71.4) vs
				CS	44% vs
					37% (NS)
				analgesia requirement	84% vs
					90% (NS)
				Tachysystole	5% vs
					17% (p=0.037)
				uterine hyperstimulation	0
				meconium	28% vs
					13% (p=0.056)
				5 minute Apgar score < 3	0 vs

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					5 minute Apgar score < 3: 0 NICU admission: 1% vs 0% (NS) oxytocin augmentation: 52% vs 42% (NS)	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Hofmeyr GJ;Gulmezoglu AM; 2003 167 Country: international	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	70 RCTs, 10,524 women	mixed parity mixed Bishop score	Vaginal misoprostol vs placebo: 5 RCTs, 339 women Vaginal misoprostol vs vaginal prostaglandins: 25 RCTs, 3651 women Vaginal misoprostol vs intracervical prostaglandins: 17 RCTs, 2162 women Vaginal misoprostol vs oxytocin: 13 RCTs, 1767 women Misoprostol lower dose regimen vs higher dose: 13 RCTs, 2138 women Misoprostol gel vs tablets: 1 RCT, 467 women	Vaginal misoprostol vs placebo (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.36, 95% CI 0.19 to 0.68 Uterine hyperstimulation with FHR changes (3 RCTs): RR 2.31, 95% CI 0.52 to 10.16 Caesarean birth (4 RCTs): RR 0.92, 95% CI 0.57 to 1.47 Cervix unfavourable/unchanged after 12-24 hours (2 RCTs): RR 0.09, 95% CI 0.03 to 0.24 Oxytocin augmentation (2 RCTs): RR 0.38, 95% CI 0.26 to 0.57 Uterine hyperstimulation without FHR changes (3 RCTs): RR 10.11, 95% CI 1.91 to 53.60 Uterine rupture (1 RCT): 0 Instrumental vaginal birth (2 RCTs): RR 1.02, 95% CI 0.50 to 2.12 Meconium-stained liquor (2 RCTs): RR 0.71, 95% CI 0.28 to 1.77 Neonatal intensive care unit admission (2 RCTs): RR 0.41, 95% CI 0.04 to 3.70 Perinatal death (1 RCT): 0 Maternal side effects (1 RCT): RR 2.82, 95% CI 0.12 to 66.62	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Post partum haemorrhage (2 RCTs): RR 0.91, 95% CI 0.13 to 6.37 Serious maternal complication (1 RCT): 0 Maternal death (1 RCT): 0 Vaginal misoprostol vs vaginal prostaglandins (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (13 RCTs): RR 0.80, 95% CI 0.73 to 0.87 Uterine hyperstimulation with FHR changes (17 RCTs): RR 2.32, 95% CI 1.62 to 3.32 Caesarean birth (18 RCTs): RR 0.96, 95% CI 0.84 to 1.09 Serious neonatal morbidity or perinatal death (1 RCT): RR 5.98, 955 CI 0.25 to 145.59 Cervix unfavourable/unchanged after 12-24 hours (1 RCT): RR 0.52, 95% CI 0.27 to 0.98 Oxytocin augmentation (11 RCTs): RR 0.64, 95% CI 0.56 to 0.73 Uterine hyperstimulation without FHR changes (7 RCTs): RR 2.93, 95% CI 2.04 to 4.20	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Epidural analgesia (2 RCTs): RR 0.81, 95% CI 0.57 to 1.15 Instrumental vaginal birth (5 RCTs): RR 1.40, 95% CI 0.95 to 2.06 Meconium-stained liquor (7 RCTs): RR 1.45, 95% CI 1.05 to 2.00 Apgar score <7 at 5 minutes (5 RCTs): RR 1.00, 95% CI 0.61 to 1.63 Neonatal intensive care unit admission (7 RCTs): RR 1.27, 95% CI 0.89 to 1.81 Neonatal encephalopathy (1 RCT): RR 5.98, 95% CI 0.25 to 145.59 Perinatal death (2 RCT): RR 2.85, 95% CI 0.12 to 68.95 Maternal side effects (nausea, vomiting, diarrhoea, (4 RCTs): RR 1.33, 95% CI 0.30 to 5.86 Post partum haemorrhage (3 RCTs): RR 0.56, 95% CI 0.12 to 2.55 Vaginal misoprostol vs intracervical prostaglandins (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (5 RCTs): RR 0.68, 95% CI 0.59 to 0.78 Uterine hyperstimulation with FHR changes (14 RCTs): RR 2.19, 95% CI	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					1.47 to 3.27 Caesarean birth (16 RCTs): RR 1.04, 95% CI 0.88 to 1.23 Cervix unfavourable/unchanged after 12-24 hours (1 RCT): RR 0.68, 95% CI 0.52 to 0.88 Oxytocin augmentation (11 RCTs): RR 0.57, 95% CI 0.51 to 0.62 Uterine hyperstimulation without FHR changes (9 RCTs): RR 1.90, 95% CI 1.44 to 2.49 Uterine rupture (1 RCT): 0 Epidural analgesia (1 RCT): RR 0.71, 95% CI 0.41 to 1.25 Instrumental vaginal birth (8 RCTs): RR 0.87, 95% CI 0.66 to 1.15 Meconium-stained liquor (8 RCTs): RR 1.28, 95% CI 0.96 to 1.69 Apgar score <7 at 5 minutes (9 RCTs): RR 1.33, 95% CI 0.53 to 3.32 Neonatal intensive care unit admission (6 RCTs): RR 1.08, 95% CI 0.73 to 1.58 Perinatal death (1 RCT): RR 2.85, 95% CI 0.12 to 68.95 Maternal side effects (nausea, vomiting, diarrhoea, 2 RCTs): RR 1.67, 95% CI 0.16 to 17.85 Post partum haemorrhage (2 RCTs): RR 1.62, 95% CI 0.22 to 12.19	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Vaginal misoprostol vs oxytocin (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (2 RCTs): RR 1.00, 95% CI 0.60 to 1.67 Caesarean birth (5 RCTs): RR 0.86, 95% CI 0.49 to 1.52 Serious maternal morbidity or death (1 RCT): RR 6.11, 95% CI 0.31 to 119.33 Uterine hyperstimulation without FHR changes (4 RCTs): RR 2.52, 95% CI 1.45 to 4.36 Uterine rupture (1 RCT): RR 6.11, 95% CI 0.31 to 119.33 Instrumental vaginal birth (2 RCTs): RR 0.58, 95% CI 0.05 to 6.17 Meconium-stained liquor (3 RCTs): RR 0.74, 95% CI 0.40 to 1.39 Apgar score <7 at 5 minutes (3 RCTs): RR 2.13, 95% CI 0.62 to 7.27 Neonatal intensive care unit admission (2 RCTs): RR 1.61, 95% CI 0.81 to 3.21 Misoprostol lower dose regimen vs higher dose (in women with an unfavourable cervix) Vaginal delivery not	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					achieved within 24 hours (5 RCTs): RR 1.04, 95% CI 0.91 to 1.18 Uterine hyperstimulation with FHR changes (9 RCTs): RR 0.55, 95% CI 0.38 to 0.79 Caesarean birth (9 RCTs): RR 1.00, 95% CI 0.83 to 1.21 Serious maternal morbidity or death (4 RCTs): 0 Oxytocin augmentation (5 RCTs): RR 1.30, 95% 1.14 to 1.49 Uterine hyperstimulation without FHR changes (4 RCTs): RR 0.66, 95% CI 0.50 to 0.85 Epidural analgesia (1 RCT): RR 1.04, 95% CI 0.63 to 1.72 Instrumental vaginal birth (4 RCTs): RR 1.01, 95% CI 0.69 to 1.46 Meconium-stained liquor (4 RCTs): RR 1.01, 95% CI 0.68 to 1.50 Apgar score <7 at 5 minutes (5 RCTs): RR 0.78, 95% CI 0.34 to 31.82 Neonatal intensive care unit admission (4 RCTs): RR 0.83, 95% CI 0.62 to 1.10 Maternal side effects (nausea, vomiting, diarrhoea, 4 RCTs): 0.77, 95% CI 0.45 to 1.30 Post partum haemorrhage (1 RCT): RR 1.08, 95% CI 0.27 to 4.25	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Misoprostol vag gel vs vag tablets (in women with an unfavourable cervix) Uterine hyperstimulation with FHR changes (1 RCT): RR 0.49, 95% CI 0.29 to 0.83 Caesarean birth (1 RCT): RR 1.07, 95% CI 0.79 to 1.45 Oxytocin augmentation (1 RCT): RR 1.26, 95% 1.13 to 1.41 Epidural analgesia (1 RCT): RR 1.19, 95% CI 1.03 to 1.38 Instrumental vaginal birth (1 RCT): RR 1.12, 95% CI 0.74 to 1.70 Apgar score <7 at 5 minutes (1 RCT): RR 1.16, 95% CI 0.56 to 2.38 Neonatal intensive care unit admission (1 RCT): RR 0.76, 95% CI 0.44 to 1.24	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Muzonzini G;Hofmeyr GJ; 2004 176 Country: UK, US	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	3 RCTs, 502 women	mixed parity mixed Bishop score	Buccal vs vaginal misoprostol: 1 RCT, 152 women Sublingual vs oral misoprostol: 2 RCTs, 350 women	For all women Sublingual/buccal vs oral misoprostol Vaginal delivery not achieved in 24 hours (2 RCTs): RR 0.87, 95% CI 0.68 to 1.11 Uterine hyperstimulation with FHR changes (2 RCTs): RR 1.39, 95% CI 0.28 to 6.96 CS (2 RCTs): RR 0.82, 95% CI 0.57 to 1.19 Cx unfavourable/unchanged after 12-24 hours (2 RCTs): RR 0.20, 95% CI 0.03 to 1.14 Oxytocin augmentation (2 RCTs): RR 0.86, 95% CI 0.68 to 1.07 Epidural analgesia (1 RCT): RR 0.93, 95% CI 0.66 to 1.29 Instrumental vaginal delivery (2 RCT): RR 1.28, 95% CI 0.87to 1.88 Apgar score < 7 at 5 min (2 RCT): RR 0.99, 95% CI 0.06 to 15.68 NICU admission (2 RCT): RR 0.80, 95% CI 0.44 to 1.47 Sublingual/buccal vs vaginal misoprostol Vaginal delivery not achieved in 24 hours (1 RCT): RR 1.22, 95% CI 0.91 to 1.63 Uterine hyperstimulation	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					with FHR changes (1 RCT): RR 1.47, 95% CI 0.80 to 2.71 CS (1 RCT): RR 0.70, 95% CI 0.42 to 1.15 Serious maternal morbidity or death (1 RCT): 0 Cx unfavourable/unchanged after 12-24 hours (1 RCT): RR 3.24, 95% CI 0.13 to 78.38 Oxytocin augmentation (1 RCT): RR 1.06, 95% CI 0.84 to 1.34 Epidural analgesia (1 RCT): RR 1.21, 95% CI 0.57 to 2.56 Instrumental vaginal delivery (1 RCT): RR 0.36, 95% CI 0.10 to 1.28 Apgar score < 7 at 5 min (1 RCT): RR 9.73, 95% CI 0.53 to 177.64 NICU admission (1 RCT): RR 1.19, 95% CI 0.54 to 2.64 Serious maternal complications: 0 For women with an unfavourable cervix No valid outcomes reported	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Crane JM;Butler B;Young DC;Hannah ME; 2006 Dec 177 Country: US, UK, Australia, Greece, Europe	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	14 RCTs, 2172 women	women at term with an unfavourable cervix and intact membranes	Oral misoprostol vs vaginal PGE2 gel (1 RCT) Oral misoprostol vs intracervical PGE2 gel (1 RCT) Vaginal misoprostol vs vaginal PGE2 gel (4 RCTs) Vaginal misoprostol vs vaginal PGE2 controlled release (2 RCTs) Vaginal misoprostol vs vaginal PGE2 tablet (1 RCT) Vaginal misoprostol vs vaginal PGE2 pessary (1 RCT) Vaginal misoprostol vs intracervical PGE2 gel (4 RCTs)	any misoprostol vs PGE2, risks of tachysystole (RR 1,86, 95% CI 1.01 to 3.43) hyperstimulation (RR 3.72, 95% CI 2.00 to 6.88) vaginal delivery within 24 hours (RR 1.14, 95% CI 1.00 to 1.31) rate of oxytocin use (RR 0.71, 95% CI 0.60 to 0.95) meconium staining (RR 1.22, 95% CI 0.96 to 1.55) caesarean birth (RR 0.99, 95% CI 0.83 to 1.17) The use of misoprostol at starting dosages > 25 mcg had similar findings to the primary analysis Lower misoprostol dosing (starting at 25 mcg) did not show any significant difference in the outcomes of interest	

Bibliographic details	Study type and evidence level	Total no. of patients	Patient Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Bricker 2005 [180]	SR EL=1++	2 RCTs (1 Quasi-RCT) 310 women	Women with complicated and uncomplicated pregnancies, requiring induction of labour Bishop score ≤ 4 to ≥6	Amniotomy vs no intervention vs oxytocin vs vaginal prostaglandin	Amniotomy vs no intervention (1 quasi-RCT) CS 40% vs 0% (RR 9.95, 95% CI 0.55 to 147.96) Amniotomy vs oxytocin (1 quasi-RCT) CS 40% vs 30% (RR 1.33, 95% CI 0.40 to	Funding: University of Liverpool, UK

					4.49) Amniotomy vs vaginal prostaglandin (1 RCT) CS 46% vs 39% (NS) Perinatal death 0 vs 0 Increase in oxytocin augmentation 44% vs 15% (RR 2.85, 95% CI 1.82 to 4.46) Primiparae 51% vs 22%, RR 2.33, 95% CI 1.33 to 4.10) Multiparae 39% vs 11%, RR 3.63, 95% CI 1.77 to 7.41 Uterine hyperstimulation with FHR changes 0 vs 0 Epidural usage NS Increase in intrapartum maternal pyrexia NS Meconium-stained liqour NS Post-partum haemorrhage NS Amniotomy vs no treatment (in women with unfavourable cervix) Caesarean births (1 quasi-RCT): RR 9.00, 95% CI 0.55 to 147.95 Amniotomy vs oxytocin (in women with unfavourable cervix) Caesarean births (1 quasi-RCT): RR 1.33, 95% CI 0.40 to 4.49	

Chapter 8. Methods of induction: Amniotomy with oxytocin

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Howarth GR;Botha DJ; 2001 181 Country: UK, US, Europe, Australia	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	17 RCTs, 2566 women near or at term	mixed parity mixed Bishop score	Amniotomy and IV oxytocin vs placebo/no treatment: 1 RCT, 184 women Amniotomy and IV oxytocin vs vaginal PGE2: 11 RCTs, 1182 women Amniotomy and IV oxytocin vs cervical PGE2: 1 RCT, 60 women Amniotomy and IV oxytocin vs oxytocin alone: 2 RCTs, 511 women Amniotomy and IV oxytocin vs amniotomy alone: 2 RCTs, 296 women	Amniotomy and IV oxytocin vs vaginal PGE2 (in women with an unfavourable cervix) Vaginal delivery not achieved within 24 hours (1 RCT): RR 0.90, 95% CI 0.46 to 1.75 Caesarean birth (2 RCTs): RR 0.98, 95% CI 0.48 to 2.03 Seriuos Maternal morbidity or death (1 RCT): 0 Cervix unfavourable/unchanged after 12-24 hours (2 RCTs): RR 0.69, 95% CI 0.20 to 2.35 Oxytocin augmentation (1 RCT): RR 0.07, 95% CI 0.00 to 1.12 Uterine hyperstimulation without FHR changes (1 RCT): RR 5.00, 95% CI 0.25 to 99.95 Uterine rupture (1 RCT): RR 3.00, 95% CI 0.13 to 69.70 (previous CS) Epidural analgesia/opioid analgesia (4 RCTs): RR 1.05, 95% CI 0.81 to 1.35 Instrumental vaginal birth (2 RCTs): RR 1.25, 95% CI 0.54 to 2.90 Apgar score < 7 at 5 minutes (2 RCTs): RR 7.33, 95% CI 0.39 to 137.73 Neonatal intensive care unit admission (1 RCT): RR 3.00, 95% CI 0.13 to 69.70 Post partum haemorrhage	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					(1 RCT): RR 3.00, 95% CI 0.33 to 27.23 Precipitate labour (1 RCT): RR 3.00, 95% CI 0.13 to 70.83 Amniotomy and IV oxytocin vs vaginal PGE2 (in women with an unfavourable cervix) No trials Amniotomy and IV oxytocin vs cervical PGE2 (in women with an unfavourable cervix) No trials Amniotomy and IV oxytocin vs oxytocin alone (in women with an unfavourable cervix) No trials Amniotomy and IV oxytocin vs amniotomy alone (in women with an unfavourable cervix) No trials	

Chapter 8. Methods of induction: Mechanical methods (Balloon catheter and tents)

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
Boulvain M;Kelly AJ;Stan C;Irion O; 2001 182 Country: US, UK, Canada, Europe	Study Type: Systematic Review/Meta-Analysis Evidence Level: 1++	45 RCTs, 5385 women	Women needing induction of labour, mixed parity and BS	Any mechanical method vs placebo/no treatment Laminaria tent vs placebo/no treatment Balloon catheter vs no treatment Any mechanical method vs intravaginal prostaglandins Laminaria tent vs any prostaglandins Balloon catheter vs prostaglandins Any mechanical method vs intracervical prostaglandins Laminaria tent plus prostaglandins vs prostaglandins alone Balloon catheter plus prostaglandins vs prostaglandins alone Any mechanical method vs misoprostol Any mechanical method vs	Any mechanical method vs placebo/no treatment Vaginal birth not achieved in 24 hours 69% vs 77% (RR 0.90, 95% CI 0.64 to 1.26; 1 RCT, 48 women) Caesarean section 34% vs 34(RR 1.00, 95% CI 0.76 to 1.30, 6 RCTs, 416 women) Fetal heart rate changes no report Severe maternal and neonatal morbidity or infection no instances Laminaria tent vs placebo/no treatment Caesarean births RR 0.98, 95% CI 0.74 to 1.30; 5 RCTs Balloon catheter vs no treatment Caesarean births RR 1.17, 95% CI 0.47 to 2.92; 1 RCT Any mechanical method vs intravaginal prostaglandins Vaginal birth not achieved in 24 hours 68% vs 40% (RR 1.70, 95% CI 1.15 to 2.51; 1 RCT) Hyperstimulation with FHR changes 0% vs 1% (RR 0.21, 95% CI 0.04 to 1.20; 1 RCT) Caesarean births	Source of Funding: University of Geneva International populations

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
				oxytocin Laminaria tent vs oxytocin Laminaria tent plus oxytocin vs oxytocin alone Balloon catheter vs oxytocin Laminaria vs extra-amniotic infusion Extra-amniotic infusion vs any prostaglandins	28% vs 25% (RR 1.13, 95% CI 0.96 to 1.32; 12 RCTs) Instrumental birth 14% vs 14% (RR 1.01, 95% CI 0.70 to 1.47; 6 RCTs) Serious maternal and neonatal morbidity was infrequent Laminaria tent vs any prostaglandins Caesarean births RR 1.15, 95% CI 0.95 to 1.39; 9 RCTs Less hyperstimulation with FHR changes RR 0.13, 95% CI 0.04 to 0.48 Serious maternal and neonatal morbidity was infrequent Balloon catheter vs prostaglandins Not achieved vaginal birth within 24 hours RR 1.51, 95% CI 1.16 to 1.98 Caesarean birth RR 1.09, 95% CI 0.89 to 1.33; 11 RCTs Less hyperstimulation with FHR changes RR 0.08, 95% CI 0.01 to 0.55; 1 RCT Hyperstimulation without FHR changes RR 2.47, 95% CI 0.91 to 6.70 Serious maternal and neonatal morbidity was	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					infrequent. Any mechanical method vs intracervical prostaglandins Vaginal birth not achieved in 24 hours 68% vs 40% (RR 1.70, 95% CI 1.15 to 2.51; 1 RCT) Hyperstimulation with FHR changes 0% vs 1%, (RR 0.21, 95% CI 0.04 to 1.20: 1 RCT Caesarean births 28% vs 25% (RR 1.13, 95% CI 0.96 to 1.32; 12 RCTs) Instrumental birth 14% vs 14% (RR 1.01, 95% CI 0.70 to 1.47; 6 RCTs) Serious maternal and neonatal morbidity was infrequent Laminaria tent plus prostaglandins vs prostaglandins alone Maternal and neonatal outcomes were similar between the two groups (4 RCTs) Balloon catheter plus prostaglandins vs prostaglandins alone Vaginal birth within 24 hours: RR 0.32, 95% CI 0.12 to 0.8; 1 RCT Any mechanical method vs misoprostol	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					Vaginal birth not achieved in 24 hours 34% vs 30% (RR 1.15, 95% CI 0.80 to 1.66; 4 RCTs) Hyperstimulation with FHR changes 4% vs 9% (RR 0.41, 95% CI 0.20 to 0.87; 4 RCTs Caesarean birth 27% vs 22% (RR 1.22, 95% CI 0.93 to 1.61) Serious maternal and neonatal morbidity was infrequent. Any mechanical method vs oxytocin Achieving vaginal birth within 24 hours no data Hyperstimulation with FHR changes no data Serious maternal and neonatal morbidity no data Caesarean birth 17% vs 32% (RR 0.55, 95% CI 0.33 to 0.91; 4 RCTs) Hyperstimulation without FHR changes (RR 0.50, 95% CI 0.05 to 5.22) Laminaria tent vs oxytocin The risk of caesarean birth was similar (2 RCTs) Laminaria tent plus oxytocin vs oxytocin alone Maternal and neonatal outcomes were similar	

Bibliographic Details	Study Type & Evidence Level	Study Details	Women Characteristics	Intervention & Comparisons	Outcomes Measures, Follow Up & Effect Size	Comments
					between the two groups (1 RCT) Balloon catheter vs oxytocin Caesarean birth RR 0.43, 95%CI 0.22 to 0.83; 2 RCTs Extra-amniotic infusion vs any prostaglandins Not achieved vaginal birth within 24 hours 57% vs 22% (RR 95% CI 1.14 to 1.90; 5 RCTs) Hyperstimulation with FHR changes RR 0.66, 95% CI 0.30 to 1.46 Serious maternal and neonatal morbidity was infrequent Laminaria vs extra-amniotic saline infusion Maternal and neonatal outcomes were similar between the two groups (2 RCTs)	

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size		Comments
Afolabi BB; 2005 183	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 57 intravaginal misoprostol 100 ug N = 29 Foley catheter insertion N = 28	Women requiring cervical priming Bishop score <5 Nullipara: 26 Multipara: 31	one single dose of intravaginal misoprostol 100 ug vs Foley catheter insertion	Induction to delivery interval (hours) Change in Bishop score Vaginal birth within 24 hours Intrapartum complications caesarean section	11.84 (5.43) vs 20.03 (4.68) ($p<0.05$) 6.6 (1.7) vs 4.4 (1.93)($p<0.05$) 100% vs 82% ($p<0.05$) NS 36% vs 32% (NS)	Source of Funding: Not stated Computer randomisation allocation codes in opaque, sealed envelopes No power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
Chung JH; 2003 Oct 184 Country: US	Study Type: Randomised Controlled Trial Evidence Level: 1+	Total number of patients = 146 Intracervical misoprostol N = 49 Intracervical Foley catheter insertion N = 54 Combination misoprostol-Foley catheter N = 43	Women requiring labour induction mixed parity Bishop score =/< 6	Intracervical misoprostol vs Intracervical Foley catheter insertion vs Combination misoprostol-Foley catheter	All vaginal births 63% vs 57% vs 58% (NS) CS 37% vs 43% vs 42% (NS) Induction-to-delivery interval (hr) 18 vs 20 vs 17 (NS) Epidural use 80% vs 70% vs 84% (NS) Tachysystole 63% vs 30% vs 47% (p=0.03) hyperstimulation 33% vs 11% vs 16% (p=0.02)	Source of Funding: Memorial Medical Center Foundation, US Randomisation with use of Epistat with a block size of 10 Allocation in consecutively numbered , opaque and sealed envelopes Women and treating physician not blind Power calculation

Bibliographic Details	Study Type & Evidence Level	No. of Women	Women Characteristics	Intervention & Comparison	Outcome Measures, Follow-Up & Effect Size	Comments
					meconium 14% vs 17% vs 16% (NS) chorioamnionitis 6% vs 9% vs 21% (p=0.07)	

Chapter 9. Management of complications of induction of labour

Bibliographic Information	Study Type & Evidence Level	Aim of Study	No. of Women	Women Characteristics	Outcomes & Results	Comments
Egarter CH; 1990 Sep 185	Study Type: Other Evidence Level: 3	review the frequency of uterine hyperstimulation associated with PGE2 use and describe the therapeutic effects of B2-adrenergic tocolytic therapy	Total No. of Patients = 3099	maternity cases requiring low dose PGE2 (vaginal tablet, gel and intracervical gel) therapy for induction of labour	Uterine hyperstimulation in 181 cases (5.8%), 31.5% had FHR abnormalities Administration of tocolytic treatment with B-adrenergic drugs (hexoprenaline at 0.3 ug/min or a single dose of terbutaline 250 ug intravenously or subcutaneously): uterine contractions normalised and reversing any FHR abnormality in 178 cases (98.3%) caesarean : 3 postpartum complications: 0	Source of Funding: not reported Comments: Uterine hyperstimulation defined as contraction frequency was more than 5 in 10 minutes or if contractions exceeded 2 minutes in duration non-comparative study: likelihood of confounders

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