Preterm labour and birth

Clinical Guideline Presentation v3.0

45 minutes

Towards your CPD Hours

References:
The Queensland Clinical Guideline *Preterm labour and birth* is the primary reference for this package.

Recommended citation:
Queensland Clinical Guidelines. Preterm labour and birth. Clinical guideline education presentation E14.6-1-V3-R19 Queensland Health. 2014.

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.

Feedback and contact details:
M: GPO Box 48 Brisbane QLD 4001 | **E:** Guidelines@health.qld.gov.au | **URL:** www.health.qld.gov.au/qcg

Funding:
Queensland Clinical Guidelines is supported by the Clinical Access and Redesign Unit, Queensland Health.

Learning outcomes

- In relation to preterm labour (PTL) and preterm birth (PTB), the participant will be able to:
  - Identify risk factors
  - Identify risk reduction measures
  - Outline the assessment process
  - Outline clinical management options

Abbreviations

CTG	Cardiotocograph
fFN	Fetal fibronectin
FHR	Fetal heart rate
GBS	Group B streptococcus
MSU	Mid stream urine
MC&S	Microscopy / culture / sensitivity
PROM	Premature rupture of membranes
PPROM	Preterm premature rupture of membranes
PTB	Preterm birth
PTL	Preterm labour
QCC	Queensland Emergency Medical System Coordination Centre
ROM	Rupture of membranes
TVCL	Transvaginal cervical length
VE	Vaginal examination

Introduction

Preterm birth: *Occurring before 37 completed weeks*

- Cause unidentified in up to 50% of PTB
- Majority of women with risk factors will not have PTB
- Many women who have a PTB have no risk factors
- 7% of singleton
- 60% of multiple births

Risk factors for PTB

Maternal, medical and pregnancy risk factors

- **Previous PTB***
- Assisted reproduction
- Cigarette smoking
- High stress
- Low socio-economic
- High or low BMI
- Late/no antenatal care
- Uterine anomalies
- Ethnicity (non-Caucasian)
- < 18 or > 35 years
- Fetal fibronectin +ve
- Short cervical length
- Genital/urinary tract infections
- Vaginal bleeding
- Multiple gestation
- PPROM
- Chronic/acute conditions
- Surgical procedures of cervix

* Most important historical risk factor is prior spontaneous PTB

Risk reduction

- Comprehensive history review
- Counselling:
  - Psychosocial, smoking, lifestyle, chronic disease
- Bacterial vaginosis:
  - Offer screening if previous PTB
- Bacteriuria:
  - Screen and treat all women
- Cervical length screening (if prior PTB):
  - Serial TVCL from 14–24 weeks gestation

Progesterone therapy

Reduces risk of PTB in women with history of spontaneous PTB and/or short cervix

- Consider:
  - From 16–24 weeks if singleton gestation and prior spontaneous PTB
  - For asymptomatic women with incidentally diagnosed short cervix in 2nd trimester
- Not recommended for multiple gestation

Cervical cerclage

Reduces incidence of PTB in women at risk of PTB

- May be indicated if any of the following:
  - 1 or more prior spontaneous PTB related to painless cervical dilatation, and in the absence of labour or abruption
  - Prior cerclage due to painless dilatation in 2nd trimester
  - TVCL less than 25 mm before 24 weeks *and* singleton pregnancy *and* prior spontaneous PTB before 34 weeks

Clinical assessment

- To determine risk of birth within the next 7 days and assess maternal and fetal wellbeing
- Review history and risk factors
  - Medical, surgical, obstetric, psychosocial
- Assess for signs & symptoms
  - Cervical effacement/dilatation
  - Pelvic pressure
  - Lower abdominal cramping/back pain
  - Vaginal loss (mucous, blood, fluid)
  - Regular uterine activity

Physical examination

- Vital signs
- Abdominal palpation
- Sterile speculum examination
  - Confirm/exclude PROM
  - Assess cervix, liquor
  - Collect high and low vaginal swab for MC&S
  - Obtain fFN test if not contraindicated
- Sterile digital VE
  - Unless contraindicated by ROM/placenta praevia

Fetal surveillance & investigations

- Fetal surveillance
  - FHR
  - Continuous CTG
  - Ultrasound if feasible

- Laboratory investigations
  - Low and high vaginal swabs
  - Genital (anal and low vaginal) swab for GBS
  - Midstream urine for MC&S

Transvaginal cervical length

Shorter the cervical length, the greater the risk of PTB

- Recommend TVCL to women with identified or suspected PTL (if available)
- Consider therapeutic interventions when TVCL is < 25 mm

Fetal fibronectin test

Screening test to assess risk of PTB in next 7-14 days

- For symptomatic PTL between 22 and 36 weeks with intact membranes and cervical dilatation ≤ 3 cm
- Quantitative fFN preferred as informs management decisions more than a ‘positive’ or ‘negative’ result
- Perform test as per kit instructions

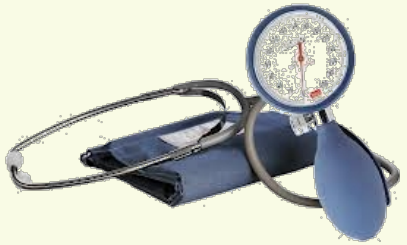
Is admission required?

- Consider admission if:
  - fFN result greater than 50 ng/mL
  - Cervical dilation
  - Cervical change over 2–4 hours
  - Ruptured membranes
  - Contractions regular & painful
  - Further observation or investigation indicated
  - Other maternal or fetal concerns

Management

Use clinical judgement and appropriate consultation

- Admit for observation
- Consider if in-utero transfer is indicated
- Offer analgesia
- Administer corticosteroids
- Measure TVCL (if available)
- Communicate with multidisciplinary team
- Discuss plan with woman and document
- Clinical reassessment as required



In-utero transfer

Improved neonatal outcome with appropriate in-utero transfer

- Aim for **in-utero** transfer
- Accept a high level of risk for birth en-route if gestation 23–28 weeks
- If indicated, contact & discuss with relevant obstetric medical coordinator via QCC on 1300 799 127

Image source: Queensland Health website

Antenatal corticosteroids

Reduces fetal mortality and morbidity

- Recommend with viable fetus before 35+0 weeks
- If risk of PTB persists 7 days after initial course, recommend repeat dose(s)
- If maternal diabetes present, monitor blood glucose levels

Tocolysis

- May delay birth and allow:
  - In-utero transfer
  - Corticosteroid administration
  - Magnesium Sulfate administration
- No evidence for prophylactic use after contractions have ceased

Image source: Queensland Health website

Tocolysis contraindications

If prolongation of pregnancy is contraindicated

- In utero fetal death
- Suspected fetal compromise
- Maternal bleeding/haemodynamic instability
- Lethal fetal anomalies
- Severe preeclampsia
- Chorioamnionitis
- Agent specific maternal contraindications

Nifedipine

- Tocolytic of choice
- A calcium channel blocker that relaxes smooth muscle
- An effective tocolytic with fewer side effects than other tocolytics

Antibiotics

Routine administration in *threatened* PTL with intact membranes and without infection not recommended

- If *established* PTL or *imminent risk* of PTB, give prophylactic antibiotics for GBS
- If PTL does not ensue and no other indications, then with:
  - Intact membranes, cease antibiotics

Signs of chorioamnionitis

- Temperature > 38°C, maternal/fetal tachycardia, uterine tenderness, offensive discharge, elevated white cell count),
- With intact or ruptured membranes and signs of chorioamnionitis do not inhibit labour
- Consider hastening birth under broad spectrum IV antibiotics

Magnesium Sulfate

Reduces the risk of cerebral palsy and protects gross motor function in the preterm

- Recommend between 24+0–30 weeks where birth is expected or planned within 24 hours
- If urgent birth indicated, do not delay birth to administer

Mode of birth

- Singleton vertex ≥ 26+0 weeks
  - Recommend vaginal birth unless caesarean section (CS) indicated for other reasons
- Breech ≥ 26+0 weeks
  - CS not generally recommended if vaginal birth imminent
- ≤ 25+0 weeks* – (vertex or breech)
  - CS for fetal indications not generally recommended at less than 25+0 weeks

Refer to Queensland Clinical Guideline: Perinatal care at the threshold of viability guideline*

After threatened PTL

- Provide care according to clinical circumstances
  - Prolonged admission
  - Back transfer
  - Discharge if usual criteria met (e.g. consider maternal vital signs, membrane status, contractions infrequent, cervical changes, CTG, fFN test result)
- Refer and follow-up as indicated

Provide discharge information

- Provide the woman information that:
  - Aids recognition of PTL signs and symptoms
  - Identifies risk reduction measures
  - Provides instruction about when to seek clinical advice
- Offer social worker or other relevant referral