

The Bottom Line: When is Induction Appropriate?



When a pregnancy is considered healthy and low-risk, when is the best time for a baby to be born? Although experts define pregnancies lasting between 37 and 42 weeks as “term” and as “normal,” some healthcare providers and organizations recommend routine induction for healthy pregnancies at 39, 40, or 41 weeks. [The American College of Obstetricians and Gynecologists \(ACOG\)](#) states that it is reasonable to offer elective induction at 39 weeks to healthy, full-term women¹, while the [World Health Organization](#) discourages routine induction until (and at) 41 weeks². [The Society of Obstetricians and Gynaecologists of Canada \(SOGC\)](#) recommends routine induction for healthy pregnancies sometime between 41 and 42 weeks.³

New research published in 2019 in the Netherlands and in Sweden supports routine induction at 41 weeks, while a new study from Denmark does not. Researchers in the 2019 Dutch study found a small significant decrease in adverse perinatal outcomes when women were induced at 41 weeks as compared to 42 weeks, although the chances of a good perinatal outcome were high with both strategies.⁴ The 2019 Swedish study was stopped early because of 6 perinatal deaths in the expectant management (waiting for labor to begin on its own) and induction at 42 weeks group as compared to no deaths in the induction at 41 weeks group. However, no perinatal deaths occurred in women who had routine ultrasound and measurement of amniotic fluid at 41 weeks; all the deaths occurred in pregnancies with no such fetal surveillance.⁵

In Denmark, prior to 2011, routine induction for post-dates was not done until a pregnancy reached 42 weeks. In a 2019 Danish study, researchers compared maternal and fetal outcomes before a new policy of routine induction at 41 weeks was adopted with outcomes after the policy was adopted. They found no difference in stillbirths, perinatal deaths, or low Apgar scores between the two periods. Significantly more women were induced after the new policy was adopted.⁶ It is important to note that there are some risks associated with induction as well as with waiting for labor to begin on its own:

“There is a lack of consensus on how to handle pregnancies beyond term [the due date], as both post-term pregnancy and induction of labor may independently be associated with adverse consequences.”⁶

A healthy woman whose pregnancy has extended past her due date should make an informed decision about induction at 41 weeks or expectant management with induction no later than at 42 weeks. This decision should be based on any risk factors she may have, the availability of fetal surveillance at 41 weeks, and on whether she is planning for a physiologic birth with no or few interventions or whether she is accepting of the medical interventions that go along with induction. A policy of waiting until 42 weeks will allow most healthy women to go into labor spontaneously since it is estimated that only 10% of pregnancies naturally go past 42 weeks (294 days)⁷.

Let’s take a look at the current evidence about routine induction of labor as compared to expectant management.

WHAT RECENT EVIDENCE SAYS

[Cochrane Library, 2018](#)

(considered the “gold standard” for research)

Researchers looked at evidence mostly of moderate quality. “The trials compared a policy to induce labor at or later than term (**usually after 41 completed weeks of gestation [>287 days]**) with waiting for labour to start and/or waiting for a period before inducing labour.”

They found, “A policy of labour induction at or beyond term compared with expectant management is associated with fewer perinatal deaths and fewer cesarean sections; but more operative vaginal births. NICU admissions were lower and fewer babies had low Apgar scores with induction. No important differences were seen for most of the other maternal and infant outcomes.... The optimal timing of offering induction of labour to women at or beyond term warrants further investigation...”⁸

[BMJ Open, SWEdish Post-Term Induction Study, SWEPIS, 2019](#)

Swedish RCT (*randomized controlled trial*) of 2760 women with low-risk uncomplicated singleton pregnancies randomized to routine induction at 41 weeks or to expectant management and routine induction at 42 weeks. The study was stopped early because of a significantly higher rate of perinatal mortality in the expectant management group (6 deaths versus none in the induction at 41 weeks group). There was no difference between groups in the cesarean section rate.

- There was 3 days difference in the mean gestational age between the two groups (289 versus 292 days.)
- There were no stillbirths or neonatal deaths among multiparous women in either group.
- There were no stillbirths or neonatal deaths in the women in the Stockholm clinics who had a routine ultrasound at 41 weeks, including measurement of amniotic fluid. Other women in the study did not have any fetal surveillance at 41 weeks.
- One stillborn infant had a cardiovascular malformation not considered to be lethal; another stillbirth was SGA.
- The occurrence of endometritis was significantly higher in the induction group.

WHAT RECENT EVIDENCE SAYS

BMJ, INDuction of labour at 41 weeks, with a policy of EXpectant management until 42 weeks, INDEX, 2019

Dutch RCT of 1801 low risk women with uncomplicated singleton pregnancies randomized to induction at 41 weeks or expectant management and induction (if needed) at 42 weeks. Researchers found a significant increase in the risk for adverse perinatal outcomes in the expectant management group, although the chances of a good perinatal outcome were high with both strategies and the incidence of perinatal mortality, Apgar score < 4 at 5 minutes, and NICU admission low. There were no significant differences in the composite adverse maternal outcomes or in the cesarean section rates between the 2 groups.

- As with the ARRIVE Trial in the U.S., a high percentage of women (70%) who were invited to participate in the study declined.
- There was a higher % of nulliparous women (56.7%) in the expectant management group than in the induction group (50.8%).
- There were 2 days difference in the mean gestational age between the two groups (287 days versus 289 days).
- Unlike the Swedish study on the previous page, all study participants DID HAVE routine fetal assessment at 41-42 weeks.
- **Mid-trial, ACOG & AAP CHANGED the recommended cut-off for Apgar score at 5 minutes indicating a non-specific sign of illness from 7 to 4. “Most of the primary composite [perinatal adverse] outcome scores can be attributed solely to the component Apgar score <7 at 5 minutes which means that these neonates did not have any other adverse outcome besides the Apgar score being <7 at 5 minutes.”**

BMJ Open, Comparison of perinatal and maternal outcomes before and after policy change, 2019

In Denmark prior to 2011, routine induction for post-dates was not done until a pregnancy reached 42 weeks. In this 2019 Danish study, which had 152,887 participants, researchers compared maternal and fetal outcomes from 2000 to 2010 before a new policy of routine induction at 41 weeks was adopted with outcomes from 2012 to 2016 after the policy was adopted. Researchers found no differences between the two time periods in the primary outcomes of stillbirths, perinatal deaths, or low Apgar scores. There was no significant change in the trend for cesarean section or instrumental birth after the new policy was adopted. There were, however, significant increases in the use of augmentation, epidural analgesia, induction of labor, and uterine rupture in the time period following the new policy. Regarding stillbirth, the study authors noted there was an on-going trend toward a decrease in the stillbirth rate prior to the adoption of the new policy and a marginal increase in the 5 years after the policy change. The stillbirth rate was the same in 2016 as in 2010. The authors speculate that this could be due to the decrease in smoking during pregnancy from 19% in 2000 to 5% in 2016, as well as to changed screening policies, early termination of pregnancies with lethal abnormalities, better postnatal management, preconception counseling, detection of fetal growth restriction, and a higher quality of prenatal care. The authors conclude the study by stating:

“The study highlights a need for a more balanced discussion among health providers on routine induction in late term.”

New England Journal of Medicine, ARRIVE Trial, 2018

See also The Family Way handout, “Talking Points – The ARRIVE Trial,” on pages 223-224 in *The Educator’s Guide* or the handouts page on our website at www.thefamilyway.com.

The RCT compared nulliparous low-risk women who were assigned to be induced at 39 0/7 weeks to 39 4/7 weeks (routine induction group) to women who were assigned to either go into labor spontaneously or be induced between 40 5/7 weeks and 42 2/7 weeks (expectant management [EM] group). The primary outcome was a composite of adverse perinatal events; the secondary outcome was cesarean delivery. Researchers found no significant difference between the two groups in the composite of adverse perinatal events and a small reduction in the cesarean rate from 22.2% (EM) to 18.6% in the routine induction group.³

There are concerns about the generalizability of this study and some have questioned whether routine inductions in all settings will lower the risk for cesarean surgery.⁴

JBIM Database of Systematic Reviews, 2018

“Induction at 41 0–6 gestational weeks compared to 42 0–6 gestational weeks was found to be associated with an increased risk of overall cesarean section, cesarean section due to failure to progress, chorioamnionitis, labor dystocia, precipitate labor, uterine rupture, pH < 7.10, and a decreased risk of oligohydramnios and meconium stained amniotic fluid. Data lacked statistical power to draw conclusions on perinatal death...Induction prior to post-term was associated with few beneficial outcomes and several adverse outcomes...Hence, our results do not support the widespread use of routine induction prior to post-term (41 + 0-6 gestational weeks).”⁵

AIMS Journal (UK), 2019

Members of a childbirth advocacy group in the UK analyzed national statistics looking at the incidence of stillbirth by gestational age. They conclude that there is NOT a greater risk for stillbirth at 42+ weeks gestation.⁶

Links (in blue) are live in AdobeReader. See “Handouts” page at www.thefamilyway.com for complete list of references.

Additional Recommended Reading

Dekker, R. (2020). Evidence on: Inducing for due dates.

<https://evidencebasedbirth.com/evidence-on-inducing-labor-for-going-past-your-due-date/>

Updated May 2020. Chart compiled by Debby Amis for The Family Way Publications, www.thefamilyway.com.

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