INDUCTION OF LABOUR

Induction of labour is indicated when the maternal and/or fetal risks associated with continuing the pregnancy are greater than the risks associated with delivery.

Be sure of your reasons for Induction of Labour (IOL)

Indications for and timing of induction of labour

Indication	Timing
Chronic or gestational hypertension	38w0d
Preeclampsia (depending on gestation, severity, Doppler's and growth)	34w0d or at diagnosis if after 34w0d
Diabetes mellitus • Gestational & pre-gestational – uncomplicated • Gestational & pre-gestational – poorly controlled or complicated	• 38w0d • Individualise based on severity, preferably after 34w0d
Previous abruptio placentae of unknown cause	38w0d
Previous Intrauterine Fetal Demise (IUFD) of unknown cause	38w0d
Preterm prelabour rupture of membranes	34w0d or at diagnosis if after 34w0d
Prelabour Rupture of Membranes	At diagnosis or expectant management for 24 hours if patient has been informed about risks
Suspected chorioamnionitis	Consider immediate delivery vs trial of antibiotics
Post-dates pregnancy	41w0d
Intrauterine growth restriction (IUGR) • Features of growth restriction (singleton) - Otherwise uncomplicated with normal dopplers • Concurrent conditions (Oligohydramnios, maternal co-morbidity [e.g. chronic hypertension] • Abnormal Doppler	• 38w0d • 34w0d – 37w6d • 32w0d – 34w0d
Social reasons (e.g. patient staying far from the hospital, previous precipitous labour, maternal request)	≥39w0d

Contraindications for induction of labour

- Intra-uterine growth restriction with absent or reverse umbilical artery flow
- Fetal malpresentation
- Abnormal pelvis
- Cord presentation
- Placenta/vasa praevia
- Previous uterine surgery (e.g. classic/fundal incision Caesarean Sections or myomectomy etc.)
- Active genital herpes
- Obstructive Human Papillomavirus (HPV)
- Any contraindication to normal vaginal delivery

Patient counselling prior to IOL

Healthcare professionals should counsel women being offered induction of labour on the following aspects:

- The reasons for IOL being recommended
- The procedure for IOL to be explained to the patient
- The arrangements for support and pain relief options (recognizing that women are likely to find IOL more painful than spontaneous labour)
- The alternative options if the woman opts not to have IOL
- The risks and benefits of IOL in specific circumstances and the proposed induction methods
- That IOL may be unsuccessful and what options are available following a failed IOL.
- It is essential to record that patient understands the issues
- Obtain informed consent

Membrane sweeping:

Membrane sweeping as an option to increase the chance of spontaneous labour needs to be discussed with the patient:

- To be offered prior to offering IOL in a low risk patient
- Membrane sweeping makes spontaneous labour more likely, thus reducing the need for medical induction of labour
- Describe what a membrane sweep is
- Inform patient that discomfort and/or vaginal bleeding is possible from the procedure
- Offer patient options for delivery if she does not go into labour after membrane sweeping

Assessment prior to induction of labour

- Ensure indications for IOL are still valid
- Ensure adequate staffing for safe care and monitoring
- Abdominal exam (lie, presentation, Estimated Fetal Weight (EFW), Head Above Brim)
- Cervical assessment using the Modified Bishops score

Modified Bishop Score (favorable if Bishop score ≥9)

Cervical feature	0	1	2	3
Dilatation	<1cm	1-2cm	3-4cm	>4cm
Length	>4cm	3-4cm	1-2cm	<1cm
Station	-3	-2	-1	+1/+2
Consistency	Firm	Medium	Soft	
Position	Posterior	Midposition	Anterior	

Unfavourable cervix (Bishops score <9):

- Consider mechanical induction with a Foley's catheter
- Consider prostaglandin administration until AROM possible
- Options include:
    - Oral misoprostol 200µg tablet in 200ml water. Shake well until tablet is dissolved. Label the solution (patient details, dosage, and time). Shake well before every dosage. Give 25ml every 2 hours per os (PO) x 12 dosages
    - Dinoprostone (Prostaglandin E_2, Propess®) 10mg per vagina (PV) to be left in for up to 24 hours
    - Dinoprostone (Prostin E_2® tablets) 2 per vagina (PV) 4hrly x 6 doses
    - Dinoprostone (Prandin® gel administered vaginally into the posterior fornix 1mg 6hrly x 3 doses (2mg can be used for the 1st dosage in primigravidas)
- CTG before and after each dose for 20 minutes
- If patient reports contractions, assess for strength and frequency of contractions, cervical changes, and fetal well-being (CTG)
- If CTG abnormal, start intrauterine resuscitation, omit the next prostaglandin dose and call doctor

Once cervix favourable and AROM possible:

- CTG for 15 minutes to assess for fetal wellbeing
- AROM using a sterile technique
- CTG for 20 minutes after AROM
- Mobilise patient for at least 1 hour
- Only start oxytocin infusion after 6 hours of last prostaglandin dose if the patient is not having adequate contractions (i.e. 3 strong contractions (>40seconds) in 10 minutes). If prostaglandin E2 tablets or Propess® have been removed from vagina then oxytocin infusion can be started after 1 hour in the absence of adequate contractions (Oxytocin Protocol to be signed off for each patient and individualised if necessary)
- Continuous CTG monitoring once oxytocin commenced

Favourable cervix (Bishops score ≥ 9)

- Consider artificial rupture of membranes (AROM), if no contra-indication
- Contraindications to AROM:
    - HIV positive with detectable viral load
    - IUFD unless abruptio placentae suspected
    - Unengaged (?high) presenting part (risk of cord prolapse)
- AROM using a sterile technique
- Controlled AROM in the case of polyhydramnios (this to be done by Doctor only)
- Do a CTG for 20 minutes after AROM to ensure a reassuring CTG
- Mobilise patient for at least 1 hour
- Consider Oxytocin after 1 hour if not having 3 strong contractions (>40seconds) in 10 minutes (Oxytocin Protocol to be signed off for each patient and individualised if necessary)

If after previous caesarean delivery (VBAC):

- Foley balloon catheter
- **NO** Misoprostol
- Use PGE2 vaginally as above
- Risks: Increased risk of emergency caesarean delivery, uterine rupture

Failed IOL

- Failed induction is defined as a patient not progressing into active labour after 24 hours/one cycle of treatment with prostaglandins
- 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.
- 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.
- If induction fails, the subsequent management options include either a further attempt to induce labour with AROM and oxytocin following prostaglandins, or caesarean section. The decision depends on the clinical situation and the woman's wishes.
- No repeat courses of misoprostol are recommended, except in exceptional circumstances following discussion with the patient

LOW VOLUME OXYTOCIN REGIME:

(See attached form to be used - Appendix 1)

- Add 12 IU of oxytocin in 200ml of normal saline (0.9%)
- Only flush IVI line once the oxytocin has been added to the normal saline
- Flush the IVI line prior to connecting the infusion to the patient
- Commence the infusion at 2ml/hr (=2mU/min)
- Increase the infusion dosage every 30 min by 2ml/hr until there are 3 – 4 strong (>40seconds) contractions in 10 minutes using manual palpation. Maintain same dosage once limit of 3 - 4 contractions in 10 minutes has been reached.
- Stop oxytocin if more than 4 contractions in 10 minutes
- Manually palpate contractions for 10min prior to increasing the infusion
- Ensure that the CTG is reassuring prior to increasing the infusion rate
- Stop oxytocin and contact Dr if oxytocin infusion rate at 20ml/hr for 6hrs without adequate contractions

Stop Oxytocin immediately if:

- There are 5 or more contractions of any strength in 10min manually palpated
- Consider weaning oxytocin in a multigravida where she has 2 hours of sustained 3 - 4 strong contractions in 10 minutes. Should contractions decrease after lowering the dose, increase it again to the previous infusion level and attempt weaning again after 30 minutes
- The uterus does not relax in between contractions
- There are any signs of fetal distress: including any decelerations, fetal tachycardia , fetal bradycardia or decreased variability
- If uncertain, call Doctor

If there are signs of a hypertonic uterus or fetal distress:

- Stop oxytocin infusion immediately. Replace IVI line with Ringer's lactate
- Turn patient onto left lateral position
- Call Doctor immediately
- If no improvement in the contraction pattern administer bolus of Salbutamol
- Salbutamol 500µg/ml. Use 250µg or 0.5ml in 9.5ml saline. Give slowly over 5 minutes
- Continuous fetal monitoring.
- Only administer facemask oxygen 40%, if the mother's saturations are <94%
- If no improvement book patient for emergency caesarean delivery

Monitoring of Vital signs in IOL

- Low risk patient – 6hourly initially , 4hourly in latent labour, then ½ hourly in active labour (or with epidural or oxytocin) (See Mediclinic Nursing Policy: Observation Requirements for Induction and Labouring Patients in Obstetric Units)
- High risk patients – refer to above Policy
- If unsure – contact Doctor
- CTG monitoring as per guideline (See Guideline: Fetal Heart Traces for CTG interpretation)

Definitions

Term, Acronym or abbreviation	Definition
Vitals	This includes vital signs – temperature, heart rate, respiratory rate, blood pressure and saturations
SROM	Spontaneous Rupture of Membranes
AROM	Artificial Rupture of Membranes
CTG	Cardiotocograph
IOL	Induction of Labour
PV	Per Vagina
PO	Per Os
IU	International unit
mU	milliunit

Oxytocin

Each one IU of oxytocin contains 1000milliunits. Therefore 12IU is the equivalent of 12 000milliunits

When mixing 12IU in 200mls this gives the strength of 60milliunits per ml

Therefore at 2mls/hour this contains 120milliunits

120milliunits per hour gives a dose of 2milliunits per minute

References

1. Adam, S. Soma-Pillay, P. Obstetric Essentials. 2018. 3rd Edition. University of Pretoria
2. NICE Guideline. GC190 Intrapartum care for healthy woman and babies – Intrauterine Resuscitation guidelines (2014) Updated 2017

Authorship

These guidelines were drafted by a clinical team from Mediclinic and were reviewed by a panel of experts from SASOG and the BetterObs clinical team. All attempts were made to ensure that the guidance provided is clinically safe, locally relevant and in line with current global and South African best practise. Succinctness was considered more important than comprehensiveness.

All guidelines must be used in conjunction with clinical evaluation and judgement; care must be individualised when appropriate. The writing team, reviewers and SASOG do not accept accountability for any untoward clinical, financial or other outcome related to the use of these documents. Comments are welcome and will be used at the time of next review.

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Appendix 1

LOW VOLUME OXYTOCIN REGIME

Patient Details: _____

Place 12 international units (12IU) of oxytocin in 200ml of normal saline (0.9%). Only flush the IVI line once the oxytocin has been added to the normal saline. This may now be connected to the patient using an infusion pump. The infusion dosage may be increased every thirty minutes (30min) until there are 3 – 4 strong contractions (>40s) in 10 min. Maximum dosage 20ml/hr = 20mU/min

DOSE	TIME	CONRACTIONS IN 10 MIN (record number of seconds)	FHR	CTG reactive or reassuring	Signature
2ml/hr (2mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
4ml/hr (4mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
6ml/hr (6mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
8ml/hr (8mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
10ml/hr (10mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
12ml/hr (12mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
14ml/hr (14mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
16ml/hr (16mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
18ml/hr (18mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	
20ml/hr (20mU/min)		☐ ☐ ☐ ☐ ☐		Yes/ No	

PLEASE NOTE:

- Monitor patient's on Oxytocin infusion with continuous CTG
- Ensure the CTG is reassuring before increasing the oxytocin infusion.
- Stop oxytocin IMMEDIATELY if:
    1. There are five or more contractions (of any strength) in 10 minutes
    2. The uterus does not relax between contractions
    3. There are any signs of fetal distress (i.e. any decelerations, fetal bradycardia/tachycardia or decreased variability)
    4. If midwife unsure, contact the attending doctor

- If there are signs of a hypertonic uterus or fetal distress:
    1. Stop oxytocin infusion
    2. Turn the patient onto the left lateral position
    3. Give 100ml of normal saline (0.9%) or Ringer's lactate fluid bolus
    4. Only administer facemask oxygen 40%, if the maternal saturations are <94%
    5. Call doctor immediately and discuss the need for Salbutamol
    6. Salbutamol 500µg/ml. Use 250µg or 0.5ml in 9.5ml saline. Give slowly over 5 minutes

_____ _____ _____

Signature of Doctor Time Date

_____ _____ _____

Signature of Midwife Time Date