Critical Intelligence Unit

Evidence check

Pregnancy beyond 39 weeks

2 October 2025

Evidence check questions

In women with singleton pregnancies at 39+0 weeks or beyond gestation, what are the risks and benefits of induction of labour, with a focus on maternal and neonatal outcomes?

In women with singleton pregnancies at 39+0 weeks or beyond, what are the risks and benefits of non-medical options like acupuncture and herbal in terms of maternal and neonatal outcomes?

What are the experiences of women who undergo induction of labour for post-date pregnancies?

Summary

- The timing of labour plays an important role in maternal and neonatal health, requiring careful consideration of the associated risks and benefits.[1]
- The evidence reviewed for this check was primarily based on randomised controlled trials (RCTs), including key RCTs such as ARRIVE[2], SWEPIS[3], INDEX[4], systematic reviews and meta-analyses, and cohort studies alongside RCTs, all published since 2018.
  - Most studies provided a direct comparison of outcomes between elective induction of labour at around 39–40 weeks versus expectant management; or induction of labour at different timepoints near or at post-term, mostly among women with low-risk or uncomplicated pregnancies. The definition of expectant management varied in the included studies but usually referred to waiting until spontaneous labour or until a certain gestational age such as 41–42 weeks or medical indication for induction of labour.
- The ARRIVE trial (2018) had a large sample size. It was reported that elective induction at 39 weeks was associated with a lower likelihood of caesarean birth and hypertensive disorders of pregnancy, shorter duration of respiratory support and total hospital stay for neonates. There was a similar likelihood of composite perinatal adverse outcome compared to expectant management (foregoing elective birth before 40 weeks 5 days and to have birth initiated no later than 42 weeks 2 days).[2]
  - Multiple systematic reviews since the ARRIVE trial reported inconsistent findings for individual outcomes comparing elective induction between 39–40 weeks of gestation versus expectant management or delayed induction. The results varied depending on the nature of the pooled evidence (RCT, cohort or mixed type; or parity or cervix status of women in included studies etc.) (see Table 1 for commonly reported outcomes).[5] Overall, induction at 39–40 weeks was associated with either improved or similar maternal or neonatal outcomes compared to expectant management or delayed induction.

- Compared to expectant management and delayed induction, induction at 39–40 weeks was associated with increased risk of shoulder dystocia among nulliparous women,[5] increased duration of stay in birthing unit, and less likelihood of breastfeeding exclusively at discharge.[6]

Table 1: Outcomes for elective induction between 39–40 weeks of gestation versus expectant management or delayed induction

Outcome	Systematic reviews of RCT	Systematic reviews of cohort studies	Systematic reviews of mixed study types
Caesarean birth	**Mixed finding** No significant difference[7-11] Significant reduction (<40 vs expectant management)[10-12]	Significant reduction[13]	No significant difference (emergency caesarean section); significant reduction in multiparous women only[5]
Hypertensive disorders of pregnancy	Significant reduction[7, 12]	Not reported	Not reported
Operative vaginal birth	No significant difference[8-12]	Not reported	Significant reduction[5]
Grade 3–4 perineal laceration	No significant difference[11, 12]	No significant difference[13]	Significant reduction[5]
Meconium-stained amniotic fluid	Significant reduction[7, 9]	Significant reduction[13]	Not reported
Postpartum haemorrhage	No significant difference[7, 10, 12]	No significant difference[13]	No significant difference[5]
Perinatal mortality	No significant difference[7, 9-12]	Significant reduction[13]	Not reported
Neonatal respiratory support	Significant reduction[12]	Significant reduction (respiratory morbidity)[13]	Not reported
Stillbirth	No significant difference[7, 10, 11]	Not reported	Not reported
Neonatal intensive care unit (NICU) admission	No significant difference[7-12]	Significant reduction[13]	No significant difference[5]
Apgar score <7 at 5 Minutes	No significant difference[7, 9, 10]	Not reported	Significant reduction[5]

Notes on comparison groups in references: Before 40 weeks vs expectant management[7]; 39 weeks vs ≥40 weeks, 40 vs ≥41 weeks[10]; 39 vs 41 or 42 weeks[8]; 39 vs expectant management[5, 9, 12, 13]; <40 vs expectant management[11]

- The SWEPIS trial (2019) and the INDEX trial (2019) both compared induction of labour at 41 weeks versus expectant management and induction of labour at 42 weeks. The SWEPIS trial reported significantly higher perinatal mortality in the expectant management group, leading to early termination of the trial.[33] The other outcomes such as composite perinatal adverse events, proportions of caesarean birth , instrumental vaginal birth, or any major maternal morbidity did not differ between the groups. INDEX trial reported higher rates of composite of perinatal mortality and neonatal morbidity for the expectant management group, although the difference was not statistically significant.[4]

- Multiple systematic reviews of RCTs since 2019 reported favourable outcomes for composite outcome of perinatal mortality and severe neonatal morbidity and NICU admission for **induction of labour at 41 weeks versus ≥42 weeks**. Other outcomes were similar.
- Compared to expectant management or later induction, induction at 41 weeks was associated with higher rates of pain treatment use (epidural and spinal or opiates) and lower oxytocin use.[3, 14]
- The SWEPIS and INDEX trials suggest that induction of labour at 41 weeks is cost-effective compared to expectant management until 42 weeks.[15, 16] The SWEPIS trial found induction incurs slightly higher but not significant overall costs and significantly higher delivery costs, but significantly lower neonatal intensive care unit, outpatient visit before delivery and inpatient stay costs.[15] The INDEX trial reported a similar result of slightly higher but non-significant overall costs and significantly higher intrapartum costs in the induction group, but significantly lower total antepartum costs and lower but non-significant postpartum costs.[16]

Table 2: Outcomes for induction of labour at 41 weeks versus expectant management or induction at ≥42 weeks of gestation

Outcome	Systematic reviews of RCT
Caesarean birth	**Mixed findings** Significantly reduced[11] or no significant difference
Operative vaginal birth	No difference[8, 10, 11, 14]
Grade 3–4 perineal laceration	No difference[11]
Composite outcome of perinatal mortality and severe neonatal morbidity	Significantly reduced[14]
Perinatal mortality	Mixed findings Significantly reduced[8, 11] or no significant difference[8, 10, 11]
Stillbirth	Mixed findings Significantly reduced[11, 14] or no significant difference[10]
NICU admission	Significantly reduced[8, 10, 11, 14]
Apgar score <7 at 5 Minutes	No significant difference[10, 14]

Notes on comparison groups in references: Induction of labour ≥ 41 weeks vs EM[11]; 41 weeks vs EM until 42 weeks[15]; 41 vs ≥ 42[8, 10]

- Most **guidelines** recommend induction from 41 weeks for uncomplicated pregnancies, with organisations such as the World Health Organization (WHO)[17] and the National Institute for Health and Care Excellence (NICE)[18] supporting this. Between 41–42 weeks is consistently recommended by a systematic review of 49 clinical guidelines.[19] Recommendations for the timing of induction for pregnancies with complications or clinical indications may differ.[19]
  - The 2023 Canadian Society of Obstetricians and Gynaecologists of Canada (SOGC) guideline explicitly recommends against routine elective induction of labour at 39 weeks of gestation,[20] whereas WHO explicitly recommends against induction of labour in uncomplicated pregnancies at gestational age less than 41 weeks.[17]

  - The 2025 American College of Obstetricians and Gynecologists (ACOG) clinical practice update based on ARRIVE trial findings recommends that full-term nulliparous individuals without medical indication for birth "*should receive counselling regarding the potential benefits and risks of induction of labour at or beyond 39 weeks of gestation compared with expectant management*."[21]
- A 2025 systematic review of the impact of ACOG's 39-week rule for induction of labour, which was introduced in 2010 recommending against early term inductions between 37+0–38+6 weeks unless medically indicated, was associated with an increased risk of foetal death (stillbirth) compared to pre-introduction. However, the review noted that the risk for neonatal morbidity and mortality decreased after the introduction of the 39-week rule.[22]
- Systematic review evidence of **non-medical options compared to control** for induction of labour found:
  - Date consumption reduced the active phase of labour[23]
  - Castor oil increased post-intervention Bishop score and odds of vaginal birth[24]
  - Primrose oil showed no effect[24]
  - Acupuncture may increase the rate of spontaneous onset of labour, but it does not significantly affect birth outcomes such as time to birth or caesarean rates[25]
    - An RCT found acupuncture did not significantly affect maternal and neonatal outcomes[26]

Experiences of women undergoing induction of labour for post-date pregnancies

- In Australia, the Birth Experience Study (BESt) national survey study found an overwhelming desire of women to avoid induction of labour, an intention to resist pressure and a desire to wait until spontaneous labour.[27]
- In the NICE evidence review, maternal satisfaction (experience of birth) favoured earlier induction at 39 weeks compared to 40–42 weeks.[18]
- In the SWEPIS study, no significant differences were found in overall childbirth experiences between induction at 41 weeks and expectant management until 42 weeks, with both groups reporting positive experiences.
- Based on qualitative studies, women's experiences of post-term induction of labour are shaped by changes in expectations, a sense of reduced control, external influences on decision-making, emotional impacts, hospital environment, and the feeling that there is a deadline for natural birth.[29-31]

Aboriginal health lens

- No published evidence directly addressing the Aboriginal health aspects about induction of labour and non-medical options were identified, highlighting a gap in the literature. One Western Australian study on perinatal mortality highlighted that the risk of perinatal mortality was higher in Aboriginal women compared to non-Aboriginal women, and that the gestational ages at term were associated with the lowest risk of perinatal mortality for both Aboriginal women and non-Aboriginal women.[32]

Method

PubMed and Google searches were conducted on 7 March 2025. A total of 735 peer-reviewed studies (after removing duplicates) returned from PubMed search were screened. See Appendix 1 for the search strategy and inclusion criteria.

Limitations

Much of the available evidence on induction of labour comes from systematic reviews that cover a broad range of gestational ages, typically between 39 and 42 weeks. This evidence check focused specifically on studies that reported on more precise timing for inductions. While broader reviews could analyse a wide range of outcomes, subgrouping by gestational age limited the outcomes that could be assessed in the reviews considered.

The way studies were grouped in the systematic reviews also created challenges. For example, the ARRIVE trial compares 39 weeks to 40–42 weeks, but in many systematic reviews, it was grouped as <40 weeks, 39 vs ≥40 weeks, 39 vs 41 weeks, or 39 vs 40–42 weeks. This evidence check presented the outcomes as reported by the trial or systematic review, but these different groupings made it hard to compare results based on specific weeks. Additionally, some systematic reviews used different gestational age cutoffs, e.g. <39 weeks or >39 weeks, leading to variability in how studies were grouped, and which gestational age ranges were included.

Recent qualitative studies and relevant data could have been left out as the focus was on systematic reviews of qualitative research.

Evidence tables

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)

Induction timing	Neonatal outcomes	Maternal outcomes	Birth outcomes
≤38 vs ≥39 weeks (Systematic review of RCTs[10])	**Non-significant difference:** Perinatal death, stillbirth, neonatal death and NICU admission.[10]	No evidence available.	**Non-significant difference:** Caesarean and operative vaginal birth.[10]
39 vs ≥40 weeks (Systematic review of RCTs[10], cohort studies[13] and mixed study types[5])	**Significant decrease (favours 39 weeks):** lower frequencies of respiratory morbidity, meconium aspiration syndrome and macrosomia.[5, 13] By parity, nulliparous women had a reduced likelihood of NICU admission.[5] **Non-significant difference:** stillbirth and neonatal death	**Significant decrease (favours 39 weeks):** reduced chance of peripartum infection.[13] By parity, multiparous women had a reduced likelihood of perineal injury. **Non-significant difference:** postpartum haemorrhage[5, 10, 13] **Mixed findings:** perineal lacerations - systematic review of cohort studies found no	**Significant decrease (favours 39 weeks):** 17% reduction in the risk of caesarean section.[10, 13] Multiparous and nulliparous women had a reduced likelihood of emergency caesarean section.[5, 10, 13] **Mixed findings:** Operative vaginal - systematic review of RCTs found no group differences[10], while a systematic review of mixed study types found induction at

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)			
Induction timing	**Neonatal outcomes**	**Maternal outcomes**	**Birth outcomes**
	Significant decrease (favours ≥40 weeks): by parity, nulliparous women had a reduced likelihood of shoulder dystocia.[5] **Mixed findings:** NICU admission - systematic review of cohort studies found lower frequencies with induction at 39 weeks[13], however, the other 2 systematic reviews found no group differences.[5, 10] Perinatal death and Apgar score <7 in 5 mins - systematic review of RCTs[10] found no group differences. However, a systematic review of cohort studies found lower frequencies of perinatal mortality[13] and a systematic review of mixed study types found reduced likelihood of a low 5-minute Apgar score at 39 weeks.	group differences[13], while a systematic review of mixed study types found that induction at 39 weeks of gestation was associated with a 37% reduced likelihood of perineal lacerations.[5]	39 weeks reduced the likelihood of operative vaginal.[5]
39 vs 41 weeks[8]	**Non-significant difference:** Perinatal death, NICU admission, hypoxic-ischemic encephalopathy and meconium aspiration syndrome.	**Non-significant difference:** maternal death.	**Non-significant difference:** caesarean, instrumental and operative or unassisted vaginal birth.
39 vs 42 weeks[8, 18]	**Non-significant difference:** NICU admission.	No evidence available.	**Non-significant difference:** caesarean, instrumental and operative or unassisted vaginal birth.
39 vs 40–42 weeks	**Significant decrease (favours 39 weeks):**	**Significant decrease (favours 39 weeks):** less	**Significant decrease (favours 39 weeks):** lower

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)			
Induction timing	**Neonatal outcomes**	**Maternal outcomes**	**Birth outcomes**
(ARRIVE RCT)[2]	shorter duration of respiratory support and total hospital stay. **Non-significant difference:** adverse perinatal composite outcome, perinatal mortality, NICU admission, meconium aspiration syndrome or hypoxic ischaemic encephalopathy.	likely to have hypertensive disorders of pregnancy or extensions of the uterine incision during caesarean birth. The length of postpartum hospital stay was shorter. Women reported less pain and more perceived control during childbirth. **Non-significant difference:** Mortality and morbidity, perineal laceration or postpartum haemorrhage. **Significant decrease (favours 40-42 weeks):** Less time in the labour and birth unit.	frequency of caesarean birth (1 caesarean may be avoided for every 28 births) **Non-significant difference:** instrumental and operative vaginal birth.
39–40 vs 41 weeks[18]	**Non-significant difference:** perinatal mortality.	No evidence available.	**Non-significant difference:** instrumental and operative or unassisted and spontaneous vaginal birth.
39–40 vs 41–42 weeks[9]	**Non-significant difference:** perinatal death, Apgar score <7 at 5 minutes, birthweight or NICU admission.	**Non-significant difference:** blood loss or chorioamnionitis.	**Significant decrease (favours 39-40 weeks):** lower rate of meconium-stained amniotic fluid. **Non-significant difference:** caesarean, spontaneous vaginal or operative vaginal birth.
39–40 vs ≥41 weeks (cohort[6] and observational studies[33, 34] based on RCT)	**Significant decrease (favour 39-40 weeks):** less likely to need respiratory support. **Non-significant difference:** NICU	**Non-significant difference:** second induction method. **Significant increase (favours ≥41 weeks):** twice as likely to	**Non-significant difference:** caesarean.

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)			
Induction timing	**Neonatal outcomes**	**Maternal outcomes**	**Birth outcomes**
	admission and child academic and educational outcome.	breastfeed exclusively at discharge.	
<40 weeks[11]	**Non-significant difference:** perinatal. death, stillbirth or admission to NICU.	**Non-significant difference:** perineal trauma.	**Significant decrease (favour <40 weeks):** probably fewer caesarean sections. **Non-significant difference:** operative vaginal birth.
40 vs 41 weeks (systematic review of RCT[10, 11] and RCT[35])	**Non-significant difference:** perinatal death, stillbirth, NICU admission, birthweight or Apgar score <7 at 5 minutes.	No evidence available.	**Significant increase (favour 40 weeks):** more successful vaginal birth after previous caesarean. **Non-significant difference:** operative vaginal birth. Mixed findings: For caesarean, the reviews found comparable findings, but the RCT found higher rates in the 41 weeks group.
40 vs 42 weeks[8, 18]	**Non-significant difference:** perinatal death or NICU admission.	No evidence available.	**Non-significant difference:** caesarean section or instrumental and operative vaginal birth.
≥41 weeks[11]	**Significant decrease (favours ≥41 weeks):** probably fewer perinatal deaths, stillbirths or NICU admissions.	**Non-significant difference:** perineal trauma.	**Significant decrease (favours ≥41):** probably fewer caesarean sections. **Non-significant difference:** operative vaginal birth.
41+0 vs 41+5 - 42+1 weeks	**Non-significant difference:** adverse	**Significant decrease (favours 41+0):** lower rate of haemorrhage.	**Significant decrease (favours 41+0):** lower rate of

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)			
Induction timing	**Neonatal outcomes**	**Maternal outcomes**	**Birth outcomes**
(RCT)[36]	neonatal outcomes, Apgar <7 at 5 minutes, NICU admissions or birthweight.	**Non-significant difference:** oxytocin use, pain treatment use or intrapartum infection.	operative birth (including vacuum extraction). **Non-significant difference:** caesarean
41 vs 42 weeks (systematic review of RCT[8, 14, 18] and SWEPIS RCT[3])	**Significant decrease (favours 41 weeks):** lower rate of neonatal death, stillbirth, NICU admissions, the occurrence of Apgar <7, macrosomia and jaundice requiring phototherapy or exchange transfusion. **Non-significant difference:** Meconium aspiration syndrome or hypoxic-ischemic encephalopathy. **Mixed finding:** For neonatal composite outcome, a systematic review[14] indicated a reduction with induction at 41 weeks, while the SWEPIS RCT[3] showed no significant difference.	**Significant decrease (favours 41 weeks):** shorter duration of labour, lower rates of hypertensive disorders of pregnancy. **Non-significant difference:** morbidity, postpartum haemorrhage, maternal mortality/morbidity or perineal trauma. **Significant decrease (favour 42 weeks):** lower rate of endometritis or pain treatment use.	**Significant decrease (favours 41 weeks):** lower meconium-stained amniotic fluid. **Non-significant difference:** Instrumental/operative vaginal birth, Unassisted/spontaneous vaginal birth. **Significant decrease (favour 42 weeks):** lower oxytocin use.
41 vs ≥42 weeks[10]	**Significant decrease (favours 41 weeks):** lower odds of NICU admission. **Non-significant difference:** Perinatal death, stillbirth, neonatal death, or Apgar score <7 at 5 minutes.	**Non-significant difference:** postpartum haemorrhage.	**Non-significant difference:** caesarean section or operative and instrumental vaginal birth.

Table 3: Summary of risk and benefits (based on systematic reviews of RCTs unless specified)			
Induction timing	**Neonatal outcomes**	**Maternal outcomes**	**Birth outcomes**
41–42 vs 43–44 weeks[8]	**Non-significant difference:** perinatal death, NICU admission, or meconium aspiration syndrome.	No evidence available.	**Non-significant difference:** caesarean, instrumental and operative or unassisted vaginal birth.
41–42 vs 44 weeks[18]	**Non-significant difference:** perinatal mortality NICU admission.	No evidence available.	**Non-significant difference:** caesarean, instrumental and operative or unassisted and spontaneous vaginal birth.
42 vs 43 weeks[18]	**Non-significant difference:** perinatal mortality, NICU admission or meconium aspiration syndrome.	No evidence available.	**Significant decrease (favours 42 weeks):** lower incidence of caesarean. **Non-significant difference:** instrumental and operative or unassisted and spontaneous vaginal birth.
42 vs ≥43 weeks[10]	**Non-significant difference:** perinatal death, neonatal death or NICU admission.	No evidence available.	**Non-significant difference:** caesarean or operative vaginal birth.

A 2020 systematic scoping review of clinical indications for induction of labour found:[37]

- For post-term pregnancy beyond 41–42 weeks, induction of labour is associated with fewer perinatal deaths and reduced caesarean rates.
- For women with premature rupture of membranes at term, early birth may help reduce maternal and neonatal infections without increasing caesarean rates.
- For women with hypertension or preeclampsia between 38 and 39 weeks, there is little consensus on the best timing of birth. However, some evidence indicates that planned birth within this timeframe may lower risks for both maternal and neonatal health.

Table 4: Guideline comparison: Induction of labour		
Guideline	**Gestational weeks and/or indications**	**Key recommendations**
American College of Obstetricians and Gynecologists', 2025[21]	39+0–41+6 weeks (without a medical indication)	• Counselling on risks/benefits of induction of labour ≥39 weeks compared with expectant management. • Emphasises equitable care.
World Health Organization, 2025[17]	41 weeks (>40+7 weeks)	• Induction of labour is recommended for women who are known with certainty to have reached 41 weeks of gestation (conditional recommendation, low quality evidence).
	Less than 41 weeks (uncomplicated pregnancy)	• Induction of labour is not recommended for women (conditional recommendation against, low quality evidence).
	Before 41 weeks (where gestational diabetes is the only abnormality)	• Induction of labour is not recommended (weak recommendation, very low-quality evidence).
	At term (with suspected foetal macrosomia)	• Induction of labour is not recommended (weak recommendation, low quality evidence).
	At term (with prelabour rupture of membranes)	• Induction of labour is recommended (strong recommendation, high quality evidence).
National Institute for Health and Care Excellence, 2021[18]	41+0 weeks	• The committee recommends that induction at 41+0 weeks be discussed as an option.
	Beyond 41+0 weeks	• Explain to women that some risks associated with a prolonged pregnancy. • The committee noted that discussing the risks of a prolonged pregnancy (beyond 41 weeks) might make women feel pressured into unwanted interventions like induction or caesarean. While the risk of complications increases, the overall risk remains low.

Table 4: Guideline comparison: Induction of labour		
Guideline	**Gestational weeks and/or indications**	**Key recommendations**
	Optimal gestational age	• The committee noted a lack of evidence on the best gestational age for offering induction to higher-risk groups. • The committee agreed that the varying week ranges in the studies made it hard to identify a specific gestational age when the risk of prolonged pregnancy increases.
	Women with a higher body mass index (BMI) or for older women	• Separate recommendations were not made.
Systematic analysis of 49 clinical guidelines, 2020[19]	41 and 42 weeks gestation	• Consistent recommendation for induction of labour between 41-42 weeks.
	≥37 weeks (with pre-eclampsia)	• Consensus on induction for preeclampsia ≥37 weeks.
Society of Obstetricians and Gynaecologists of Canada, 2017[38]	41+0 to 42+0 weeks	• Induction of labour is recommended. • Evidence reveals a decrease in perinatal mortality without increased risk of caesarean section (Grading: I-A).
Queensland clinical guidelines, 2022[39]	To clinicians	• Individualise the timing of birth according to individual clinical circumstances. • Communicate the benefits of waiting until at least 39+0 weeks to women and families.
	Before 39+0 weeks gestation	• Avoid induction of labour unless maternal and/or foetal risks of ongoing pregnancy outweigh the risks of induction and birth.
	41+0 weeks	• Induction of labour is recommended. • Exact timing depends on the specific risk of stillbirth, individual preferences and local circumstances.
	At 39+0–40+0 weeks (for women ≥40 years)	• Offer induction of labour.

Table 4: Guideline comparison: Induction of labour		
Guideline	**Gestational weeks and/or indications**	**Key recommendations**
Victoria Clinical Guidance, 2017[40]	Between 41+0 and 42+0 weeks	• Offer induction of labour.
	At 38-39 weeks (for women with BMI ≥50)	• Birth is recommended.
	At term (with prelabour rupture of membranes-Group B streptococcus (GBS) negative or unknown)	• Induction of labour within 24 hours of confirmed prelabour rupture of membranes.
	At term (with prelabour rupture of membranes-GBS positive, meconium liquor, suspected sepsis)	• Immediate induction of labour.
	Previous caesarean	• Individualise management.

Table 5: Non-medical options for induction of labour			
Intervention	**Comparison**	**Outcome**	**Summary**
Date (fruit or extract)	Routine care	Active phase of labour	Date consumption significantly reduced the duration of the active phase of labour compared with the control group (MD = − 109.3).[23]

Table 5: Non-medical options for induction of labour			
Intervention	**Comparison**	**Outcome**	**Summary**
Systematic review with meta-analysis		1st, 2nd and 3rd stage of labour	No significant difference between groups.[23]
		Adverse event	No side effects have been reported.[23]
Castor Oil *Systematic review with meta-analysis*	No intervention	Bishop score	Castor oil consumption significantly increases the Bishop score compared with the control group.[24]
		Vaginal birth	Castor oil consumption significantly increases the odds ratio of vaginal birth (OR: 11.67).[24]
Primrose oil *Systematic review with meta-analysis*	Placebo	Bishop score	No significant difference between groups.[41]
Acupuncture	Sham acupuncture No acupuncture No prelabour interventions	Spontaneous onset of labour rate	No significant difference compared to sham acupuncture (systematic review).[25] Acupuncture significantly increased the rate of spontaneous labour compared to no acupuncture (systematic review).[25] 65.1% of women in the acupuncture group went into labour or had premature rupture of membranes, compared to 39.6% in the no prelabour interventions group (RCT).[26]
		Time from procedure to birth	No significant difference when compared to sham and no acupuncture (systematic review).[25]
		Time from admission to birth	Women in the acupuncture group were admitted 1.25 days earlier than their scheduled induction, compared to 0.67 days earlier in the no prelabour intervention group (RCT).[26]
		Caesarean birth rate	No significant difference compared to no acupuncture (systematic review)[25] or no prelabour interventions (RCT).[26]

Table 5: Non-medical options for induction of labour			
Intervention	**Comparison**	**Outcome**	**Summary**
Systematic review with meta-analysis and RCT		Cervical ripening	There were no differences in the type of cervical ripening method used or in the proportion of births requiring oxytocin (RCT).[26]
		Maternal or neonatal outcome rates	No group differences (RCT).[26]
		Deaths	No maternal or foetal deaths (RCT). [26]

Table 6: Comparison of ≤38 weeks vs ≥39 weeks	
Outcome	**Summary**
	This comparison was based on 1 systematic review with meta-analysis.[10] Note: Induction before 39 weeks (≤ 38 weeks) is not recommended if the woman and her foetus are healthy, unless there are medical or obstetric reasons for an earlier birth.[39, 42, 43]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death, stillbirth, neonatal death and NICU admission.[10]
Birth	No significant difference between groups for caesarean and operative vaginal.[10]

Table 7: Comparison of 39 weeks vs ≥40 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis of RCTs[10], cohort studies[13] and mixed study types (mostly cohort).[5]
Outcomes with statistical significance	
Neonatal Respiratory morbidity	*Systematic review of cohort studies:* Labour induction at 39 weeks was associated with lower frequencies of respiratory morbidity (0.7 vs 1.5%).[13]
Neonatal Meconium aspiration syndrome	*Systematic review of cohort studies:* Labour induction at 39 weeks was associated with lower frequencies of meconium aspiration syndrome (0.7% vs 3.0%).[13]
Neonatal Macrosomia	*Systematic review of mixed study types:* Labour induction at 39 weeks was associated with a 34% reduced likelihood of macrosomia.[5] • Among multiparous women only, induction of labour at 39 weeks of gestation was associated with a reduced likelihood of macrosomia.[5]
Maternal Peripartum infection	*Systematic review of cohort studies:* Labour induction at 39 weeks was associated with a reduced chance of peripartum infection.[13]
Birth Caesarean	*Systematic review of RCTs and systematic review of cohort studies:* Labour induction at 39 weeks was associated with a significantly lower frequency of caesarean compared to induction at or after 40 weeks.[10, 13]
Outcomes with statistical significance by parity only	
Neonatal Shoulder dystocia	*Systematic review of mixed study types:* There was no difference between groups in the likelihood of shoulder dystocia.[5] • Among multiparous women only, there were no significant differences between groups.[5] • Among nulliparous women only, labour induction at 39 weeks of gestation was associated with an increased likelihood of shoulder dystocia.[5]

Table 7: Comparison of 39 weeks vs ≥40 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis of RCTs[10], cohort studies[13] and mixed study types (mostly cohort).[5]
Birth Emergency caesarean	*Systematic review of mixed study types:* Nonsignificant reductions in the emergency caesarean section were observed.[5] • Among multiparous and nulliparous women, induction of labour at 39 weeks of gestation was associated with a reduced likelihood of emergency caesarean section.[5]
Outcomes with mixed findings	
Neonatal NICU admission	*Systematic review of cohort studies:* Labour induction at 39 weeks was associated with lower frequencies of neonatal intensive care unit admission (3.5% vs 5.5%).[13] *Systematic review of RCTs[10] and systematic review of mixed study types[5]:* No significant difference between groups for NICU admission. • Among multiparous women only, there were no significant differences between groups.[5] • Among nulliparous women only, induction of labour at 39 weeks of gestation was associated with a decreased likelihood of NICU admission.[5]
Neonatal Perinatal death	*Systematic review of RCTs:* No significant difference between groups for perinatal death.[10] *Systematic review of cohort studies:* Labour induction at 39 weeks was associated with lower frequencies of perinatal mortality (0.04% vs 0.2%).[13]
Neonatal Apgar score <7 in 5 mins	*Systematic review of RCTs:* No significant difference between groups for Apgar score <7 in 5 mins.[10] *Systematic review of mixed study types:* Labour induction at 39 weeks was associated with a 38% reduced likelihood of a low 5-minute Apgar score.[5] Among multiparous women only, there were no significant differences between groups.[5]
Maternal Third- or fourth-degree perineal injury	*Systematic review of cohort studies:* The risks of perineal laceration were similar between groups.[13]

Table 7: Comparison of 39 weeks vs ≥40 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis of RCTs[10], cohort studies[13] and mixed study types (mostly cohort).[5]
	Systematic review of mixed study types: Labour induction at 39 weeks of gestation was associated with a 37% reduced likelihood of perineal injury.[5] • Among multiparous women only, induction of labour at 39 weeks of gestation was associated with a reduced likelihood of third- or fourth-degree perineal injury.[5] • Among nulliparous women only, there were no significant differences between groups.[5]
Birth Operative vaginal	*Systematic review of RCTs:* No significant difference between groups for operative vaginal birth.[10] *Systematic review of mixed study types:* Induction of labour at 39 weeks was associated with a reduced likelihood of operative vaginal birth.[5] • Among multiparous and nulliparous women, there were no significant differences between groups.[5]
Outcomes with no statistical significance	
Neonatal	*Systematic review of RCTs:* No significant difference between groups for stillbirth and neonatal death.[10] *Systematic review of cohort studies:* No significant difference between groups in the frequency of hyperbilirubinemia.[13]
Maternal	*All systematic reviews:* No significant difference between groups for postpartum haemorrhage.[5, 10, 13] • Among multiparous and nulliparous women, there was no difference between groups in the likelihood of postpartum haemorrhage.[5]

Table 8: Comparison of 39 weeks vs 41 weeks	
Outcome	**Summary** **This comparison was based on 1 systematic review with meta-analysis.**[8]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death (low certainty evidence), NICU admission (low certainty evidence), hypoxic-ischemic encephalopathy (very low certainty evidence), or meconium aspiration syndrome (low certainty evidence).
Maternal	No significant difference between groups for maternal death (low certainty evidence).
Birth	No significant difference between groups for caesarean (low certainty evidence), instrumental/operative vaginal birth (very low certainty evidence), or unassisted vaginal birth (moderate certainty evidence).

Table 9: Comparison of 39 weeks vs 42 weeks	
Outcome	**Summary** **This comparison was based on 2 systematic reviews with meta-analysis.**[8, 18]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for NICU admission (very low certainty evidence).
Birth	No significant difference between groups for caesarean (very low certainty evidence), instrumental/operative vaginal birth (very low certainty evidence), or unassisted/spontaneous vaginal birth (moderate certainty evidence).

Table 10: Comparison of 39 weeks vs 40-42 weeks [ARRIVE TRIAL]	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis (based on 1 RCT: the ARRIVE trial)[18], the ARRIVE RCT[2] and secondary analysis of the ARRIVE RCT.[44]
Outcomes with statistical significance	
Birth Caesarean	Lower incidence of caesarean in the 39 week induction group compared to 40–42 week induction group (low quality evidence).[18] When factors like race, maternal age, BMI, or the modified Bishop score were considered, there was no difference in caesarean rates between the groups.[2] In the secondary analysis, the risk of caesarean birth increased as gestational age progressed.[44] • At 39 weeks, 17.3% of births were caesareans; this rose to 22.0% at 40 weeks and 37.5% at 41–42 weeks.[44] • After adjusting for other factors, the risk of caesarean was significantly higher for women birthing at 41–42 weeks compared to those birthing at 39 weeks.[44] • Among nulliparous women, the risk of caesarean increased with each additional week of gestation. After adjustment, the risk was 25% higher for births at 40–40+6 weeks and 93% higher for births at 41–42 weeks compared to those at 39–39+6 weeks.[44]
Neonatal Adverse perinatal composite outcome	In the secondary analysis, the rate of adverse perinatal outcomes (a combination of negative health events for the baby) increased with gestational age: 5.1% at 39 weeks, 5.9% at 40 weeks, and 8.2% at 41–42 weeks.[44] • However, overall, inducing labour at 39 weeks did not significantly reduce the occurrence of adverse perinatal outcomes.[2] • After adjusting for other factors, when comparing births at 40–40+6 weeks and 41–42 weeks to those at 39-39+6 weeks, there was no significant increase in the risk of the adverse perinatal composite outcome.[44] • For nulliparous women expectantly managed beyond 39 weeks, the risk of adverse outcomes increased as gestational age progressed. After adjustment, the risk of the composite perinatal outcome was 56% higher for those birthing at 41–42 weeks, but this was not statistically significant.[44]
Neonatal Respiratory support	Neonates in the induction group at 39 weeks had a shorter duration of respiratory support.[2]
Neonatal Hospital stay	Neonates in the induction group at 39 weeks had a shorter duration of total hospital stay.[2]

Table 10: Comparison of 39 weeks vs 40-42 weeks [ARRIVE TRIAL]	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis (based on 1 RCT: the ARRIVE trial)[18], the ARRIVE RCT[2] and secondary analysis of the ARRIVE RCT.[44]
Maternal Hypertensive disorders	Women who were assigned to induction of labour at 39 weeks were significantly less likely to develop hypertensive disorders of pregnancy compared to those who were managed expectantly (9.1% vs 14.1%).[2] In the secondary analysis, the frequency of hypertensive disorders of pregnancy decreased as gestational age increased: 16.4% at 39 weeks, 12.1% at 40 weeks and 10.8% at 41–42 weeks.[44] • After adjusting for other factors, when comparing births at 40–40 6/7 weeks and 41–42 weeks to those at 39–39 6/7 weeks, there was a significant decrease in the risk of hypertensive disorders of pregnancy at both 40–40 6/7 weeks and 41–42 weeks.[44]
Maternal Uterine incision	Women assigned to induction of labour at 39 weeks were also significantly less likely than women assigned to expectant management to have extensions of the uterine incision during caesarean birth.[2]
Maternal Pain	Women in the induction of labour at 39 weeks reported less pain (on the 10-point Likert scale).[2]
Maternal Labour agentry	Women in the induction of labour at 39 weeks reported more perceived control during childbirth.[2]
Maternal Time in labour and birth unit	Women in the induction of labour at 39 weeks spent more time in birthing unit.[2]
Maternal Hospital stay	Women in the induction of labour at 39 weeks length of postpartum hospital stay was shorter.[2]
Outcomes with no statistical significance	
Neonatal	No clinically important difference between groups for perinatal mortality (stillbirth and neonatal, low-quality evidence), NICU admission (low-quality evidence), meconium aspiration syndrome (moderate-quality evidence), or hypoxic ischaemic encephalopathy (low-quality evidence).[18] Other non-significant outcomes in the ARRIVE trial included adverse perinatal composite outcome, Apgar score ≤3 at 5 min, seizure, infection, birth trauma, intracranial or subgaleal haemorrhage and hypotension, transfusion, hyperbilirubinemia, hypoglycaemia, cephalohematoma and shoulder dystocia.[2] There were no differences in primary perinatal outcomes based on race, ethnicity, maternal age, BMI, or Bishop score.[2]

Table 10: Comparison of 39 weeks vs 40-42 weeks [ARRIVE TRIAL]	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis (based on 1 RCT: the ARRIVE trial)[18], the ARRIVE RCT[2] and secondary analysis of the ARRIVE RCT.[44]
	In the secondary analysis, no significant changes were found in the frequency of maternal adverse composite outcomes, placental abruption, peripartum infection or NICU admission based on gestational age.[44]
Maternal	No clinically important difference between groups for mortality and morbidity (death and uterine rupture) (high-quality evidence).[18] Other non-significant outcomes in the ARRIVE trial included chorioamnionitis, third-degree or fourth-degree perineal laceration, postpartum haemorrhage, postpartum infection, admission to ICU, venous thromboembolism and breastfeeding status at 4–8 weeks after birth.[2] In the secondary analysis, no significant changes were found in the frequency of maternal adverse composite outcomes, placental abruption, peripartum infection or NICU admission based on gestational age.[44]
Birth	No clinically important difference between groups for instrumental and operative vaginal birth (low quality evidence).[18]

Table 11: Comparison of 39-40 weeks vs 41weeks	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis.[18]
Outcomes with no statistical significance	
Neonatal	No clinically important difference between groups for perinatal mortality (stillbirth and neonatal, low-quality evidence).
Birth	No clinically important difference between groups for instrumental and operative vaginal birth or unassisted and spontaneous vaginal birth (low quality evidence).

Table 12: Comparison of 39–40 weeks vs 41–42 weeks	
Outcome	**Summary** This comparison was based on 1 systematic review with meta-analysis.[9]
Outcomes with statistical significance	
Neonatal Birthweight (g)	Induction at 39–40 weeks was associated with a significantly lower mean birthweight (mean difference of −98.96 g is probably not clinically significant).
Birth Meconium-stained amniotic fluid	Induction at 39–40 weeks was associated with a significantly lower rate of meconium-stained amniotic fluid.
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death, Apgar score <7 at 5 minutes, or NICU admission.
Maternal	No significant difference between groups for blood loss or chorioamnionitis.
Birth	No significant difference between groups for caesarean, spontaneous vaginal or operative vaginal birth.

Table 13: Comparison of 39-40 weeks vs ≥41 weeks	
Outcome	**Summary** This comparison was based on 1 cohort study as part of the OBLIGE RCT[6] and 2 observational studies (for academic and /educational outcome only).[33, 34]
Outcomes with statistical significance	
Neonatal Need for respiratory support	Babies born following late-term induction of labour (≥41 weeks) were more than twice as likely to need respiratory support compared induction of labour at 39–40 weeks.[6]
Maternal Breastfeeding	Women in the late-term group (≥41 weeks) were twice as likely to breastfeed exclusively at discharge than women in the 39–40 week group.[6]
Outcomes with no statistical significance	
Neonatal	No significant difference in the risk of NICU admission.[6]
Child (8 years old) Academic and educational	Induction of labour at 39 weeks[34] or 39-40 weeks[33] did not affect third-grade math, reading, spelling, writing, or grammar scores compared to expectant management beyond those gestational ages.
Maternal	No significant difference in the use of a second induction method.[6]
Birth	No significant difference in the risk of caesarean section or birth within 24 hours after the start of induction of labour.[6]

Table 14: Comparison <40 weeks	
Outcome	**Summary** This comparison was based on 1 Cochrane review.[11]
Outcomes with statistical significance	
Birth Caesarean section	There were probably fewer caesarean sections in induction of labour at <40 weeks compared with expectant management.
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death, stillbirth or admission to NICU.
Maternal	No significant difference between groups for perineal trauma.
Birth	No significant difference between groups for operative vaginal birth.

Table 15: Comparison of 40 vs 41 weeks	
Outcome	**Summary** This comparison was based on 2 systematic reviews with meta-analysis[10, 11] and 1 RCT.[10, 11, 35]
Outcomes with statistical significance	
Neonatal Birthweight	The RCT found that birth weight was higher by 270 g in the expectant group (41 weeks). This difference was statistically significant but not clinically significant.[35]
Birth Vaginal birth after caesarean	The RCT found that in uncomplicated pregnancies with a previous caesarean birth, induction of labour at 40 weeks resulted in significantly more successful vaginal births than expectant management until 41 weeks.[35]
Birth Caesarean section	The RCT found that the caesarean section rate was significantly higher in the expectant group (41 weeks) compared to the induction group.[35] Although, reviews found no difference between groups for caesarean section.[10, 11]
Outcomes with no statistical significance	
Neonatal	The systematic reviews found no significant difference between groups for perinatal death, stillbirth, NICU admission or Apgar score <7 at 5 minutes.[10, 11]
Birth	The systematic reviews found no significant difference between groups for caesarean section or operative vaginal birth.[10, 11] The RCT found no significant difference between groups with abnormal foetal heart rate patterns and meconium-stained liquor and the duration of oxytocin infusion.[35]

Table 16: Comparison of 40 vs 42 weeks	
Outcome	**Summary** This comparison was based on 2 systematic reviews with meta-analysis.[8, 18]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death (low certainty evidence) or NICU admission (very low certainty evidence).
Birth	No significant difference between groups for caesarean section (very low certainty evidence) or instrumental and operative vaginal birth (very low certainty evidence).

Table 17: Comparison ≥41 weeks	
Outcome	**Summary** This comparison was based on 1 Cochrane review.[11]
Outcomes with statistical significance	
Neonatal Perinatal death	There were probably fewer perinatal deaths in the policy of induction (≥41 weeks) compared with expectant management.
Neonatal Stillbirth	There were probably fewer stillbirths in the policy of induction (≥41 weeks) compared with expectant management.
Neonatal NICU admission	There were probably fewer admissions to NICU in the policy of induction (≥41 weeks) compared with expectant management.
Birth Caesarean section	There were probably fewer caesarean sections in the policy of induction (≥41 weeks) compared with expectant management.
Outcomes with no statistical significance	
Maternal	No significant difference between groups for perineal trauma.
Birth	No significant difference between groups for operative vaginal birth.

Table 18: Comparison 41+0 vs 41+5 - 42+1 weeks	
Outcome	**Summary** This comparison was based on 1 RCT.[36]
Outcomes with statistical significance	
Maternal Haemorrhage	The rate of haemorrhage ≥1000 mL was also lower in the early induction group compared with the expectant management group.
Birth Operative birth	The rate of operative birth was lower in the early induction group compared with the expectant management group (30.6% vs 45.6%).
Birth Operative birth by vacuum extraction	The rate of operative birth by vacuum extraction was lower in the early induction group compared with the expectant management group (16.8% vs 28.4%).
Birth Spontaneous vaginal birth	The rates of spontaneous vaginal birth were lower in the expectant management group.
Outcomes with no statistical significance	
Neonatal	The rates were not statistically different between the groups for adverse neonatal outcomes, Apgar <7 at 5 minutes, umbilical artery pH ≤7.05, umbilical artery BE ≤−12.0, NICU admission or neonatal weight (g).
Maternal	The rates were not statistically different between the groups for oxytocin use in labour induction or augmentation, epidural or spinal analgesia, haemorrhage ≥1000 mL in vaginal birth, haemorrhage ≥1000 mL in caesarean section, manual removal of a retained placenta, anal sphincter injury or intrapartum infection.
Birth	The caesarean rate was 16.7% in the early induction group and 24.1% in the expectant management group, with no statistically significant difference between the groups.

Table 19: Comparison of 41 vs 42 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis[8, 14, 18], SWEPIS randomised control trial[3] and a cohort study based on data from the INDEX randomised control trial.[45]
Outcomes with statistical significance	
Neonatal Death and mortality	*All three systematic reviews and the SWEPIS trial:* Induction of labour at 41 weeks had a significantly lower rate of neonatal death in the induction of labour group, with a clinically important difference favouring earlier induction (moderate certainty evidence).[3, 8, 14, 18] • In multiparous women, the rates were 0.1% for both groups.[14] • In nulliparous women, perinatal mortality was 0% in the induction group compared to 0.9% in the expectant management group.[14]
Neonatal NICU admission	*All three systematic reviews and the SWEPIS trial:* Induction of labour at 41 weeks had significantly lower NICU admission rates with a clinically important difference (low certainty evidence).[3, 8, 14, 18]
Neonatal Composite Apgar score <7 at 5 min	*A systematic review and the SWEPIS RCT:* Induction of labour at 41 weeks has significantly less occurrence of Apgar <7.[3, 14]
Neonatal Macrosomia	*A systematic review and the SWEPIS RCT:* Induction of labour at 41 weeks had significantly fewer neonates with macrosomia (≥4,500 g) (3.9%) compared to the expectant management group (6.7%).[3, 14]
Neonatal Jaundice	*The SWEPIS RCT:* Induction of labour at 41 weeks had a reduction in the number of neonates with jaundice requiring phototherapy or exchange transfusion in the induction group (1.2%) compared to the expectant management group (2.3%).[3]
Neonatal Stillbirth	*A systematic review and the SWEPIS RCT:* Induction of labour at 41 weeks had significantly lower stillbirths in the induction of labour group.[3, 14]
Birth Oxytocin use	*A systematic review*: Induction of labour at 41 weeks had significantly higher use of oxytocin (63.1%) compared to the expectant management group (47.2%).[14] • Oxytocin was used more frequently in nulliparous women (76% in the induction group vs 65% in the expectant management group), while in multiparous women, the rates were 49% in the induction group vs 26% in the expectant management group.[14]
Birth Meconium-stained amniotic fluid	*A systematic review:* Induction of labour at 41 weeks had significantly lower meconium-stained amniotic fluid (17.8%) compared to the expectant management group (25.9%).[14]

Table 19: Comparison of 41 vs 42 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis[8, 14, 18], SWEPIS randomised control trial[3] and a cohort study based on data from the INDEX randomised control trial.[45]
Maternal Endometritis	*The SWEPIS RCT:* Endometritis occurred in 1.3% of women in the induction group, compared to 0.4% in the expectant management group.[3]
Maternal Duration of labour	*The SWEPIS RCT:* The median duration of labour was shorter in the induction group (5.7 hours, interquartile range 2.9–10.3 hours) compared to the expectant management group (6.9 hours, 3.8–11.5 hours).[3]
Maternal Pain treatment	*A systematic review and the SWEPIS RCT:* Pain treatment (epidural and spinal or opiates) was significantly higher in the induction of labour group at 41 weeks compared to the expectant management group.[3, 14]
Maternal Hypertension	Hypertensive disorders of pregnancy were lower in the induction of the labour group at 41 weeks compared to the expectant management group.[3, 14]
Cost-effectiveness	Induction of labour at 41 weeks of gestation is cost-effective compared with expectant management until 42 weeks of gestation.[15]
Outcomes with no statistical significance	
Neonatal	*Systematic review evidence:* There were no statistical differences between the groups for congenital anomalies and small for gestational age.[14] *Systematic and SWEPIS RCT:* There were no statistical differences between the groups for neonatal infection or sepsis, mechanical ventilation, Apgar score <7 at 5 minutes of live births and Apgar score <4 at 5 minutes of live births.[3, 14] Meconium aspiration syndrome showed no significant difference between the groups (very low quality evidence) Meconium aspiration syndrome showed no significant difference between the groups (very low quality evidence)[3, 8, 14] and no clinically important differences were found (low quality evidence).[18] Hypoxic-ischemic encephalopathy showed no clinically important difference between groups (very low quality evidence) Hypoxic-ischemic encephalopathy showed no clinically important difference between groups (very low quality evidence)[3, 18] *SWEPIS RCT:* There were no statistical differences between the groups for morbidity, obstetric brachial plexus injury, neonatal convulsions, hypoglycaemia, intracranial haemorrhage, shoulder dystocia, therapeutic hypothermia, metabolic acidosis and pneumonia.[3]
Birth	*Systematic review evidence:* Instrumental and operative vaginal birth showed no statistically (low quality evidence)[8, 14] or clinically important difference (moderate quality evidence)[18] between groups. Unassisted and spontaneous vaginal birth

Table 19: Comparison of 41 vs 42 weeks	
Outcome	**Summary** This comparison was based on 3 systematic reviews with meta-analysis[8, 14, 18], SWEPIS randomised control trial[3] and a cohort study based on data from the INDEX randomised control trial.[45]
	showed no statistically or clinically important differences between groups (moderate quality evidence).[8, 14, 18]
Maternal	*Systematic review evidence:* The rates were not statistically different between the groups for retained placenta, episiotomy, antibiotics during labour, fever during labour, morbidity (low certainty evidence), postpartum haemorrhage, maternal mortality and morbidity (death and uterine rupture)[8, 14, 18] *Systematic and SWEPIS RCT:* Rates were not statistically different between the groups for admission to ICU, venous thromboembolism or perineal trauma.[3, 18] *SWEPIS RCT:* The rates were not statistically different between the groups for urinary tract infection, including pyelonephritis, wound infection, chorioamnionitis or cervical tear.[3] *Cohort study part of INDEX trial:* Adverse maternal outcomes were comparable between the groups.[45]
Outcomes with inconsistent findings	
Birth Caesarean section	*Systematic reviews, SWEPIS RCT and cohort study part of the INDEX:* No significant or clinically important difference between groups (moderate certainty evidence).[3, 8, 14, 18, 45] • Systematic review also found no significant difference in the treatment effect on caesarean birth according to parity, maternal age or BMI.[14] • However, in the cohort study the caesarean section rate in nulliparous women was lower in the expectant group.[45]
Neonatal Composite: severe adverse perinatal outcomes (mortality and severe neonatal morbidity)	*A systematic review:* Induction at 41 weeks significantly reduced the neonatal composite outcome.[14] • The reduction in adverse composite outcomes was significant for nulliparous women, but not for multiparous women.[14] • No significant differences in the treatment effect based on age (<35 years vs ≥35 years) or BMI (<30 vs ≥30) *SWEPIS RCT:* No significant difference in the primary composite adverse perinatal outcome, regardless of parity, age or BMI. *Cohort study part of the INDEX trial:* No significant difference in the primary composite adverse perinatal outcome. Among low-risk women with late-term pregnancies, the risk of adverse outcomes was 1.1% for induction and 1.9% for expectant management. Severe adverse outcomes were 0.3% for induction vs 1.0% for expectant management, but these differences were not statistically significant.[45]

Table 20: Comparison of 41 weeks vs ≥42 weeks	
Outcome	**Summary** This comparison was based on 1 systematic review with meta-analysis.[10]
Outcomes with statistical significance	
Neonatal NICU admission	The odds of admission to NICU were lower with induction of labour at 41 weeks gestation compared to induction at or after 42 weeks gestation.
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death, stillbirth, neonatal death or Apgar score <7 at 5 minutes.
Maternal	No significant difference between groups for postpartum haemorrhage.
Birth	No significant difference between groups for caesarean section or operative and instrumental vaginal birth.

Table 21: Comparison of 41–42 weeks versus 43–44 weeks	
Outcome	**Summary** This comparison was based on 1 systematic review with meta-analysis.[8]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death (low certainty evidence), NICU admission (very low certainty evidence), or meconium aspiration syndrome (aspiration pneumonia) (very low certainty evidence).
Birth	No significant difference between groups for caesarean birth (low certainty evidence), instrumental and operative vaginal birth (very low certainty evidence), or unassisted vaginal birth (very low certainty evidence).

Table 22: Comparison of 41–42 weeks vs 44 weeks	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis.[18]
Outcomes with no statistical significance	
Neonatal	No clinically important difference between groups for perinatal mortality (stillbirth and neonatal, low quality evidence) or NICU admission (very low quality evidence).
Birth	No clinically important difference between groups for caesarean birth (very low quality evidence), instrumental and operative vaginal birth (very low quality evidence), or unassisted and spontaneous vaginal birth (very low quality evidence).

Table 23: Comparison of 42 weeks versus 43 weeks	
Outcome	**Summary** This comparison was based on the NICE evidence review with meta-analysis.[18]
Outcomes with statistical significance	
Birth Caesarean	Lower incidence in the 42 week induction group compared to 43 weeks induction group (low quality evidence).
Outcomes with no statistical significance	
Neonatal	No clinically important difference between groups for perinatal mortality (stillbirth and neonatal, low quality evidence), NICU admission (very low quality evidence) or meconium aspiration syndrome (low quality evidence).
Birth	No clinically important difference between groups for instrumental and operative vaginal birth (very low quality evidence) or unassisted and spontaneous vaginal birth (very low quality evidence).

Table 24: Comparison of 42 weeks versus ≥43 weeks	
Outcome	**Summary** This comparison was based on 1 systematic review with meta-analysis.[10]
Outcomes with no statistical significance	
Neonatal	No significant difference between groups for perinatal death, neonatal death or NICU admission.
Birth	No significant difference between groups for caesarean birth or operative vaginal birth.

Experiences of women undergoing induction of labour for post-date pregnancies

- The NICE evidence review comparing induction at 39 weeks versus 40–42 weeks found:[18]
  - Maternal satisfaction (experience of birth) favoured earlier induction.
    - The 39-week group had a median 4-point higher score 6 to 96 hours after birth and a 2-point higher score 4 to 8 weeks post-birth (measured by the Labor Agentry Scale).
  - Maternal satisfaction (experience of care) showed no clinically important difference in feelings of perceived control in childbirth.
- The SWEPIS trial, comparing induction at 41 weeks with expectant management until 42 weeks, found:[28]
  - Overall childbirth experiences (measured by the Childbirth Experience Questionnaire version 2) showed no significant differences, including the subscales for safety, support, and satisfaction, except for a slight increase in perceived participation in the induced group.
  - No significant difference was found on the Visual Analog Scale, with both groups reporting positive childbirth experiences.

Table 25: Women's qualitative experiences of post-term induction of labour			
Theme	**SWEPIS study[29]**	**Systematic review (2019)[30]**	**Systematic review (2018)[31]**
Change in expectations *Women feel their birth experience changed from their original hopes.*	• Labour becomes another journey. • Planning for something that can't be planned (spontaneous birth). • A feeling of missing out on a natural birth.	• Giving up hope for spontaneous labour. • Adjusting to scheduled birth.	• Women's expectations often changed when induction was required, which could be confronting. • Some women challenged routine interventions or tried self-help methods to avoid medical induction, but these did not always work.

Table 25: Women's qualitative experiences of post-term induction of labour			
Theme	**SWEPIS study[29]**	**Systematic review (2019)[30]**	**Systematic review (2018)[31]**
Feeling less control *Women feel they have less control over their birth experience.*	• Long waits and interruptions impacted their sense of autonomy and control over the birth experience. • Feeling unheard or not listened to. • The medicalisation of childbirth led to women deferring control to the staff.	• Induction felt like a non-decision experience. • Feeling the decision is made by doctors • Women felt they were fitting into hospital routines. • There was little or no opportunity for discussion, and compliance was assumed.	• Feeling pressured by doctors, midwives or family (including partners). • Many felt they had a lack of choice in the process.
How decisions are made *Outside factors heavily influence the decision to have an induction*	N/A	• Feeling it is a doctor's decision or based on protocol.	• The information women received from doctors, midwives, family and the internet influenced their preparedness for induction. • Influences from medical staff, family and perceptions of risk impacted women's decision-making about induction.
Emotional impact *Induction of labour brings strong emotions.*	• Relief from having a clear plan and final due date for the end of pregnancy. • A sense of loss, as women wished for a natural birth and wondered about spontaneous labour, despite the induction.	• Some women feel relief, reducing anxiety and gaining a sense of control. • Others experience strong negative emotions, such as disappointment, resignation, and passivity. • Some felt their body had failed, while others reported feelings of helplessness.	• Women expressed strong emotions towards induction of labour, including fear of medical interventions and the unknown, but also a desire for a healthy baby and relief from physical discomfort.
Hospital Experience *The hospital environment and staff interactions are important*	• The early stages of induction could have been more comfortable if done at home.	• Feeling forced to follow a set process. • Induction felt like a sequence of steps, with each step taken if the previous one	• Treatment by midwives and doctors, partner involvement, and decision-making influence women's induction experiences.

Table 25: Women's qualitative experiences of post-term induction of labour			
Theme	**SWEPIS study[29]**	**Systematic review (2019)[30]**	**Systematic review (2018)[31]**
	• Feeling like a guest in the labour ward • Feeling ignored, rushed and interrupted. • The prioritisation of those in active labour left others feeling neglected.	didn't work within a set time. • Some women felt neglected during prolonged induction due to prioritisation of other cases. • Staff changes during prolonged induction or labour disrupted the continuity of care for some women.	• Positive experiences were linked to supportive health professionals; many women felt they had little choice. • Key factors: staff treatment, partner involvement and lasting effects on health and relationships.
'Time is up' feeling *Women feel there's a deadline for natural birth.*	N/A	• Implied by losing hope for spontaneous labour.	• Women's sense of 'time to be up' varied: some saw it as defined by hospital policy, while others felt it was simply due to exhaustion from pregnancy.

Appendix

Methods

CIU Evidence Checks are not intended to be exhaustive systematic reviews (multiple databases, formal critical appraisal, etc.) but instead rapid, responsive evidence summaries:[46]

- Search terms for PubMed developed by evidence team and checked by clinical network
- Restricting included literature to the highest levels of evidence available for a particular topic
- Single reviewer screening and data extraction, with consultation in case of any uncertainty
- Review of evidence check by: 2x evidence team reviews, ACI clinical network, clinical expert advisory group, 2x external peer reviewers
- Data extraction was completed in a separate Excel file which is available upon request

CIU evidence checks include searching for literature specific to Aboriginal and Torres Strait Islander people to highlight any relevant literature or gaps in the literature as one means to work towards reducing the gap between Aboriginal and non-Aboriginal people.

PubMed search terms

((("post-date"[Title/Abstract] OR "postdate"[Title/Abstract] OR "post-term"[Title/Abstract] OR "postterm"[Title/Abstract] OR "late term"[Title/Abstract] OR "beyond term"[Title/Abstract] OR "41 weeks"[Title/Abstract] OR "42 weeks"[Title/Abstract] OR "prolonged"[Title]) AND ("pregnancy"[Title/Abstract] OR "pregnancies"[Title/Abstract])) OR "pregnancy, prolonged"[MeSH Terms])

Filters applied: 5 years, Humans, English

735 hits identified on 7 March 2025

Aboriginal health lens search terms

((("post-date"[Title/Abstract] OR "postdate"[Title/Abstract] OR "post-term"[Title/Abstract] OR "postterm"[Title/Abstract] OR "late term"[Title/Abstract] OR "beyond term"[Title/Abstract] OR "41 weeks"[Title/Abstract] OR "42 weeks"[Title/Abstract] OR "prolonged"[Title]) AND ("pregnancy"[Title/Abstract] OR "pregnancies"[Title/Abstract])) OR "pregnancy, prolonged"[MeSH Terms]) AND ("indigenous"[Title/Abstract] OR "aboriginal"[Title/Abstract] OR "first nation*"[Title/Abstract] OR "native*"[Title/Abstract])

Filters applied: 5 years, Humans, English

7 hits on 5 August 2025

Google search terms

- Q1 and 2: late term, post term, post dates, prolonged, pregnancy, management
- Q3: late term, post term, post dates, prolonged, pregnancy, qualitative, experiences

Inclusion and exclusion criteria

Inclusion	Exclusion
• Published in English • Published since 2020 (Q1 and Q2) • Published since 2018 (Q3 – expanded search date due to lack of relevant systematic reviews) • **P**opulation: Singleton pregnancies from 39+0 weeks gestation and beyond • **I**ntervention: Induction of labour (focus on timing of induction) • **C**omparison: different time points for induction of labour • **O**utcomes: Any maternal and neonatal outcomes as reported • **S**tudy types – Review studies with systematic search strategy and methods – Randomised clinical trials – Grey literature such as guidelines and consensus statements	• Published prior to 2020 • Studies that do not meet **PICOS** criteria • **S**tudy types – Purely qualitative evaluations – Letters, comments, editorials, study protocols, conference abstracts – Before and after studies, time series studies with or without a comparison group – Retrospective chart review studies – Interventional and evaluative studies presenting quantitative data – Non-randomised clinical trials – Evaluative studies with quantitative or qualitative assessment of outcomes with or without a comparison group

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