NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Guideline

Inducing labour

Draft for consultation, May 2021

This guideline covers the circumstances, methods and monitoring for inducing labour in pregnant women. It aims to improve the advice and care provided to women thinking about and having induction of labour.

For simplicity of language, this guideline will use the term 'woman' or 'women' throughout, and this should be taken to include people who do not identify as women but who are pregnant or who have given birth.

This guideline will update NICE guideline CG70 (published July 2008).

Who is it for?

- Healthcare professionals
- Commissioners and providers
- Pregnant women, their families and carers

What does it include?

- the recommendations
- recommendations for research
- rationale and impact sections that explain why the committee made the 2021 recommendations and how they might affect practice
- the guideline context.

Information about how the guideline was developed is on the guideline's webpage. This includes the evidence reviews, the scope, details of the committee and any declarations of interest.

The recommendations in this guideline were largely developed before the COVID-19 pandemic. Please tell us if there are any particular issues relating to COVID-19 that we should take into account when finalising the guideline for publication.

New and updated recommendations

We have reviewed the evidence on the timing, some circumstances and methods for inducing labour. You are invited to comment on the new and updated recommendations. These are marked as **[2021]**.

You are also invited to comment on recommendations that we propose to delete from the 2008 guideline.

We have not reviewed the evidence for the recommendations shaded in grey. In some cases, we have made minor wording changes for clarification.

See update information for a full explanation of what is being updated.

Full details of the evidence and the committee's discussion on the 2021 recommendations are in the evidence reviews. Evidence for the 2008 recommendations is in the full version of the 2008 guideline

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Recommendations

People have the right to be involved in discussions and make informed decisions about their care, as described in NICE's information on making decisions about your care and carers have the right to be involved in planning and making decisions.

Making decisions using NICE guidelines explains how we use words to show the strength (or certainty) of our recommendations, and has information about prescribing medicines (including off-label use), professional guidelines, standards and laws (including on consent and mental capacity), and safeguarding.

Recommendations

1.1 Information and decision making

This section should be read in conjunction with the NICE guidelines on antenatal care and intrapartum care.

1.1.1 Discuss preferences about mode of birth with women early on in their pregnancy. **[2021]**

1.1.2 Explain to women that induction of labour is a medical intervention that might affect their birth options and their experience of the birth process. This could include that:

- their choice of place of birth may be limited, as they may need interventions (such as oxytocin infusion and continuous fetal heart rate monitoring) that are not available for home birth or in midwife-led birth units
- there may be limitations on the use of a birthing pool
- the need for an assisted vaginal birth (using forceps or ventouse) might increase, with the associated increased risk of obstetric anal sphincter injury (for example, third- or fourth-degree perineal tears)
- some methods of induction can cause the uterus to contract too frequently, called hyperstimulation, and that these too-frequent

contractions can lead to changes in fetal heart rate and result in concerns about fetal wellbeing. **[2021]**

1.1.3 Discuss with women being offered induction of labour:

- the reasons for induction being offered
- when, where and how induction could be carried out
- the arrangements for support and pain relief (recognise that women are likely to find induced labour more painful than spontaneous labour) (see also recommendations 1.5.7 and 1.5.8)
- the alternative options if the woman chooses not to have induction of labour
- the risks and benefits of induction of labour in specific circumstances, and the proposed induction methods
- that induction may not be successful, and what the woman's options would then be. **[2008]**

1.1.4 When offering induction of labour:

- give women time to discuss this information with their partners or family if they wish to do so before making a decision
- encourage women to look at other information about induction (for example, information on the NHS website)
- ensure women have the opportunity to ask questions, and time to think about their options
- support the woman in whatever decision she makes. **[2008, amended 2021]**

1.1.5 Provide information on induction of labour in line with the NICE guideline on patient experience in adult NHS services. **[2021]**

For a short explanation of why the committee made the 2021 recommendations, see the rationale and impact section on induction of labour for prevention of prolonged pregnancy.

Full details of the evidence and the committee's discussion are in evidence review C: induction of labour for prevention of prolonged pregnancy.

1.2 Induction of labour in specific circumstances

Prevention of prolonged pregnancy

1.2.1 Explain to women that labour usually starts naturally by 42+0 weeks. At the 38-week antenatal visit, reconfirm a woman's preferences for birth. Take into account her individual circumstances and discuss options for birth, including:

- expectant management **or**
- induction of labour **or**
- planned caesarean birth. **[2008, amended 2021]**

1.2.2 In uncomplicated singleton pregnancies, offer induction of labour at 41+0 weeks, to take place then or as soon as possible afterwards. **[2021]**

1.2.3 Explain to women that the risks associated with a pregnancy continuing beyond 41+0 weeks increase over time, and include:

- increased likelihood of caesarean birth
- increased likelihood of the baby needing admission to a neonatal intensive care unit
- increased likelihood of stillbirth and neonatal death
- a possible increased likelihood of assisted vaginal birth (using forceps or ventouse). **[2021]**

1.2.4 Consider induction of labour from 39+0 weeks in women with otherwise uncomplicated singleton pregnancies who are at a higher risk of complications associated with continued pregnancy (for example, BMI 30 kg/m^2 or above, age 35 years or above, with a black, Asian or minority ethnic family background, or after assisted conception). Take into account:

- the risk of complications

- the woman's preferences
- the woman's previous obstetric history. **[2021]**

1.2.5 Support the woman's decision, including her choice of place of birth, if she chooses not to have induction of labour. Discuss the woman's care options from this point on with her. **[2008, amended 2021]**

1.2.6 Offer increased fetal monitoring to women who choose not to have their labour induced. Advise women that:

- monitoring only gives a snapshot of the current situation, and cannot predict reliably any deterioration after monitoring ends
- adverse effects on the baby (including stillbirth), and when these events might happen, cannot be predicted reliably or prevented even with monitoring
- monitoring might consist of twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth. **[2008, amended 2021]**

1.2.7 Offer women who decline induction of labour an opportunity to revisit their options with a healthcare professional at least once a week. **[2021]**

1.2.8 Advise women to contact their maternity unit as soon as possible if they change their mind before their next appointment, or have concerns about their baby, for example reduced fetal movements. **[2021]**

For a short explanation of why the committee made the 2021 recommendations, see the rationale and impact section on induction of labour for prevention of prolonged pregnancy.

Full details of the evidence and the committee's discussion are in evidence review C: induction of labour for prevention of prolonged pregnancy.

Preterm prelabour rupture of membranes

1.2.9 If a woman has preterm prelabour rupture of membranes, do not carry out induction of labour before 34+0 weeks unless there are additional

obstetric indications (for example, infection or fetal compromise). Offer expectant management until 37+0 weeks. **[2008, updated 2021]**

1.2.10 If a woman has preterm prelabour rupture of membranes after 34+0 weeks, (but before 37+0 weeks) discuss with her the options of expectant management until 37+0 weeks or induction of labour. When making a shared decision, take into consideration the following factors:

- risks to the woman (for example, sepsis, possible need for caesarean birth)
- risks to the baby (for example, sepsis, problems relating to preterm birth)
- local availability of neonatal intensive care facilities. **[2008, amended 2021]**

1.2.11 If a woman has preterm prelabour rupture of membranes after 34+0 weeks (but before 37+0 weeks), and has had a positive group B streptococcus test at any time in their current pregnancy, offer immediate induction of labour or caesarean birth. See the NICE guideline on neonatal infection. **[2021]**

Prelabour rupture of membrane at term

1.2.12 Offer women with prelabour rupture of membranes at term (at or after 37+0 weeks) a choice of:

- induction of labour as soon as possible **or**
- expectant management for up to 24 hours.

Discuss the risks and benefits of both options with the woman. **[2008, amended 2021]**

1.2.13 After prelabour rupture of the membranes at term (at or over 37+0 weeks), offer induction of labour if labour has not started naturally after approximately 24 hours. See the NICE guideline on intrapartum care. **[2008, amended 2021]**

1.2.14 Support the woman's decision if she chooses not to have induction of labour after 24 hours. Discuss the woman's care options from this point on with her. **[2021]**

1.2.15 If a woman has prelabour rupture of membranes at term (at or over 37+0 weeks) and has had a positive group B streptococcus test at any time in their current pregnancy, offer immediate induction of labour or caesarean birth. **[2021]**

For a short explanation of why the committee made the 2021 recommendations on prelabour rupture of membranes, see the rationale and impact section on induction of labour for prelabour rupture of membranes.

Previous caesarean birth

1.2.16 Advise women who have had a previous caesarean birth that:

- induction of labour could lead to an increased risk of emergency caesarean birth
- induction of labour could lead to an increased risk of uterine rupture
- the methods used for induction of labour will be guided by the need to reduce these risks. See the recommendations on Methods for inducing labour. **[2008, amended 2021]**

1.2.17 If delivery is indicated, offer women who have had a previous caesarean birth a choice of:

- induction of labour **or**
- caesarean birth

Take into account the woman's circumstances and preferences. Advise women that they are entitled to decline the offer of treatment such as induction of labour or caesarean birth, even when it would benefit their or their baby's health. **[2008, amended 2021]**

Maternal request

1.2.18 Consider requests for induction of labour only after discussing the benefits and risks with the woman, taking into account the woman's circumstances and preferences. **[2008, amended 2021]**

Breech presentation

1.2.19 Induction of labour is not generally recommended if a woman's baby is in the breech position. **[2008, amended 2021]**

1.2.20 Consider induction of labour for babies in the breech position if:

- delivery is indicated **and**
- external cephalic version is unsuccessful, declined or contraindicated **and**
- the woman chooses not to have an elective caesarean birth.

Discuss the possible risks associated with induction with the woman. **[2008, amended 2021]**

Fetal growth restriction

1.2.21 Do not induce labour if there is fetal growth restriction with confirmed fetal compromise. Offer caesarean birth instead. **[2008, amended 2021]**

Suspected fetal macrosomia

1.2.22 Offer women with suspected fetal macrosomia, and without diabetes, the choice of induction of labour or expectant management after a discussion of the benefits and risks of both options. Discuss that:

- there is limited evidence that induction of labour could reduce the risk of shoulder dystocia
- there is very limited evidence that induction of labour could increase the risk of third- or fourth-degree perineal tears
- there is evidence showing no difference in the risk of perinatal death, brachial plexus injuries in the baby, or the need for caesarean birth between the 2 options.

Base the choice of care on the woman's circumstances and her preferences and support her decision. Support recruitment into clinical trials, if available. **[2021]**

1.2.23 For guidance on suspected fetal macrosomia in women with pre-existing or gestational diabetes see the NICE guideline on diabetes in pregnancy. **[2021]**

For a short explanation of why the committee made the 2021 recommendations, see the rationale and impact section on induction of labour for suspected fetal macrosomia.

Full details of the evidence and the committee's discussion are in evidence review A: induction of labour for suspected fetal macrosomia.

History of precipitate labour

1.2.24 Do not routinely offer induction of labour to women with a history of precipitate labour to avoid a birth unattended by healthcare professionals. **[2008]**

Intrauterine fetal death

1.2.25 In the event of an intrauterine fetal death, offer support to help women and their partners and family cope with the emotional and physical consequences of the death. Offer them information about specialist support. **[2008]**

1.2.26 In the event of an intrauterine fetal death, if the woman appears to be physically well, her membranes are intact and there is no evidence of infection or bleeding, discuss the options for birth (expectant management, induction of labour or caesarean birth) and support the woman's decision. **[2008, amended 2021]**

1.2.27 In the event of an intrauterine fetal death, if there is evidence of ruptured membranes, infection or bleeding, offer immediate induction of labour or caesarean birth. **[2008, amended 2021]**

Women with a non-scarred uterus

In October 2021, some uses of mifepristone, dinoprostone and misoprostol in recommendation 1.2.28 were off label. See NICE's information on prescribing medicines.

1.2.28 If a woman with an intrauterine fetal death chooses an induced labour, offer oral mifepristone 200 mg followed 36 to 48 hours later by vaginal dinoprostone or oral or vaginal misoprostol. Base the choice and dose of drug used on clinical circumstances and national protocols. Follow the recommendations on monitoring of uterine contractions. **[2008, amended 2021]**

Women who have had a previous caesarean birth

1.2.29 Advise women who have intrauterine fetal death, and who have had a previous lower segment caesarean birth, that the uterine scar increases the risk of uterine rupture if labour is induced and that this should be taken into account when deciding on their birth option. **[2021]**

1.2.30 If a woman with an intrauterine fetal death and a previous lower segment caesarean birth chooses an induced labour, follow the recommendations on monitoring of uterine contractions and provide one-to-one midwifery care of the woman during labour and birth. **[2021]**

1.2.31 Be aware that both dinoprostone and misoprostol are contraindicated in women with a uterine scar. **[2021]**

For a short explanation of why the committee made the 2021 recommendations, see the rationale and impact section on induction of labour for intrauterine fetal death after previous caesarean birth.

Full details of the evidence and the committee's discussion are in evidence review D: induction of labour for intrauterine fetal death after previous caesarean birth.

1.3 Methods for induction of labour

Membrane sweeping

1.3.1 Explain to women:

- what a membrane sweep is
- that membrane sweeping might make it more likely that labour will start naturally, and so reduces the need for induction of labour to prevent prolonged pregnancy
- that discomfort and vaginal bleeding are possible from the procedure.

[2008, amended 2021]

1.3.2 Obtain consent from the woman before carrying out membrane sweeping. **[2021]**

1.3.3 Offer women a vaginal examination for membrane sweeping before formal induction of labour. **[2008]**

1.3.4 At antenatal visits from 39+0 weeks, offer women a vaginal examination for membrane sweeping. **[2008, amended 2021]**

1.3.5 Consider additional membrane sweeping if labour does not start spontaneously. **[2008, amended 2021]**

Pharmacological and mechanical methods for inducing labour

1.3.6 Explain to women that a vaginal examination to assess the readiness of the cervix (recorded as the Bishop score) will determine which method of induction will be offered first. **[2021]**

1.3.7 Discuss with women the risks of pharmacological methods to induce labour. Include that:

- uterine activity and fetal condition must be monitored regularly
- both dinoprostone and misoprostol can cause hyperstimulation, but the risk may be higher with vaginal misoprostol
- if hyperstimulation does occur, the induction treatment will be stopped by giving no further medication, or by removal of vaginally administered products when possible
- there are differences in the ease with which different vaginal products can be removed
- hyperstimulation can be treated with tocolysis, but hyperstimulation caused by misoprostol may be more difficult to reverse. **[2021]**

1.3.8 Follow the manufacturers' guidance on the use of dinoprostone and misoprostol preparations for the induction of labour, including when to remove dinoprostone controlled-release vaginal delivery systems. **[2021]**

1.3.9 For women with a Bishop score of 6 or less, offer induction of labour with dinoprostone as vaginal tablet, vaginal gel or controlled-release vaginal delivery system. **[2021]**

1.3.10 For women with a Bishop score of 6 or less, consider induction of labour with low-dose oral misoprostol (25 micrograms) if:

- the woman would prefer an oral preparation **or**
- induction of labour with dinoprostone has not led to an adequate change in the Bishop score and the woman wants to try a different pharmacological option. **[2021]**

1.3.11 For women with a Bishop score of 6 or less, consider a mechanical method to induce labour (for example, a balloon catheter) if:

- pharmacological methods are not suitable (for example, in women with a higher risk of hyperstimulation or those who have had a previous caesarean birth) **or**
- the woman chooses to use a mechanical method. **[2021]**

1.3.12 For women with a Bishop score of more than 6, offer induction of labour with amniotomy and an intravenous oxytocin infusion. **[2021]**

For a short explanation of why the committee made the 2021 recommendations, see the rationale and impact section on methods for induction of labour.

Full details of the evidence and the committee's discussion are in evidence review B: methods for induction of labour.

1.4 Methods that are not recommended for induction of labour

Pharmacological methods

1.4.1 Discuss with women that the available evidence does not support the use of the following methods for induction of labour:

- oral dinoprostone
- intravenous dinoprostone
- extra-amniotic dinoprostone or PGF_2
- intracervical dinoprostone
- vaginal PGF_2
- intravenous oxytocin alone
- hyaluronidase
- corticosteroids
- oestrogen
- relaxin
- mifepristone (except in combination for intrauterine fetal death, see recommendation 1.2.28)
- vaginal nitric oxide donors. **[2008, amended 2021]**

Non-pharmacological methods

1.4.2 Discuss with women that the available evidence does not support the following methods for induction of labour:

- osmotic cervical dilators
- herbal supplements

- acupuncture
- homeopathy
- castor oil
- hot baths
- enemas
- sexual intercourse. **[2008]**

1.5 Assessment before induction, monitoring and pain relief

Assessment before induction

1.5.1 Before induction of labour is carried out:

- abdominally assess the level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim
- assess and record the Bishop score
- confirm a normal fetal heart rate pattern and absence of uterine contractions using antenatal cardiotocography interpretation. **[2008, amended 2021]**

1.5.2 Ensure facilities are available for cardiotocography wherever induction of labour is started. **[2008, amended 2021]**

Monitoring

1.5.3 When uterine contractions begin after administering dinoprostone or misoprostol, assess fetal wellbeing and uterine contractions with intrapartum cardiotocography interpretation and:

- if the cardiotocogram is confirmed as normal, review the individual circumstances and, if considered low risk, use intermittent auscultation unless there are clear indications for further cardiotocography.
- if the fetal heart rate is abnormal or there are excessive uterine contractions do not administer any more doses and remove any vaginal pessaries or delivery systems if possible.

Follow the advice on monitoring during labour in the NICE guideline on intrapartum care. **[2008, amended 2021]**

1.5.4 Reassess the Bishop score at appropriate intervals to monitor progress, depending on the method of induction being used, and the clinical condition of the woman. **[2008, amended 2021]**

1.5.5 Once active labour is established, carry out maternal and fetal monitoring as described in the NICE guideline on intrapartum care. **[2008]**

Pain relief

1.5.6 Explain to women being offered induction of labour that induced labour is likely to be more painful than spontaneous labour. **[2008]**

1.5.7 Discuss the available pain relief options in different settings with women. **[2008]**

1.5.8 During induction of labour, provide women with the pain relief appropriate for them and their pain as described in the NICE guideline on intrapartum care. This can include simple analgesia, labour in water and epidural analgesia. **[2008, amended 2021]**

1.6 Outpatient induction

1.6.1 Consider outpatient induction of labour with vaginal dinoprostone preparations or mechanical methods in women without existing medical conditions or obstetric complications. **[2008, amended 2021]**

1.6.2 Carry out a full clinical assessment of the woman and fetus (see recommendation 1.5.1 and 1.5.2) and ensure safety and support procedures are in place. **[2008, amended 2021]**

1.6.3 For induction being undertaken on an outpatient basis, agree a review plan with the woman before she returns home. **[2008, amended 2021]**

1.6.4 Ask women to contact their obstetrician/midwife:

- when contractions begin **or**

- if there are no contractions (in an agreed timeframe, depending on the method used) **or**
- if her membranes rupture **or**
- if she develops bleeding **or**
- if she has any other concerns, such as reduced fetal movements, excessive pain or uterine contractions, side-effects or loss of the pessary. **[2008, amended 2021]**

1.7 Prevention and management of complications

Uterine hyperstimulation

1.7.1 If uterine hyperstimulation occurs during induction of labour:

- do not administer any more doses and remove any vaginal pessaries or delivery systems if possible
- consider tocolysis. **[2008, amended 2021]**

Unsuccessful induction

1.7.2 If induction is unsuccessful, discuss this with the woman and provide support. Fully reassess the woman's condition and the pregnancy in general, and assess fetal wellbeing using antenatal cardiotocography interpretation. **[2008, amended 2021]**

1.7.3 If induction is unsuccessful, discuss and agree a plan for further management with the woman, taking into account the clinical circumstances. **[2008, amended 2021]**

1.7.4 If induction is unsuccessful, the subsequent management options include:

- offering a rest period if clinically appropriate and then re-assessing the woman
- a further attempt to induce labour (the timing and method should depend on the clinical situation and the woman's preferences)
- caesarean birth. See the NICE guideline on caesarean birth. **[2008, amended 2021]**

Cord prolapse

1.7.5 Take the following precautions to reduce the likelihood of cord prolapse, which may occur if labour is induced:

- before induction, abdominally assess the level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim
- during the preliminary vaginal examination, obstetricians and midwives should palpate for umbilical cord presentation and avoid dislodging the baby's head
- carry out continuous cardiotocography during induction if the presenting part is not stable and not well-applied to the cervix. In this situation, discuss the risks and benefits of induction of labour with the woman. **[2008, amended 2021]**

Antepartum haemorrhage

1.7.6 Check that there are no signs of a low-lying placenta before membrane sweeping and before induction of labour. **[2008, amended 2021]**

Uterine rupture

1.7.7 If uterine rupture is suspected during induced labour, carry out an immediate category 1 caesarean birth. See the NICE guideline on caesarean birth. **[2008, amended 2021]**

Additional information

Recommendation 1.2.10

Some preparations of vaginal dinoprostone are not approved for use before 37 weeks, are contraindicated for use with ruptured membranes, or should be used with caution with ruptured membranes. Refer to the individual summaries of product characteristics for each preparation of vaginal dinoprostone for further details.

Return to recommendation 1.2.10

Terms used in this guideline

This section defines terms that have been used in a particular way for this guideline. For other definitions see the NICE glossary and the Think Local, Act Personal Care and Support Jargon Buster.

Bishop score

The Bishop score is a numerical value obtained by doing a vaginal examination, and is based on the dilation, effacement (or length), position and consistency of the cervix and the station of the head with respect to the ischial spines of the pelvis. A score of 8 or more generally indicates that the cervix is ready to dilate, (previously the terms ‘ripe’ or 'favourable' were widely used) and when there is a high chance of spontaneous labour, or response to interventions made to induce labour. For the purposes of this guideline, a Bishop score of less than or equal to 6, or a score greater than 6, was used to help determine choice of pharmacological or mechanical methods to induce labour.

Dinoprostone

Dinoprostone is the international non-proprietary name for prostaglandin E2. Previous versions of this guideline referred to prostaglandin E2, or PGE2, but in order to ensure uniformity with the naming conventions in the BNF, this version refers to this medication as dinoprostone.

Expectant management

A management approach, also called 'wait and watch', when no medical or surgical treatment is given. The aim is to see if labour will begin naturally.

Membrane sweeping

Membrane sweeping involves the examining finger passing through the cervix to rotate against the wall of the uterus, to separate the chorionic membrane from the decidua of the uterus. If the cervix will not admit a finger, massaging around the cervix in the vaginal fornices may achieve a similar effect. For the purpose of this guideline, membrane sweeping is regarded as an adjunct to induction of labour rather than an actual method of induction.

Precipitate labour

A labour that is very quick and short, and the baby is born less than 3 hours after the start of uterine contractions.

Suspected fetal macrosomia

A fetus that is believed to be large for its gestational age, defined for the purposes of this guideline as an estimated fetal weight above the 95th percentile, at or after 36 weeks of pregnancy.

Unsuccessful induction

Unsuccessful induction is defined as labour not starting after one cycle of treatment.

Recommendations for research

The guideline committee has made the following recommendations for research.

Key recommendations for research

1 Prevention of prolonged pregnancy

At what gestational age should induction of labour be offered in the subgroups of women who may be more likely to experience adverse outcomes if pregnancy continues? **[2021]**

> For a short explanation of why the committee made this recommendation, see the rationale section on induction of labour for prevention of prolonged pregnancy.
>
> Full details of the evidence and the committee's discussion are in evidence review C: induction of labour for prevention of prolonged pregnancy.

2 Prevention of prolonged pregnancy

Based on individual patient data meta-analysis, what is the optimal timing of induction of labour? **[2021]**

> For a short explanation of why the committee made this recommendation, see the rationale section on induction of labour for prevention of prolonged pregnancy.

Full details of the evidence and the committee's discussion are in evidence review C: induction of labour for prevention of prolonged pregnancy.

3 Preterm prelabour rupture of membranes

What are the relative risks and benefits of induced labour versus expectant management in women whose membranes have ruptured spontaneously between 34 and 37 weeks? **[2008]**

Why this is important

Intrauterine sepsis is more likely to develop in pregnancies that continue after the membranes have ruptured, putting both the woman and the baby at risk. In some such pregnancies, labour begins spontaneously at a variable interval after the membranes have ruptured, avoiding the need for induction. The value of antibiotic therapy and the administration of corticosteroids to the woman is unclear in this situation. A randomised study of active versus expectant management, taking account of time since membrane rupture, gestational age and maternal therapy, would be valuable.

4 Intrauterine fetal death after previous caesarean birth

How should labour be induced in women with intrauterine fetal death who have had a previous caesarean birth? **[2021]**

For a short explanation of why the committee made this recommendation, see the rationale section on induction of labour for intrauterine fetal death after previous caesarean birth.

Full details of the evidence and the committee's discussion are in evidence review D: induction of labour for intrauterine fetal death after previous caesarean birth.

5 Membrane sweeping

What are the effectiveness and acceptability of, and maternal satisfaction with, the following:

- multiple versus once-only membrane sweeping, at varying gestational ages, depending on parity
- membrane sweeping versus cervical massage? **[2008]**

Why this is important

Membrane sweeping is considered to be a relatively simple intervention that may positively influence the transition from maintenance of pregnancy to the onset of labour, reducing the need for formal induction of labour. However, there are disadvantages, such as possible vaginal bleeding and discomfort. Research into when and how frequently membrane sweeping should be carried out to maximise its effectiveness and acceptability would be of value.

6 Vaginal dinoprostone

What are the effectiveness, safety and maternal acceptability of:

- different regimens of vaginal dinoprostone, stratified by: clinical indications; cervical and membrane status; parity; and previous caesarean birth
- different management policies for unsuccessful induction of labour with vaginal dinoprostone (additional dinoprostone, oxytocin, elective caesarean birth or delay of induction, if appropriate). **[2008]**

Why this is important

Despite extensive studies carried out over the past 30 years to determine the most effective ways of inducing labour with vaginal dinoprostone, uncertainties remain about how best to apply these agents in terms of their dosage and timing. It would be particularly useful to understand more clearly why vaginal dinoprostone is unsuccessful in inducing labour in some women.

7 Setting for induction of labour

Is it safe, effective and cost effective to carry out induction of labour in an outpatient setting? What are the advantages and disadvantages of such an approach, taking into account women's views? **[2008]**

Why this is important

In line with the way healthcare has developed in many areas of acute care, there is an increasing desire to reduce the time women spend in hospital. Several units are already exploring outpatient induction of labour policies and there is a need to study this approach in order to determine relative risks and benefits, as well as acceptability to women.

Rationale and impact

These sections briefly explain why the committee made the recommendations and how they might affect practice.

Induction of labour for prevention of prolonged pregnancy

Recommendations 1.1.1, 1.1.2 and 1.1.5, 1.2.2 to 1.2.4, 1.2.7 and 1.2.8

Why the committee made the recommendations

Based on their knowledge and experience the committee made recommendations on the advice that should be provided to all women in early pregnancy about the process of inducing labour, and the impact this may have on their place and mode of birth

There was evidence that caesarean birth, perinatal mortality and neonatal intensive care unit admission are reduced by earlier induction of labour (at 41+0 weeks) compared to later induction (at 42+0 weeks or after), and there may also be a reduction in assisted vaginal birth with earlier induction. However, there was not enough evidence to identify the optimal timing of induction more precisely and so the committee made a research recommendation.

The committee were aware that certain groups of women may be at higher risk of adverse events with prolonged pregnancy and that these women may benefit from earlier induction. The committee noted that in their knowledge and experience, women from the Black, Asian and minority ethnic family background, women with BMI of 30 kg/m^2 or more, women aged 35 years or more, and women who had assisted conception were at a higher risk of adverse events in a pregnancy that was prolonged beyond term. The committee were aware that this is consistent with national audit data.

As there was no evidence to identify the optimal timing of induction in these groups the committee made a research recommendation.

How the recommendations might affect practice

The recommendations will decrease the gestational age at which induction of labour is offered to prevent prolonged pregnancy, and may increase the number of women who are offered induction.

Return to recommendations

Induction of labour for prelabour rupture of the membranes

Recommendations 1.2.11, 1.2.14 and 1.2.15

Why the committee made the recommendations

The committee were aware of the recommendations in the NICE guideline on neonatal infection that advised immediate induction of labour or caesarean birth after preterm prelabour rupture of the membranes between 34+0 weeks and 37+0 weeks in women with a positive group B streptococcus test, and so added this recommendation to this section of the guideline.

Based on their knowledge and experience of the risks of group B streptococal infection to the baby after rupture of the membranes, the committee agreed that with prelabour rupture of the membranes after 37+0 weeks in women with a positive group B streptococcus test, immediate induction of labour or caesarean birth would also be recommended.

In women who did not have a positive group B streptococcus test, but who had prelabour rupture of the membranes after 37+0 weeks, the committee were aware that expectant management for 24 hours was an option as the risk of infection to the baby was low. However, after that period, induction should be advised as the committee were aware that prolonged pregnancy at term after rupture of the membranes can increase risks to the baby, and they therefore advised that care and advice should be provided to women who decline induction of labour after 24 hours.

How the recommendations might affect practice

The recommendations will reinforce current practice.

Return to recommendations

Induction of labour for suspected fetal macrosomia

Recommendation 1.2.22 and 1.2.23

Why the committee made the recommendation

There was some evidence of both benefits and harms for the routine induction of labour and for expectant management in women without diabetes with suspected fetal macrosomia, but there was some uncertainty around this evidence, particularly relating to the risk of perineal tears. As there was not enough evidence to recommend one method over another, the committee recommended that women should be provided with information about both methods so they can make an informed decision, and that recruitment into relevant clinical trials should be supported.

How the recommendation might affect practice

Currently, there is variation in clinical practice and so the recommendations may mean an increase in consultation time to counsel women appropriately in some areas. This is not expected to lead to a substantial resource impact at national level.

Return to recommendations

Induction of labour for intrauterine fetal death after previous caesarean birth

Recommendations 1.2.29 to 1.2.31

Why the committee made the recommendations

In the absence of evidence, the committee made recommendations based on their knowledge and experience and also made a research recommendation. The committee agreed that the different options for birth should be discussed with women after intrauterine fetal death if they have had a previous caesarean birth, and their choice should be supported.

The committee explained that, after intrauterine fetal death, women with a scarred uterus are at increased risk of uterine rupture. This should be taken into account

when considering options for birth and if induction is carried out, uterine contractions should be carefully monitored.

The committee discussed that mifepristone 600 mg daily for 2 days is approved for the induction of labour following intrauterine fetal death, but that no evidence for its safety or efficacy in women with a previous caesarean birth had been identified and so they were unable to recommend it. The committee discussed that in women with intrauterine fetal death and no previous caesarean birth a lower dose of mifepristone was used to sensitize the myometrium to prostaglandin-induced contractions, followed by a prostaglandin (dinoprostone or misoprostol). However, the committee were aware that both dinoprostone and misoprostol are contraindicated after previous caesarean birth and so made a recommendation to state this.

How the recommendations might affect practice

Currently, there is variation in the management of women after an intrauterine fetal death who have had previous caesarean birth, so the recommendations may mean an increase in consultation time to counsel women appropriately in some areas, and an increase in monitoring to reduce the risk of uterine rupture. This is not expected to lead to a substantial resource impact at national level.

Return to recommendations

Methods for induction of labour

Recommendations 1.3.2 and 1.3.6 to 1.3.12

Why the committee made the recommendations

The committee reviewed the recommendations from the previous guideline on membrane sweeping. They were aware that as membrane sweeping may be regarded as part of a vaginal examination in late pregnancy, it was not always discussed with the woman and her consent obtained. However, based on their knowledge and experience of consent procedures and the fact that some women may not want a membrane sweep, the committee agreed that consent should be obtained before performing membrane sweeping and that this should be made clear in the recommendations.

The committee agreed that, in their experience, women value being informed about the reason why certain treatments are offered, and that it should be made clear to women that the possible methods for induction of labour will depend primarily on the readiness of their cervix, which is assessed with a vaginal examination and recorded as the Bishop score.

There was good evidence that vaginal dinoprostone was effective at promoting vaginal birth within 24 hours for women with a Bishop score of 6 or less, without significantly increasing the risk of adverse outcomes for the woman or her baby. When the different preparations of vaginal dinoprostone were compared, there was little evidence to demonstrate that one preparation was superior to another. Therefore, the committee agreed that it was appropriate to offer a choice of preparation, depending on availability and the woman's preference. There was some evidence that dinoprostone preparations could lead to hyperstimulation with fetal heart rate changes.

Misoprostol was as effective as dinoprostone at promoting vaginal birth within 24 hours. However, the evidence showed a risk of hyperstimulation with misoprostol (although this was predominantly with higher doses and vaginal preparations), and the committee took into consideration previous MHRA warnings about this risk. Therefore, the committee agreed that misoprostol should not be offered routinely for induction of labour, but could be considered for women as an alternative to dinoprostone or for women who would prefer an oral preparation.

There was evidence that there was no increased risk of hyperstimulation when using mechanical methods for induction of labour (including osmotic cervical dilators such as laminaria and balloon catheters). Balloon catheters were also effective at promoting vaginal birth within 24 hours and did not appear to markedly increase the risk of other adverse outcomes. There was no evidence for the effectiveness of osmotic cervical dilators at promoting vaginal birth within 24 hours, but they too did not appear to markedly increase the risk of other adverse outcomes. Therefore, the committee agreed that mechanical methods could be considered for induction of labour for women, particularly when there is a concern about hyperstimulation.

There was very little evidence for women with a Bishop score of more than 6. However, the committee noted that amniotomy and intravenous oxytocin was the most effective method to promote vaginal birth within 24 hours across the whole population. This was in keeping with their clinical experience, so they agreed that this should be the first choice for induction of labour for women in this group.

How the recommendations might affect practice

Most hospitals use vaginal dinoprostone for induction of labour, so this recommendation will not result in a significant change of practice. The advice specific to women with a Bishop score of more than 6 should provide more individualised care and standardise practice for this subgroup of women.

Context

Induced labour may be needed in circumstances when the balance of risks and benefits suggests that birth of the baby is safer than continuing with the pregnancy, but with the aim of still enabling a vaginal birth. However, induction has an impact on the birth experience of women as it:

- removes the satisfaction of achieving the more natural birth that many woman hope for
- is generally more painful than spontaneous labour
- is more likely to lead to additional interventions such as assisted or operative birth, including caesarean birth, and
- is more likely to need epidural analgesia.

Induction of labour is a common procedure, with approximately a third of all women in the UK undergoing induction, and there are a variety of methods available using both pharmacological treatments and mechanical methods. The choice of method depends on the readiness of the woman’s cervix (assessed using a vaginal examination, and categorised using the Bishop score), whether the membranes have ruptured, and the woman’s preferences. The options available should be discussed and should include:

- an awareness of the efficacy and possible adverse effects for the woman and her baby associated with each method, and

- the likelihood that additional interventions (such as caesarean birth) might be needed if the induction is not successful.

Women can choose to decline the offer of induction of labour, and appropriate care should then be offered to optimise the outcome of the pregnancy while respecting the woman's wishes.

The aim of this guideline is to give advice to healthcare professionals providing obstetric services, and to pregnant women, on the information and support women and their families and birth partners should be offered when making decisions about induction of labour. It also aims to define the circumstances when induction of labour is appropriate, and identify the most effective way to induce labour, including choice of method, setting, timing, monitoring and pain relief.

Finding more information and committee details

To find NICE guidance on related topics, including guidance in development, see the NICE webpage on intrapartum care.

For details of the guideline committee see the committee member list.

Update information

March 2021

This guideline is an update of NICE guideline CG70 (July 2008) and will replace it.

We have reviewed the evidence on induction of labour for prevention of prolonged pregnancy, induction of labour in suspected fetal macrosomia, induction of labour for intrauterine fetal death after previous caesarean birth and pharmacological and mechanical methods to induce labour.

Recommendations are marked **[2021]** if the evidence has been reviewed.

Recommendations that have been deleted, or changed without an evidence review

We propose to delete some recommendations from the 2008 guideline. Table 1 sets out these recommendations and includes details of replacement recommendations.

If there is no replacement recommendation, an explanation for the proposed deletion is given.

For recommendations shaded in grey and ending **[2008, amended 2021]**, we have made changes that could affect the intent without reviewing the evidence. Yellow shading is used to highlight these changes, and reasons for the changes are given in table 2.

For recommendations shaded in grey and ending **[2008]**, we have not reviewed the evidence. In some cases minor changes have been made – for example, to update links, or bring the language and style up to date – without changing the intent of the recommendation. Minor changes are listed in table 3.

See also the previous NICE guideline and supporting documents.

Table 1 Recommendations that have been deleted

Recommendation in 2008 guideline	Comment
1.2.1.1 Women with uncomplicated pregnancies should be given every opportunity to go into spontaneous labour.	This recommendation has been deleted because the next recommendation states which women with uncomplicated pregnancies should be offered induction, and so the committee agreed this recommendation was unnecessary.
1.2.1.2 Women with uncomplicated pregnancies should usually be offered induction of labour between 41+0 and 42+0 weeks to avoid the risks of prolonged pregnancy. The exact timing should take into account the woman's preferences and local circumstances.	This recommendation has been replaced by new recommendations as a new evidence review was carried out: 1.2.2 In uncomplicated singleton pregnancies, offer induction of labour at 41+0 weeks, to take place then or as soon as possible afterwards. [2021] 1.2.3 Explain to women that the risks associated with a pregnancy continuing beyond 41+0 weeks increase over time, and include: • increased likelihood of caesarean birth • increased likelihood of admission of the baby to a neonatal intensive care unit • increased likelihood of stillbirth and neonatal death • a possible increased likelihood of assisted vaginal birth (using forceps or ventouse). [2021]

1.2.9.5 For women who have intrauterine fetal death and who have had a previous caesarean section, the risk of uterine rupture is increased. The dose of vaginal Prostaglandin[3] should be reduced accordingly, particularly in the third trimester.	This recommendation has been replaced by new recommendations as a new evidence review was carried out: 1.2.29 Advise women who have intrauterine fetal death, and who have had a previous lower segment caesarean birth, that the uterine scar increases the risk of uterine rupture if labour is induced and that this should be taken into account when deciding on their birth option. [2021] 1.2.30 If a woman with an intrauterine fetal death and a previous lower segment caesarean birth chooses an induced labour, follow the recommendations on monitoring of uterine contractions and provide one-to-one midwifery care of the woman during labour and birth. [2021]
1.2.10.1 In the absence of any other indications, induction of labour should not be carried out simply because a healthcare professional suspects a baby is large for gestational age (macrosomic).	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.2.22 Offer women with suspected fetal macrosomia and without diabetes the choice of induction of labour or expectant management after a discussion of the risks and benefits of both options. Discuss that: • there is limited evidence that induction of labour could reduce the risk of shoulder dystocia • there is very limited evidence that induction of labour could increase the risk of third- or fourth-degree perineal tears • there is evidence showing no difference in the risk of perinatal death, brachial plexus injuries or the need for caesarean birth between the 2 options. Base the choice of care on the woman's individual circumstances and their personal preferences. Encourage recruitment into clinical trials, if available.
1.3.1.4 When a vaginal examination is carried out to assess the cervix, the opportunity should be taken to offer the woman a membrane sweep.	This recommendation has been deleted as the committee agreed that offering membrane sweeps at antenatal appointments or before formal induction of labour covered all likely timings already, and this recommendation was a duplication.

1.3.2.1 Vaginal PGE2 is the preferred method of induction of labour, unless there are specific clinical reasons for not using it (in particular the risk of uterine hyperstimulation). It should be administered as a gel, tablet or controlled-release pessary. Costs may vary over time, and trusts/units should take this into consideration when prescribing PGE2. For doses, refer to the SPCs. The recommended regimens are: • one cycle of vaginal PGE2 tablets or gel: one dose, followed by a second dose after 6 hours if labour is not established (up to a maximum of two doses) • one cycle of vaginal PGE2 controlled-release pessary: one dose over 24 hours.	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.3.6 Explain to women that a vaginal examination to assess the readiness of the cervix (recorded as the Bishop score), will determine which method of induction will be offered first. [2021] 1.3.9 For women with a Bishop score of 6 or less, offer induction of labour with dinoprostone as vaginal tablet, vaginal gel or controlled-release vaginal delivery system. [2021]
1.3.2.2 When offering PGE2 for induction of labour, healthcare professionals should inform women about the associated risks of uterine hyperstimulation.	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.3.7 Discuss with women the risks of pharmacological methods to induce labour. Include that: • uterine activity and fetal condition must be monitored regularly • both dinoprostone and misoprostol can cause hyperstimulation, but the risk may be higher with vaginal misoprostol • the induction treatment will be stopped by giving no further medication, or by removal of vaginally administered products when possible • there are differences in the ease with which different vaginal products can be removed • hyperstimulation can be treated with tocolysis, but hyperstimulation caused by misoprostol may be more difficult to reverse. 1.3.8 Follow the manufacturers' guidance on the use of dinoprostone and misoprostol preparations for the induction of labour, including when to remove dinoprostone controlled-release vaginal delivery systems. [2021]

1.3.2.3 Misoprostol should only be offered as a method of induction of labour to women who have intrauterine fetal death (see section 1.2.9) or in the context of a clinical trial.	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.3.10 For women with a Bishop score of 6 or less, consider induction of labour with low-dose oral misoprostol (25 micrograms) if: • the woman would prefer an oral preparation or • induction of labour with dinoprostone has not led to an adequate change in the Bishop score and the woman wants to try a different pharmacological option.. [2021]
1.3.2.4 Mifepristone should only be offered as a method of induction of labour to women who have intrauterine fetal death (see section 1.2.9).	This recommendation has been deleted because it has already been stated in the section on intrauterine death, and therefore does not require repetition under the section entitled 'Other methods for inducing labour'.
1.4.3.1 Amniotomy, alone or with oxytocin, should not be used as a primary method of induction of labour unless there are specific clinical reasons for not using vaginal PGE2, in particular the risk of uterine hyperstimulation.	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.3.12 For women with a Bishop score of more than 6, offer induction of labour with amniotomy and an intravenous oxytocin infusion. [2021]
1.4.4.1 Mechanical procedures (balloon catheters and laminaria tents) should not be used routinely for induction of labour.	This recommendation has been replaced by a new recommendation as a new evidence review was carried out: 1.3.11 For women with a Bishop score of 6 or less, consider a mechanical method to induce labour (for example, a balloon catheter) if: • pharmacological methods are not suitable (for example, in women with a higher risk of hyperstimulation or those who have had a previous caesarean birth) **or** • the woman chooses to use a mechanical method. [2021]
1.5 Setting and timing	This heading was replaced with '1.6 Outpatient induction' as all the recommendations relating to timing of induction were deleted (see below) and all the recommendations relating to outpatient care were grouped together.
1.5.1.2 The practice of induction of labour in an outpatient setting should be audited continuously.	This recommendation has been deleted because the committee agreed that outpatient induction was carried out

	routinely in many units and it was not therefore necessary to audit this continuously.
1.5.1.3 In the inpatient setting, induction of labour using vaginal PGE2 should be carried out in the morning because of higher maternal satisfaction.	This recommendation has been deleted because the committee agreed that it was no longer standard practice to carry out induction in the morning, and timing would be discussed with the woman.
1.6.2.5 The opportunity to labour in water is recommended for pain relief.	This recommendation has been deleted because the use of labouring in water for pain relief has been added to the recommendation on choice of analgesia (1.5.8).

1

2 **Table 2 Amended recommendation wording (change to intent) without an**

3 **evidence review**

Recommendation in 2008 guideline	Recommendation in current guideline	Reason for change
1.1.1.1 Women should be informed that most women will go into labour spontaneously by 42 weeks. At the 38-week antenatal visit, all women should be offered information about the risks associated with pregnancies that last longer than 42 weeks, and their options. The information should cover: • membrane sweeping • that membrane sweeping makes spontaneous labour more likely, and so reduces the need for formal induction of labour to prevent prolonged pregnancy • what a membrane sweep is • that discomfort and vaginal bleeding are possible from the procedure • induction of labour between 41+0 and 42+0 weeks • expectant management.	1.2.1 Explain to women that labour usually starts naturally by 42+0 weeks. At the 38-week antenatal visit, reconfirm a woman's preferences for birth. Take into account her individual circumstances and discuss options for birth, including: • expectant management **or** • induction of labour **or** • planned caesarean birth. [**2008, amended 2021**] 1.3.1 Explain to women: • what a membrane sweep is • that membrane sweeping might make it more likely that labour will start naturally, and so reduces the need for induction of labour to prevent prolonged pregnancy • that discomfort and vaginal bleeding are possible from the procedure. [2008, amended 2021]	The language relating to onset of labour has been updated from 'spontaneously' to 'naturally'. The bullets on membrane sweeping have been moved to a separate recommendation at the beginning of the section of methods of induction of labour so that all the recommendations on membrane sweeping are together in one place, and the wording of the second bullet point has been amended to use the word naturally instead of spontaneously.

1.1.1.3 Healthcare professionals offering induction of labour should: • allow the woman time to discuss the information with her partner before coming to a decision • encourage the woman to look at a variety of sources of information • invite the woman to ask questions, and encourage her to think about her options • support the woman in whatever decision she makes.	1.1.4 When offering induction of labour: • give women time to discuss this information with her partners or family if they wish to do so before making a decision • encourage women to look at information about induction (for example, information on the NHS website) • ensure women have the opportunity to ask questions, and time to think about her options • support the woman in whatever decision she makes. [**2008, amended 2021**]	The wording of the recommendation has been amended from 'allow' to 'give', and the family have been included as well as the partner. This information has been used to clarify that this is the information discussed in the recommendations above. The 'variety of sources' has been changed to 'information about induction' to clarify this. The third bullet has been amended to make it less paternalistic.
1.2.1.3 If a woman chooses not to have induction of labour, her decision should be respected. Healthcare professionals should discuss the woman's care with her from then on.	1.2.5 Support the woman's decision, including her choice of place of birth, if she chooses not to have induction of labour. Discuss the woman's care options from this point on with her. [2008, amended 2021]	The wording has been amended to make it less paternalistic, and to include that preferred place of birth may need to be taken into consideration.
1.2.1.4 From 42 weeks, women who decline induction of labour should be offered increased antenatal monitoring consisting of at least twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth.	1.2.6 Offer increased fetal monitoring to women who choose not to have their labour induced. Advise women that: • monitoring only gives a snapshot of the current situation, and cannot predict reliably any deterioration after monitoring ends • adverse effects on the baby (including stillbirth) and when these events might happen, cannot be predicted reliably or prevented even with monitoring • monitoring might consist of twice-weekly cardiotocography and ultrasound estimation of maximum amniotic pool	Antenatal has been changed to fetal, as the committee advise that it is monitoring the baby that is important. An additional sentence has been added, based on the expertise of the committee, to advise women that even with this extra monitoring, a prolonged pregnancy may lead to adverse consequences, and that extra monitoring can prevent adverse events. The recommendation about what the

	depth. [**2008, amended 2021**] 1.2.7 Offer women who decline induction an opportunity to revisit their options with a healthcare professional at least once a week. 1.2.8 Advise women to contact their maternity unit as soon as possible if they change their mind before their next appointment, or have concerns about their baby, for example reduced fetal movements.	monitoring should include has been softened as there is no evidence for any specific monitoring regimen. Two additional recommendations have been added to ensure that women who decline induction are reviewed regularly and advised when to escalate their care.
1.2.2.1If a woman has preterm prelabour rupture of membranes, induction of labour should not be carried out before 34 weeks unless there are additional obstetric indications (for example, infection or fetal compromise).	1.2.9 If a woman has preterm prelabour rupture of membranes, do not carry out induction of labour before 34+0 weeks unless there are additional obstetric indications (for example, infection or fetal compromise). Offer expectant management until 37+0 weeks. [2008, updated 2021]	The recommendation to offer expectant management to 37 weeks has been added, as the recommendation told users what not to do, but there was no advice on what they should do instead.
1.2.2.2 If a woman has preterm prelabour rupture of membranes after 34 weeks, the maternity team should discuss the following factors with her before a decision is made about whether to induce labour using vaginal PGE2: • risks to the woman (for example, sepsis, possible need for caesarean birth) • risks to the baby (for example, sepsis, problems relating to preterm birth) • local availability of neonatal intensive care facilities.	1.2.10 If a woman has preterm prelabour rupture of membranes after 34+0 weeks (but before 37+0 weeks), discuss with her the options of expectant management until 37+0 weeks or induction of labour. When making a shared decision, take into consideration the following factors: • risks to the woman (for example, sepsis, possible need for caesarean birth) • risks to the baby (for example, sepsis, problems relating to preterm birth) • local availability of neonatal intensive care facilities. [**2008, amended 2021**]	The text has been amended to make it clear this is a shared decision. The exact gestational period this applies to has been clarified. Expectant management to 37+0 weeks has been added in as an option. Details of methods for induction of labour have been removed, as these are covered separately in the guideline.

1.2.3.1 Women with prelabour rupture of membranes at term (at or over 37 weeks) should be offered a choice of induction of labour with vaginal PGE2, or expectant management.	1.2.12 Offer women with prelabour rupture of membranes at term (at or after 37+0 weeks) a choice of: • induction of labour as soon as possible • expectant management for up to 24 hours. Discuss the risks and benefits of each option with the woman. [**2008, amended 2021**]	Then wording has been clarified to state that induction can be offered immediately or women can choose to wait for 24 hours. Details of methods for induction of labour have been removed, as these are covered separately in the guideline. The recommendation to discuss the risks and benefits has been added.
1.2.3.2 Induction of labour is appropriate approximately 24 hours after prelabour rupture of the membranes at term.	1.2.13 After prelabour rupture of the membranes at term (at or over 37+0 weeks) offer induction of labour if labour has not started naturally after approximately 24 hours. See the NICE guideline on intrapartum care. [**2008, amended 2021**]	Clarification has been added that induction of labour is indicated if labour has not started after 24 hours.
1.2.4.1 If delivery is indicated, women who have had a previous caesarean section may be offered induction of labour with vaginal PGE2, caesarean section or expectant management on an individual basis, taking into account the woman's circumstances and wishes. Women should be informed of the following risks with induction of labour: • increased risk of need for emergency caesarean section during induced labour • increased risk of uterine rupture.	1.2.16 Advise women who had a previous caesarean birth that: • induction of labour could lead to an increased risk of need for emergency caesarean birth • induction labour could lead to an increased risk of uterine rupture • the methods used for induction of labour will be guided by the need to reduce these risks. See the recommendations on Methods for inducing labour. [2008, amended 2021] • 1.2.17 If delivery is indicated, offer women who have had a previous	The recommendation has been split into two recommendations to make it easier to read. The method of induction of labour has been removed as that is covered later in the guideline. However, an additional bullet point has been added to highlight that methods of induction will need to take into account the fact that woman has had a previous caesarean section.

	caesarean birth a choice of: • induction of labour **or** • caesarean birth Take into account the woman's circumstances and wishes. Advise women that they are entitled to decline the offer of treatment such as induction of labour or caesarean birth, even when it would benefit their or their baby's health. [2008, amended 2021] and •	
1.2.5.1 Induction of labour should not routinely be offered on maternal request alone. However, under exceptional circumstances (for example, if the woman's partner is soon to be posted abroad with the armed forces), induction may be considered at or after 40 weeks.	1.2.18 Consider requests for induction of labour only after discussing the benefits and risks with the woman, taking into account the woman's circumstances and wishes. [2008, amended 2021]	The recommendation has been updated and the specific example removed, as the committee agreed that the decision should be made based on risks, benefits, and individual circumstances.
1.2.6.1 Induction of labour is not generally recommended if a woman's baby is in the breech presentation. If external cephalic version is unsuccessful, declined or contraindicated, and the woman chooses not to have an elective caesarean section, induction of labour should be offered, if delivery is indicated, after discussing the associated risks with the woman.	1.2.19 Induction of labour is not generally recommended if a woman's baby is in the breech position. [2008, amended 2021] 1.2.20 Consider induction of labour for babies in the breech position if: • delivery is indicated **and** • external cephalic version is unsuccessful, declined or contraindicated **and** • the woman chooses not to have an elective caesarean birth. Discuss the possible risks associated with induction with the woman. [2008, amended 2021]	The wording of the recommendation has not changed but it has been split into 2 recommendations to make it easier to read, and the second part has been changed to a bulleted list to improve readability. Presentation has been changed to position as this is a more easily understood term.
1.2.7.1 If there is severe fetal growth restriction with confirmed fetal compromise,	1.2.21 Do not induce labour if there is fetal growth restriction with confirmed fetal compromise. Offer	The recommendation has been changed from 'not recommended' to 'do

induction of labour is not recommended.	caesarean birth instead. [2008, amended 2021]	not' as the committee advised this was what was meant. The recommendation to offer caesarean birth was also added to make it clear that in this situation expectant management is not an appropriate option. The word 'severe' was removed as any growth restriction with fetal compromise would mean labour should not be induced.
1.2.9.2 In the event of an intrauterine fetal death, if the woman appears to be physically well, her membranes are intact and there is no evidence of infection or bleeding, she should be offered a choice of immediate induction of labour or expectant management.	1.2.26 In the event of an intrauterine fetal death, if the woman appears to be physically well, her membranes are intact and there is no evidence of infection or bleeding, discuss the options for birth (expectant management, induction of labour or caesarean birth) and support the woman's decision. [2008, amended 2021]	The option of caesarean birth has been added to the recommendation, and it has been clarified that this should be discussed with women.
1.2.9.3 In the event of an intrauterine fetal death, if there is evidence of rupture membranes, infection or bleeding, immediate induction of labour is the preferred management option.	1.2.27 In the event of an intrauterine fetal death, if there is evidence of ruptured membranes, infection or bleeding, offer immediate induction of labour or caesarean birth. [2008, amended 2021]	The wording has been changed from 'the preferred management option' to 'offer' as the committee advised this was what was meant. Immediate induction of labour has been changed to immediate birth (by induction of labour or caesarean birth) as these are the 2 options available to women in this situation.
-	Women with a non-scarred uterus	New sub-headings have been added to emphasise that the methods for

	Women who have had a previous caesarean birth	induction of labour after intrauterine fetal death differ in these 2 groups of women.
1.2.9.4 If a woman who has had an intrauterine fetal death chooses to proceed with induction of labour, oral mifepristone, followed by vaginal PGE2 or vaginal misoprostol[5], should be offered. The choice and dose of vaginal prostaglandin should take into account the clinical circumstances, availability of preparations and local protocol.	1.2.28 If a woman with an intrauterine fetal death chooses an induced labour, offer oral mifepristone 200 mg followed 36 to 48 hours later vaginal dinoprostone or oral or vaginal misoprostol. Base the choice and dose of drug used on clinical circumstances and national protocols. Follow the recommendations on monitoring of uterine contractions. [2008, amended 2021]	The dose of mifepristone and timing of subsequent medicines has been included. The wording has been amended from 'vaginal prostaglandin' to 'drug' as several drugs are named in the sentence above. Local protocols has been changed to national protocols as FIGO guidance is available, and RCOG guidance is anticipated. The advice to monitor uterine contractions has been added.
1.3.1.2 At the 40- and 41-week antenatal visits, nulliparous women should be offered a vaginal examination for membrane sweeping.	1.3.4 At antenatal visits from 39+0 weeks, offer women a vaginal examination for membrane sweeping. [2008, amended 2021]	These 2 recommendations have been combined as the committee agreed it was not necessary to differentiate based on parity, and that membrane sweeping could be offered from 39 weeks in all women.
1.3.1.3 At the 41-week antenatal visit, parous women should be offered a vaginal examination for membrane sweeping.	See above	See above
1.3.1.5 Additional membrane sweeping may be offered if labour does not start spontaneously.	1.3.5 Consider additional membrane sweeping if labour does not start spontaneously. [2008, amended 2021]	'May be offered' has been clarified as 'consider'.
1.4.1.1 Do not use the following for induction of labour:	1.4.1 Discuss with women that the available evidence does not support the use of the following methods for induction of labour:	The committee did not think there was enough evidence of harm from these interventions to

• oral PGE2 • intravenous PGE2 • extra-amniotic PGE2 • intracervical PGE2 • intravenous oxytocin alone • hyaluronidase • corticosteroids • oestrogen • vaginal nitric oxide donors.	• oral dinoprostone • intravenous dinoprostone • extra-amniotic dinoprostone or PGF2 • intracervical dinoprostone • vaginal PGF2 • osmotic cervical dilators • intravenous oxytocin alone • hyaluronidase • corticosteroids • oestrogen • relaxin • mifepristone (except in combination for intrauterine fetal death, see recommendation 1.2.27 and 1.2.29) • vaginal nitric oxide donors. [2008, amended 2021]	make a 'do not' recommendation so they amended the wording to explain this. The list of pharmacological methods that are not recommended for the induction of labour was modified to include new interventions which had been included in the evidence review, but which the committee did not agree to recommend.
1.5.1.1 In the outpatient setting, induction of labour should only be carried out if safety and support procedures are in place.	1.6.1 Consider outpatient induction of labour with vaginal dinoprostone preparations or mechanical methods in women without existing medical conditions or obstetric complications. 1.6.2 Carry out a full clinical assessment of the woman and fetus (see recommendation 1.5.1 and 1.5.2) and ensure safety and support procedures are in place. [2008, amended 2021]	The committee advised that outpatient induction of labour is carried out routinely by many units and so amended the recommendation to make it more permissive but to clarify that this should only be carried out in low risk women. They also clarified which methods were suitable for use in the outpatient setting and added that a full clinical assessment of the woman and fetus was required before outpatient induction
1.6.1.1 Wherever induction of labour is carried out, facilities should be available for continuous electronic fetal	1.5.2 Ensure facilities are available for cardiotocography wherever induction of labour is started. [2008, amended 2021]	'Electronic fetal monitoring and uterine contraction monitoring' has been changed to

heart rate and uterine contraction monitoring.		'cardiotocography' as this is the preferred term in line with other NICE guidelines. 'Carried out' has been amended to 'started' as the committee advised this monitoring would only be necessary at the beginning of induction and not necessarily throughout.
1.6.1.2 Before induction of labour is carried out, Bishop score should be assessed and recorded, and a normal fetal heart rate pattern should be confirmed using electronic fetal monitoring.	1.5.1 Before induction of labour is carried out: • abdominally assess the level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim • assess and record the Bishop score • confirm a normal fetal heart rate pattern and absence of uterine contractions using antenatal cardiotocography interpretation. [2008, amended 2021]	The committee agreed that it was important to confirm the baby's position and uterine activity before starting induction and so they added this. 'Electronic fetal monitoring' has been changed to 'cardiotocography' as this is the preferred term in line with other NICE guidelines, and it has been clarified that this is antenatal interpretation.
1.6.1.3 After administration of vaginal PGE2, when contractions begin, fetal wellbeing should be assessed with continuous electronic fetal monitoring. Once the cardiotocogram is confirmed as normal, intermittent auscultation should be used unless there are clear indications for continuous electronic fetal monitoring as described in 'Intrapartum care' (NICE clinical guideline 55). 1.6.1.4 If the fetal heart rate is abnormal after administration of vaginal PGE2, recommendations on	1.5.3 When uterine contractions begin after administering dinoprostone or misoprostol, assess fetal wellbeing and uterine contractions with intrapartum cardiotocography interpretation and: • if the cardiotocogram is confirmed as normal, review the individual circumstances and if considered low risk, use intermittent auscultation unless there are clear indications for cardiotocography • If the fetal heart rate is abnormal or there are	These 2 recommendation have been combined into 1 recommendation with bullet points to make it easier to read. 'Electronic fetal monitoring' has been changed to 'cardiotocography' as this is the preferred term in line with other NICE guidelines. It has been clarified that this is now

the management of fetal compromise in 'Intrapartum care' (NICE clinical guideline 55) should be followed.	excessive uterine contractions do not administer any more doses and remove any vaginal pessaries or delivery systems when possible. Follow the advice on monitoring during labour in the NICE guideline on intrapartum care. [2008, amended 2021]	intrapartum interpretation. Monitoring of uterine contractions has been added, as this is important to assess if there is hyperstimulation. Further guidance has been given that after assessment, in low-risk situations, intermittent auscultation can be used. Misoprostol has been added into this recommendation as it is now a treatment option, and the same monitoring requirements would apply. Advice to remove any vaginal pessaries or delivery systems has also been added to the recommendation on the advice of the committee.
1.6.1.5 Bishop score should be reassessed 6 hours after vaginal PGE2 tablet or gel insertion, or 24 hour after vaginal PGE2 controlled-release pessary insertion, to monitor progress.	1.5.4 Reassess the Bishop score at appropriate intervals to monitor progress, depending on the method of induction being used, and the clinical condition of the woman. [2008, amended 2021]	As a wider range of methods are now recommended for induction of labour (dinoprostone, misoprostol or mechanical methods) the recommendation has been updated to state that monitoring intervals will depend on the preparation used and the clinical condition.
1.6.1.6 If a woman returns home after insertion of vaginal PGE2 or tablet or gel, she should be asked to contact her obstetrician/midwife:	1.6.3 For induction being undertaken on an outpatient basis, agree a review plan with the woman before she returns home. [2008, amended 2021]	This recommendation has been split into 2 recommendations to make it easier to read.

• when contractions begin, or • if she has had no contractions after 6 hours.	1.6.3 Ask women to contact their obstetrician/midwife: • when contractions begin **or** • if there are no contractions (in an agreed timeframe, depending on the method used) **or** • if her membranes rupture **or** • if she develops bleeding **or** • if she has any other concerns, such as reduced fetal movements, excessive pain or uterine contractions, side-effects or loss of the pessary. [2008, amended 2021]	The recommendation has been amended on the advice of the committee to 'agree a review plan' as this may differ for different women and circumstances. The committee also agreed that there would be other circumstances where it was necessary for a woman to contact her obstetrician or midwife, and therefore added these to the list. The specific mention of PGE2 has been removed from the recommendation, as the requirement to agree a plan applies to all methods.
1.6.2.3 During induction of labour, healthcare professionals should provide women with the pain relief appropriate for them and their pain (as described in 'Intrapartum care' [NICE clinical guideline 55]). This can range from simple analgesics to epidural analgesia. 1.6.2.4 Birth attendants (carers and healthcare professionals) should offer women support and analgesia as required, and should encourage women to use their own coping strategies for pain relief. 1.6.2.5 The opportunity to labour in water is recommended for pain relief.	1.5.8 During induction of labour, provide women with the pain relief appropriate for them and their pain as described in the NICE guideline on intrapartum care. This can include simple analgesia, labour in water and epidural analgesia. [2008, amended 2021]	The recommendation was amended as the committee advised that it sounded like birth attendants could give pain relief, and that advising women to use their own coping strategies was too paternalistic. The recommendation to labour in water was combined with other options for pain relief
1.7.1.1 Tocolysis should be considered if uterine hyperstimulation occurs during induction of labour.	1.7.1 If uterine hyperstimulation occurs during induction of labour: • do not administer any more doses and remove any vaginal pessaries or	The recommendation to stop doses and remove vaginal treatments has been added as this would

	delivery systems if possible • consider tocolysis. [2008, amended 2021]	be the first-line action.
1.7.2 Failed induction	Unsuccessful induction	This heading has been changed to avoid the use of the negative term 'failed'.
1.7.2.1 If induction fails, healthcare professionals should discuss this with the woman and provide support. The woman's condition and the pregnancy in general should be fully reassessed, and fetal wellbeing should be assessed using electronic fetal monitoring.	1.7.2 If induction is unsuccessful, discuss this with the woman and provide support. Fully reassess the woman's condition and the pregnancy in general, and assess fetal wellbeing using antenatal cardiotocography interpretation. [2008, amended 2021]	'Electronic fetal monitoring' has been changed to 'cardiotocography' as this is the preferred term in line with other NICE guidelines, and it has been clarified that this is using antenatal interpretation.
1.7.2.2. If induction fails, decisions about further management should be made in accordance with the woman's wishes, and should take into account the clinical circumstances.	1.7.3 If induction is unsuccessful, discuss and agree a plan for further management with the woman, taking into account the clinical circumstances. [2008, amended 2021]	The recommendation has been amended to make it more consultative.
1.7.2.3 If induction fails, the subsequent management options include: • a further attempt to induce labour (the timing should depend on the clinical situation and the woman's wishes) • caesarean section (refer to 'Caesarean section' [NICE clinical guideline 13]).	1.7.4 If induction is unsuccessful, the subsequent management options include: • offering a rest period if clinically appropriate and then re-assessing the woman • a further attempt to induce labour (the timing and method should depend on the clinical situation and the woman's preferences) • caesarean birth. See the NICE guideline on caesarean section. [2008, amended 2021]	The option of offering a rest period has been added, based on the committee's clinical experience. The method of a further attempt to induce labour has been added to the second bullet as more options to induce labour are now included in the guideline.
1.7.3.1 To reduce the likelihood of cord prolapse, which may occur at the time of amniotomy, the following precautions should be taken: • before induction, engagement of the	1.7.5 Take the following precautions to reduce the likelihood of cord prolapse, which may occur if labour is induced: • before induction, abdominally assess the	The committee advised that the terminology in this recommendation should be updated and 'the level and stability of the fetal

presenting part should be assessed • obstetricians and midwives should palpate for umbilical cord presentation during the preliminary vaginal examination and avoid dislodging the baby's head • amniotomy should be avoided if the baby's head is high.	level and stability of the fetal head in the lower part of the uterus at or near the pelvic brim • during the preliminary vaginal examination, obstetricians and midwives should palpate for umbilical cord presentation and avoid dislodging the baby's head • carry out continuous cardiotocography during induction if the presenting part is not stable and not well-applied to the cervix. In this situation, discuss the. risks and benefits of induction of labour with the woman. [2008, amended 2021]	head' was more useful to assess than 'engagement of the presenting part'. The 3rd bullet 'if the baby's head is high' should be replaced by 'if the presenting part is not stable and well-applied to the cervix', and that in this situation, continuous cardiotocography would be needed to ensure that cord prolapse didn't occur and go unnoticed, and the risks should be discussed with the woman. The committee agreed that these precautions would apply to all methods of induction not just amniotomy and so made this clear in the stem of the recommendation.
-	Antepartum haemorrhage	A new sub-heading has been added as the recommendation about low-lying placenta would cause antepartum haemorrhage.
1.7.4.1 If uterine rupture is suspected during induced labour, the baby should be delivered by emergency caesarean section (refer to 'Caesarean section' [NICE clinical guideline 13]).	1.7.7 If uterine rupture is suspected during induced labour, carry out an immediate category 1 caesarean birth. See the NICE guideline on caesarean section. [2008, amended 2021]	The terminology for the category of caesarean has been updated in accordance with NICE guidelines on caesarean section.

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Table 3 Minor changes to recommendation wording (no change to intent)

Recommendation numbers in current guideline	Comment
All recommendations except those labelled [2021]	Recommendations have been edited into the direct style (in line with current NICE style for recommendations in guidelines) where possible. Yellow highlighting has not been applied to these changes.

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