

Induction of labour

Clinical Guideline Presentation v7



45 minutes

Towards CPD Hours

References:

Queensland Clinical Guideline: Induction of labour is the primary reference for this package.

Recommended citation:

Queensland Clinical Guidelines. Induction of labour clinical guideline education presentation E22.22-1-V7-R27. Queensland Health. 2022.

Disclaimer:

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

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Objectives

- Identify clinical indications for induction of labour
- Identify indications for methods of IOL
- Understand recommendations for safe IOL
- Recognise clinical circumstances that require escalation of care during IOL

Abbreviations

Abbreviation	Meaning
ARM	Artificial rupture of membranes
BP	Blood pressure
CS	Caesarean section
CTG	Cardiotocograph
FHR	Fetal heart rate
IOL	Induction of labour
MBS	Modified Bishop score
PV	Per vaginal
TPR	Temperature, pulse and respirations
USS	Ultrasound scan

Induction of labour

When is IOL recommended?

When the maternal and fetal risks of continuing the pregnancy outweigh the risks of IOL and birth.



Timing of birth

- Birth at 37+0 to 38+6 weeks is associated with an increase in neonatal morbidity compared to birth at or beyond 39+0 weeks
- There is an increase in the risk of stillbirth with advancing gestation
- **Take away message?**
 - Individualise timing of birth according to individual clinical circumstances
 - Avoid IOL prior to 39+0 weeks unless maternal and/or fetal risks of ongoing pregnancy outweigh the risks of IOL and birth

Risks and benefits of IOL

- There are risks and benefits for both IOL and expectant management
- Risks are dependent on individual clinical circumstances, the indication for IOL and method of IOL
- Clinical risks of IOL include tachysystole, hypertonus, uterine hyperstimulation, cord prolapse and uterine rupture
- The benefit of IOL is the reduction of perinatal and/or maternal morbidity and mortality when performed for an established indication

Birth considerations

There are *potential* implications for birth with an IOL including:

- Increased pain
- Increased number of vaginal examinations
- Higher incidence of interventions
- Limitations to water immersion
- Limitations on choice or place of birth
- Possible delays if resource or staffing issues
- Lack of control or feeling unprepared

Talking with women about IOL

- Discuss preferences for mode of birth early in pregnancy
- Provide clear, balanced, unbiased, in depth and individualised information about IOL and other choices
- Gain understanding from the woman about preferences and preferred level of involvement with decision making about IOL
- Access available decision aids or tools

Modified Bishop Score (MBS)

- The MBS is commonly used to assess the cervix and to inform the choice of method of IOL
- State of cervix is an important predictor of successful IOL
- Cervical ripening is recommended if the MBS is 6 or less

Modified Bishop Score (MBS)	0	1	2	3
Cervical dilatation (cm)	< 1	1–2	3–4	> 4
Cervical length (cm)	≥ 3	2	1	< 1
Station (ischial spines)	-3	-2	-1 / 0	+1 / +2
Cervical consistency	Firm	Medium	Soft	
Cervical position	Posterior	Mid	Anterior	

Membrane sweeping

- Effective for promoting spontaneous labour and reducing the need for IOL
- Optimal frequency is unknown
- No evidence of increased maternal or fetal morbidity
- Associated with discomfort, vaginal bleeding and irregular contractions
- Offer membrane sweeping from 39+0 weeks and prior to formal IOL
- If spontaneous labour does not occur after the first sweep, additional membrane sweeps can be offered

Case study

Eleanor, a 27 year old caucasian woman, is 40+2 weeks with her first baby. She has been well and has no significant history. She asks you if she needs an induction.

Is IOL recommended for Eleanor?

- No. If Eleanor and her baby are otherwise well, there is no current indication for IOL
- IOL is recommended beyond 41+0 weeks gestation
- Discuss the possibility of IOL if labour does not start spontaneously before 41+0 weeks

Will you offer a membrane sweep to Eleanor?

- Yes. Discuss and offer membranes sweeping for Eleanor
- May reduce need for formal IOL
- May cause discomfort, some vaginal bleeding and irregular contractions
- Can be repeated if spontaneous labour does not occur after first sweep

Method of IOL

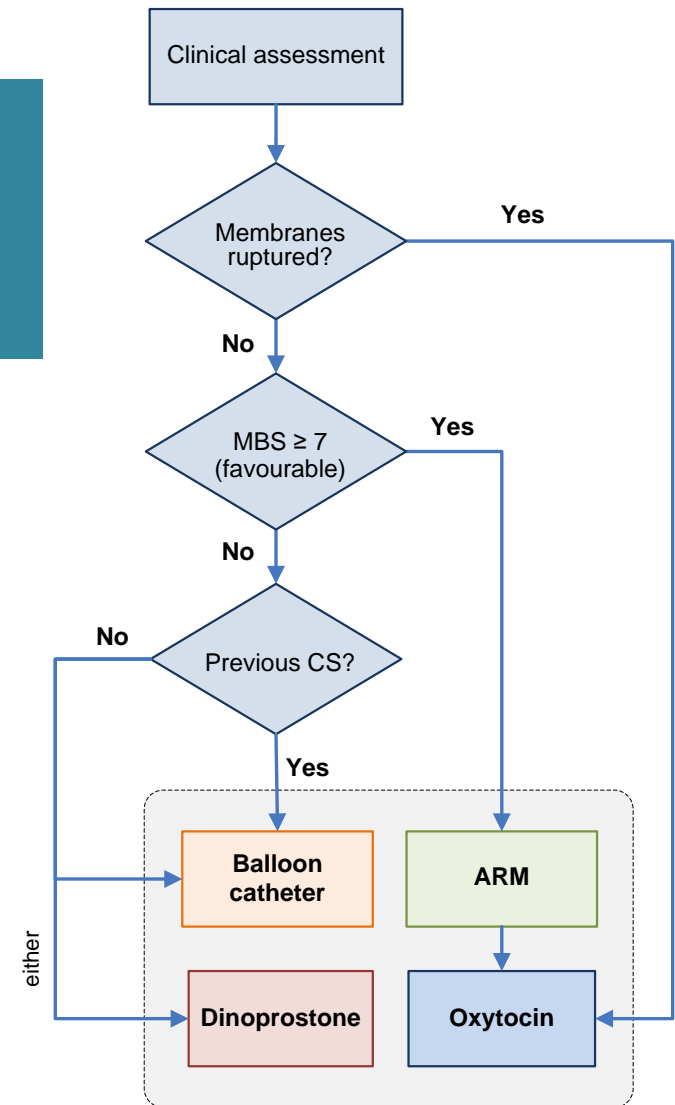
Eleanor, is now 41+2 weeks gestation and remains well. She requests a membrane sweep and is keen for an IOL. Her MBS is 3. All observations are normal.

What method(s) of IOL are appropriate for Eleanor?

Using decision flowchart you determine:

- Membranes are intact so oxytocin is not recommended
- Cervix is unfavourable, so ARM is not recommended
- No previous CS

Balloon catheter or Dinoprostone are appropriate for Eleanor



Transcervical balloon catheter

After discussion, Eleanor has opted to have a balloon catheter inserted. Later that day, the balloon catheter is inserted.

What care is indicated post catheter insertion?

- Maternal observations immediately following insertion and 30 minutes post insertion.
- Ongoing monitoring as for latent first stage while:
 - Observations normal
 - No contractions
 - Not otherwise indicated
- CTG monitoring is not required unless there are other indications

Can Eleanor go home with a balloon catheter in situ?

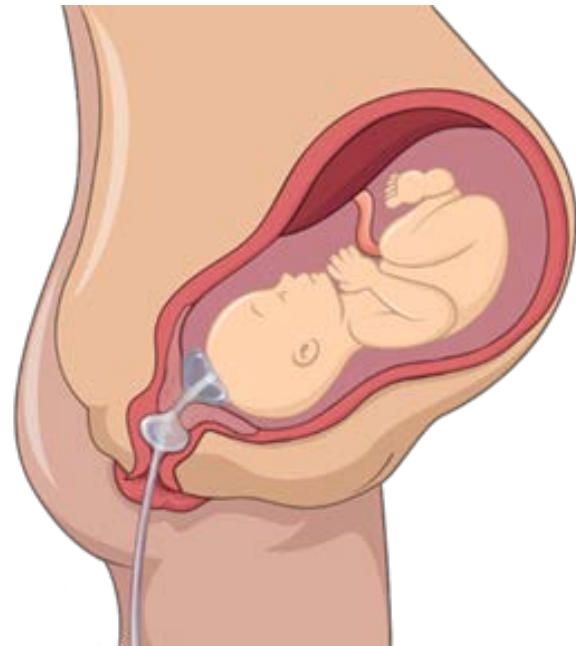
- Depends on local policy, and individual circumstances and preferences
- Feasible option, given balloon catheter has favourable safety profile and low risk of adverse outcomes

Transcervical balloon catheter

Eleanor lives close by to the hospital, and would prefer to go home with the balloon catheter.

When should Eleanor return to hospital?

- If membranes rupture
- If balloon falls out
- If reduced fetal movements, vaginal bleeding or concerns
- If labour commences
- At agreed time for removal of balloon **12 hours after insertion**



Transcervical balloon catheter

Eleanor returns 12 hours later. Her observations are normal and the baby is moving normally. After discussion with Eleanor, you remove the balloon and perform a VE with the intention of performing an ARM. Unfortunately, an ARM possible, and Eleanor's MBS is 5.

What should you tell Eleanor?

- ARM not technically possible
- The cervix has ripened some, but not yet sufficiently
- Dinoprostone is appropriate to progress IOL
- Other options include expectant management, delaying IOL or elective CS



Dinoprostone

Eleanor wants to proceed with Dinoprostone for further cervical ripening.

What dose of dinoprostone is indicated?

- Dinoprostone comes in gel or pessary form
- If gel is used, the recommended dose is 2 mg PV for nulliparous women
- If pessary is used, the dose is 10 mg (controlled-release)



Dinoprostone

Eleanor has 2 mg dinoprostone (prostaglandin E2/ PGE2) gel inserted.

What care is indicated following insertion of dinoprostone gel?

- CTG for minimum of 30 minutes
- Advise to remain recumbent for 30 minutes
- TPR, BP, FHR, PV loss hours for 4 hours unless asleep
- If observations are normal, no contractions and not otherwise indicated, ongoing care as for latent first stage of labour
- Continuous CTG when in active labour

How long until reassessment?

- 6 hours
- May repeat to a maximum of 3 doses at least 6 hours apart



Artificial rupture of membranes

Eleanor is returns for reassessment 6 hours following the insertion of Dinoprostone gel. She has been having irregular mild contractions and has had a bloody, mucousy show. Eleanor's cervix has ripened enough to enable an ARM to be performed.

What care is indicated prior to ARM?

Complete pre-IOL assessment

Encourage Eleanor to empty bladder

During VE identify:

- MBS
- Stage of labour
- Presentation, descent and application of presenting part
- Membranes
- Assess for clinical concerns

What care is required post ARM?

- Confirm passage of fluid and assess volume, colour (presence of blood or meconium) and consistency
- FHR or CTG immediately following ARM
- Recommend immediate commencement of oxytocin
- Document procedure and findings
- If liquor or FHR abnormalities, perform a CTG

Oxytocin

A student midwife asks you about the preparation of the infusion.

What do you tell the student midwife about safely preparing an oxytocin infusion?

In Queensland, a standard oxytocin preparation is recommended

Reasons for a standard preparation include:

- Reducing risk of medication errors, especially for staff moving across facilities
- Same concentration is used if there is a PPH. This eliminates need to prepare a second bag in an emergency

What do you tell the student midwife about how the infusion is delivered and titrated?

- Use a volumetric pump
- Use the minimum dose required to establish and maintain active labour
- Increase dose at 30 minute or longer intervals according to standard regimen

Oxytocin

Eleanor is keen to get going with Oxytocin.

What care is the recommended regimen for oxytocin?

Infusion: oxytocin (30 International units in 500 mL) 1 milliunit/minute is equal to 1 mL/hour	
Time after starting (minutes)	Dose (milliunit/minute)
0	1
30	2
60	4
90	8
120	12
150	16
180	20
Prior to exceeding 20 milliunit/minute: Obstetrician review required	
210	24
240	28
270	32

What care is indicated during an oxytocin infusion?

- One to one midwifery care
- Intrapartum record
- Monitoring of fluid balance
- Continuous CTG from the onset of the infusion
- Maternal pulse and FHR prior to any increase in infusion rate
- Record dose at 30 minute or longer intervals and record in milliunit per minute
- Aim for 3 to 4 contractions in a 10 minute period, with duration of 40 to 60 seconds and resting period not less than 60 seconds



Oxytocin

Over the next few hours, Eleanor establishes in labour and later gives birth to a baby boy, Edward.

