

Induction of Labour

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Key Recommendations

- Induction of labour may be offered when:
 - Delivery is considered to be safer (for maternal or for fetal reasons) than continuing the pregnancy, taking into account the risks of the induction process itself on the mother and the risks of prematurity on the baby.
 - Occasionally, delivery itself needs to be timed in order that the specialist resources can be made available for labour or the early neonatal period.
- Induction of labour should only be considered when vaginal delivery is felt to be an appropriate and safe mode of birth.
- When induction of labour is requested due to psychological issues or anxiety, consider referral to the Mode of Birth Clinic to discuss a birth plan to support spontaneous labour.
- Induction of labour is not a benign intervention and should only be offered for clear reasons.
- Induction for suspected fetal macrosomia or previous precipitate labour should not be routinely offered in the absence of other indications.
- Other than for prolonged pregnancy (see below), the decision to offer induction of labour should be agreed the consultant before making arrangements.

Background

Induction of labour is a common intervention, occurring in up to 25% of pregnant women. Labour following induction is usually longer and perceived as more painful. Women whose labours are induced are more likely to go on to require other forms of medical intervention, including emergency caesarean section. Therefore care in the planning and appropriate use of induction is required.

Aims

- Ensure induction is offered appropriately
- Offer stretch and sweep before induction at least 2-3 days before procedure starts if timing allows
- Ensure adequate resources available
- Ensure induction procedure happens expeditiously and safely.

Scope

This guideline is applicable to all women who require induction of labour within the Oxford University Hospitals. Induction of labour may be offered in the following circumstances (this list is not exhaustive):

- Prolonged Pregnancy (T+10 to T+14)
- Pre-labour rupture of membranes at term/preterm pre-labour rupture of membranes. See [Pre-labour Rupture of Membranes at Term/Preterm Pre-labour Rupture of Membranes Guideline](#)
- Maternal Indications
 - Diabetes
 - Hypertension
 - Cholestasis
 - Previous Stillbirth
 - Antepartum Haemorrhage
 - Intrauterine Death
- Fetal indications
 - Intra-Uterine Growth Restriction
 - Multiple pregnancy

Definitions

Term	Definition
Induction of labour	To artificially initiate uterine contractions. This leads to progressive dilatation, effacement of cervix and birth of the baby. Includes women with intact membranes and those with spontaneous rupture of membranes but not in labour.
Bishop Score	Bishop score is a pre-labour scoring system to assist in predicting whether induction of labour will be required. The total score is achieved by assessing the following five components on vaginal examination. <ul style="list-style-type: none"> • Cervical dilation • Cervical effacement • Cervical consistency • Cervical position • Fetal station

Executive Summary

Information and decision-making

Women should be informed that most women will go into labour spontaneously by 42 weeks gestation.

At the 38 week antenatal visit, all women should be offered verbal information about the risks associated with pregnancies that last longer than 42 weeks, and their options. These include:

- Membrane sweeping
- Induction of labour between 41+3 and 42+0 weeks
- Expectant management

The doctor or midwife should explain the following points to 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, pain relief (recognising that women are likely to find induced labour more painful than spontaneous labour) and 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 be should that be the case.

Induction of labour to prevent prolonged pregnancy

Women with uncomplicated pregnancies should usually be offered induction of labour between 41+3 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*. (*see guideline for details on JR and Horton on page 8)

Vaginal PGE 2

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 hyper-stimulation). Within the OUH NHS trust this is administered as a 2mg gel.

The recommended regimen is 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). *NB. If gel is given in the evening the vaginal examination should not be undertaken between 0000-0600.*

Failed induction

If induction fails, the doctor or midwife 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. 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)
- Abandoning the procedure
- Caesarean section

Full Guideline

Methods of Induction of labour

Membrane Sweeping

This is not recommended when membranes are ruptured.

Before considering other methods for induction, offer membrane sweep.

- To nulliparous women at 40 week antenatal visit
- To all women at 41 week antenatal visit
- To all women if assessing the cervix or if labour does not start spontaneously

This has been shown to increase the chances of labour starting naturally within 48 hr. This may be carried out in woman's home, antenatal clinic or hospital.

Midwife or doctor will:

- Provide full explanation of procedure
 - Obtain and record verbal consent
 - Inform the woman that membrane sweeping is not associated with an increase in maternal or neonatal infection but the procedure can result in increased levels of discomfort and bleeding
 - Provide Trust 'Induction of labour' leaflet
- Ensure the woman has the relevant contact telephone numbers should she go into labour spontaneously

Medical Induction of Labour

Nulliparous women (1st baby)

In nulliparous with intact membranes, use prostaglandin in preference to oxytocin, unless there is a significant risk of uterine hyper-stimulation due to intra-cervical prostaglandin administration (i.e. a fully effaced cervix and palpable membranes).

1. Administer first dose prostaglandin 2 mg gel in the posterior fornix of the vagina. Midwife will perform vaginal examination 6 hours after initial dose of gel to assess state of cervix, whether the woman is contracting or not. *NB. If gel is given in the evening the vaginal examination should not be undertaken between 0000-0600.*
2. If at next examination, artificial rupture of membranes (ARM) possible, perform regardless of Bishop's score.
3. If ARM not possible, administer second dose prostaglandin 2 mg gel vaginally.
4. Maximum dose of prostaglandin is 4 mg gel in 24 hours. If this is not adequate to allow ARM see 'Failed induction' section.

Multiparous women (2nd and 3rd baby)

In multiparous women with intact membranes, use prostaglandin in preference to oxytocin unless there is a significant risk of uterine hyper-stimulation due to intra-cervical prostaglandin administration (i.e. a fully effaced cervix and palpable membranes)

1. Administer first dose prostaglandin 2 mg gel vaginally in the posterior fornix of the vagina. Midwife will perform vaginal examination 6 hours after initial dose of gel to assess state of cervix, whether contracting or not. *NB. If gel is given in the evening the vaginal examination should not be undertaken between 0000-0600.*

2. If at next examination, artificial rupture of membranes (ARM) possible, perform regardless of Bishop's score.
3. If ARM not possible, discuss with the duty registrar re second dose of vaginal PGE2 gel.
4. Maximum dose of prostaglandin is 4 mg gel in 24 hours. If this is not adequate to allow ARM see 'Failed induction' section.

Following SROM (pre-labour rupture of membranes)

1. Administer prostaglandin 2 mg gel vaginally, in the posterior fornix of the vagina.
2. Midwife will perform vaginal examination 6 hours after initial dose of gel to assess state of cervix, whether contracting or not.
3. Commence syntocinon infusion 6 hours after prostaglandin gel.
4. Maximum dose of prostaglandin is 2mg gel.

Risk of Hyperstimulation (4th & subsequent babies)

1. If at first examination, artificial rupture of membranes (ARM) is possible, perform regardless of Bishop's score.
2. Commence Syntocinon infusion as per protocol.
3. If ARM not possible, consider 1 dose prostaglandin 2 mg gel vaginally after discussion with consultant.
4. Maximum dose of prostaglandin is 2mg gel.

Contraindication to induction of labour with prostaglandin

- Previous caesarean section – see '*Vaginal birth after caesarean section guideline*'
- Sensitivity to prostaglandins
- Hypertonic uterine contractions
- Mechanical obstruction to delivery
- Placenta praevia
- Uncontrolled severe pre-eclampsia
- History of existing inflammatory disease, unless adequate prior treatment instituted
- Clinical suspicion or definite evidence of pre-existing fetal distress
- Uncontrolled asthmatic

Antenatal Management and Booking of Planned Induction of Labour (Low risk pregnancies - 41 weeks appointment)

The midwife will:

Perform routine antenatal assessment, to include:

- blood pressure, urine for proteinuria and glycosuria
- measure fundal height and plot on growth chart
- check position of baby
- auscultate fetal heart using Pinard stethoscope (or sonicaid) and enquire about fetal activity
- Following explanation of the procedure, perform a membrane sweep and inform woman of findings.
- Explain pregnancy so far and provide woman with opportunity for discussion and questions.

- Explain she may experience discomfort and the passing of a show. Advise to contact maternity unit if she experiences bleeding, spontaneous rupture of membranes, abdominal pain or contractions.
- Arrange admission date and time for induction at 40 weeks plus 10–14 days' gestation*.
- Record all discussions in the woman's health records indicating her full understanding of her plan of care.

* At the JR, due to local circumstances, and to give women every opportunity to go into labour spontaneously, once the gestation reaches 41 weeks, induction of labour will be planned to occur at 42 weeks. At the Horton, induction of labour is offered between 40 weeks plus 10–14 days' gestation

Advice where woman wishes to continue pregnancy beyond 42 Weeks

For women who choose to continue their pregnancy beyond 42 weeks, despite adequate explanation of the risks, advise to continually monitor fetal movement pattern.

Make a referral to an Obstetric Consultant who will develop a plan of care. Arrange an appointment at the Day Assessment Unit for:

- Ultrasound estimation of maximum amniotic pool depth
- Umbilical artery Doppler study
- Cardiotography (CTG)

Admission and management of prostaglandin induction of labour (Low risk pregnancies - 41+3 days to 42 weeks)

Admit and perform general observations:

- Temperature
- Pulse
- Blood pressure
- Urinalysis
- Full antenatal examination

Obtain and review full history and carry out:

- Abdominal examination
- Fetal heart assessment using Pinard stethoscope or Sonicaid

Further Care:

- Give woman information regarding discomfort associated with procedure and pain relief options.
- Explain there is no association with induction to an increase in maternal or neonatal infection, bleeding, contractions and hyper-stimulation.
- Obtain verbal consent.
- Perform external [electronic fetal monitoring](#) (EFM) using a Cardiotocograph machine (CTG) until fetal wellbeing is confirmed (usually about 20 minutes).
- Assess cervix using Bishop's score and record findings.

- Administer prostaglandin vaginally.
- Advise woman to remain lying down (left / right lateral) for at least 30 minutes following prostaglandin administration, during which time EFM should continue.
- Provided initial monitoring is within normal parameters, discontinue CTG and revert to [Intermittent Auscultation](#) (IA).
 - Reassess fetal wellbeing using cardiotocography (CTG) trace of 20 minutes once contractions have commenced.
 - If normal, discontinue CTG after 20 min and revert to IA.
- If at any time throughout the procedure, fetal heart rate is outside normal parameters, continue CTG and inform obstetric registrar/consultant.
- As a minimum there should be an hourly review of fetal and maternal well-being, unless the woman is asleep. This should be documented on the Induction of Labour Sheet. Observations (maternal temperature, pulse, B/P, FHR) should be carried out at least four hourly during induction, prior to the onset of labour. These should be recorded on the MEOWS chart. Some women will require more frequent observations – in these cases an individual management should be documented in the intrapartum record.
- Encourage the woman to mobilise freely and consider using non-pharmacological pain relief.
- Use of oxytocin is an indication for continuous EFM. EFM should also be used when established labour follows induction with 2 doses of prostaglandin.

Process for when the Service is Unable to Induce Women Due to Workload

There will be rare occasions when accommodating the IOL work in a timely fashion may be challenging due to volume and complexity of emergency work in the Delivery Suite.

At the beginning of the day shift at 0800 the Delivery Suite Co-ordinator, Registrar and Consultant Obstetrician will review the IOL work for the day. If delays are anticipated, collaboratively the team will decide and plan any necessary rescheduling along with an explanation and apology to the parents. A specific plan of care for each mother should be documented in the maternal health records. Any rescheduling should be made by midday at the latest.

Uterine hyper-contractility

In the presence of abnormal fetal heart rate patterns and uterine hyper-contractility, consider subcutaneous Terbutaline 250 microgram once only.

- Position the mother into left lateral position
- Stop oxytocin infusion if this is in use
- Notify medical staff

Use of Terbutaline notes:

Contra-indications: Heart disease, Cardiac arrhythmia, Hyperthyroidism

Observations: check pulse rate, blood pressure & blood sugar if mother is diabetic.

Side effects: palpitation, tremor, nausea,

Watch for: breathlessness, chest pain

Antenatal management of planned induction of labour (High Risk Pregnancies)

- Appropriate observations by obstetric medical staff.
- Discuss plan of care with all high risk women to decide timing and method of induction of labour.
- Provide 'Induction of labour' information leaflet.
- Decision to offer Induction of labour other than for prolonged pregnancy should be made by a consultant.
- Follow procedure in Low risk pregnancies above.

Admission and management of prostaglandin induction of labour (high risk cases by medical staff)

- Consultant obstetrician will be lead professional for all cases
- For management see Admission and management of prostaglandin (low risk pregnancies) above.

Induction of labour in women with a previous caesarean section

- The decision to induce a woman with a previous caesarean section should be made by an obstetric consultant after a vaginal examination.
- Vaginal examination is useful in determining method of induction
- Offer membrane sweeping.
- Discuss risks of induction of labour with woman (e.g. failed induction/repeat caesarean section, scar rupture)
Risk of scar rupture is approximately doubled with ARM and oxytocin and increased five-fold with prostaglandin. If both oxytocin and prostaglandin are used the risk is increased 25 times.
- With a relatively low Bishop's score, still consider proceeding directly to ARM.
- For women with a previous caesarean section undergoing induction, insert a cannula and take blood for FBC and Group & save.
- Monitor fetal wellbeing closely throughout
CTG monitoring continually from the onset of even mild contractions or any pain until delivery

Failed induction of labour

If amniotomy not possible following two doses of prostaglandin gel, the woman should be reviewed by a Senior Obstetrician for consideration of a third prostaglandin gel (not to exceed 4mgs in 24 hours)

If amniotomy still impossible after third dose of prostaglandin gel, induction of labour has failed

Discuss with consultant obstetrician and discuss the options with the woman including:

- Caesarean section
- Abandon process and await onset of labour
- Using further dose of prostaglandin without interval
- In some cases, consideration may be given to using Syntocinon infusion with intact membranes on consultant advice only

A plan of care will be made based on the consultant's input and woman's decision and documented in the woman's health records.

Appendix 1 – Audit and Monitoring

Compliance Standard	Monitoring method	Frequency of monitoring	Review Group/Committee
Induction for prolonged pregnancy	8 sets of notes where women have had their labour induced	Annual	WCGC
Induction for previous caesarean section	8 sets of notes where women have had their labour induced	Annual	WCGC
Maternal and fetal observations prior to established labour	8 sets of notes where women have had their labour induced	Annual	WCGC
Process for dealing with maternal requests for labour	8 sets of notes where women have had their labour induced	Annual	WCGC

Appendix 2 – Induction of Labour Chart

Induction of Labour

Gel number

Date _____

Gestation _____

Indication

Postdates Other (please specify) _____

Pre-Gel Observations (documented on MEOWS chart) with explanation and consent

Abdominal Palpation

Fundus _____cms

Lie _____

Presentation _____

Position _____

Engaged _____(/5ths palpable)

FMs _____

Pre-Gel CTG

Normal YES/NO Two signatures on trace
(Refer to EFM guideline)

Do not give Gel if CTG is not normal:
Continue trace and seek medical review

Internal Examination

PGE2 Gel is prescribed on the drug chart and is to be given irrespective of Bishops Score unless there is a risk of uterine hyperstimulation from intracervical application.

Cervical feature	Score			
	0	1	2	3
Cervix position	Post	Centre	Anterior	-
Consistency	Firm	Medium	Soft	-
Length (cm)	3	2	1	0
Dilatation (cm)	0	1-2	3-4	5-6
Station* to spines 1	-3	-2	-1	0+
Total Bishop Score:				

PGE2 Gel given: Dose _____ Batch Number _____

Date/Time _____

Post administration woman should lie on side for at least 30 minutes + CEFM to ensure fetal wellbeing.

Post-Gel CTG

Normal YES/NO Two signatures on trace
(refer to EFM guideline) If no, seek medical review

Sign and Print name: _____ Date/Time _____

Birth Plan: document discussion with woman below:	Tick When Complete
Encourage mobilisation, eating and drinking (after 30 minutes post Gel)	
Plan for next assessment in 6 hours	
Discuss overall potential timeframe and procedures	
Discuss analgesia:- After Gel/early labour - Established labour (include pool if establishes after one gel)	
Answer any questions she may have	

Monitoring Plan:

An hourly assessment/discussion of maternal and fetal well-being should be had with the woman and noted in the table below.

Please circle as appropriate:

Gel +1 hour	+2 hours	+3 hours	+4 hours	+5 hours
Contracting Y/N	Contracting Y/N	Contracting Y/N	Contracting Y/N	Contracting Y/N
Analgesia needed Y/N	Analgesia needed Y/N	Analgesia needed Y/N	Analgesia needed Y/N	Analgesia needed Y/N
Discussed wellbeing Y/N	Discussed wellbeing Y/N	Discussed wellbeing Y/N	Discussed wellbeing Y/N	Discussed wellbeing Y/N

N.B. Commence CTG in presence of uterine hyperstimulation.

When contractions start commence CTG for 30 minutes to confirm reassuring FHR.

CTG Normal	Tick When Complete	CTG Not Normal
Discontinue & commence intermittent auscultation throughout labour (unless ≥ 2gels required or clinical indications arise)		Continue monitoring and seek senior review
Two signatures on CTG		
CTG filed in maternal notes		

Analgesia Given

Type of Analgesia	Date Given/Commenced	Time Given/Commenced

Prescribed analgesia must also be documented on the drug chart. Only one dose of Meptid may be given. If a 2nd dose is required a CTG must be commenced and a doctor review.

As a minimum 4 hourly fetal and maternal observations must be documented on the MEOWS chart following the induction of labour guideline.

For all high risk inductions an individualised management plan for maternal and fetal observations should be made by the doctor prescribing the gel and documented in the Woman's Health Records.

Appendix 3 – Mode of Birth Clinic Referral Form

Referral for Mode of Birth Clinic or consultant midwife opinion (please use VBAC form for previous C/S referrals to VBAC clinic)

Referrals to

<p>Sian Warriner Consultant Midwife Level 7, Women's Centre Or via Maternity reception, Horton Maternity Hospital Tel: 01865 (8)51096 Mob: 07775502012</p>	<p>Helen White Consultant Midwife Level 2 (Maternity Assessment Unit), Women's Centre Or via Maternity reception, Horton Maternity Hospital 01865 (7)40430 07900 656965</p>
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Criteria for referral:

- Significant anxiety resulting from previous birth experience
- Significant fear of childbirth
- Maternal request for primary Caesarean section
- Any case for which you would value extra midwifery planning

Woman's sticky label:	Contact number:
Consultant Obstetrician:	Community Midwife team:
Date of referral:	Parity:
EDD:	
Reason for referral:	
Referred By:	Contact number:

References

1. NICE Clinical Guideline July 2008 Induction of labour.
2. NICE clinical guideline Sept 2007 Intrapartum care - care of healthy women and their babies during childbirth.

[End of document]

Redaction Summary

Page 1

Redaction 1.1

Exemptions/exceptions:

- S.40 - Personal Information

Redaction 1.2 has no exemptions/exceptions

Redaction 1.3 has no exemptions/exceptions

Redaction 1.4 has no exemptions/exceptions

Redaction 1.5 has no exemptions/exceptions

Redaction 1.6 has no exemptions/exceptions