# Preterm labour and birth

Clinical Guideline Presentation


**45 minutes**

Towards CPD Hours

**References:**

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 E20.6-1-V6-R25. Queensland Health. 2025.

**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

- 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

| | |
|---|---|
| BMI | Body mass index |
| CTG | Cardiotocograph |
| CS | Caesarean section |
| 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 |
| USS | Ultrasound scan |
| VE | Vaginal examination |
| > | Greater than |
| < | Less than |

# Introduction

**Preterm birth:** *Occurring before 37 completed weeks*

- PTB occurred in 9.4% of all pregnancies in Queensland in 2017
- 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
- 8.7% of singleton births
- 66% of multiple births

# Risk factors for PTB


| Maternal, medical and pregnancy risk factors | |
|---|---|
| • Previous PTB* | Fetal fibronectin positive |
| • Assisted reproduction | Short cervical length |
| • Cigarette smoking | Genital/urinary tract infections |
| • Low socio-economic status | Vaginal bleeding |
| • High or low body mass index (BMI) | Multiple pregnancy |
| • Late or no antenatal care | Preterm premature rupture of membranes (PPROM) |
| • Uterine anomalies | Chronic/acute medical conditions |
| • Ethnicity (non-Caucasian) | Previous cervical trauma |
| • < 18 or > 35 years of age | Previous cervical surgery |

*Most important historical risk factor is prior spontaneous PTB

# Risk screening

| | |
|---|---|
| History | • Comprehensive history review including maternal characteristics and previous medical/pregnancy history |
| Counselling | • Psychosocial needs, smoking, lifestyle, chronic disease<br>• Involve a multidisciplinary team and refer when needed/appropriate |
| Bacterial vaginosis | • Offer screening and treatment to women with symptoms of BV and/or history of PTB |
| Bacteriuria | • Offer routine ward test urine screening and treatment to women |
| Cervical length | • If history of PTB: recommend serial TVCL screening from 14–24 weeks<br>• All women: recommend cervical measurement during mid-trimester USS |

# Progesterone therapy

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

- For singleton pregnancies recommend vaginal progesterone 200 mg nocte from 16–36 weeks gestation for:
  - Women with an incidentally diagnosed shortened cervix (less than or equal to 25 mm) on TVCL between 16–24 weeks
  - Women with a prior spontaneous PTB between 20–34 weeks (with or without preterm prelabour rupture of membranes)
  - Not recommended for use in multiple pregnancies

# Cervical cerclage

**Compared with no treatment cerclage reduces incidence of PTB in women at risk of recurrent PTB**

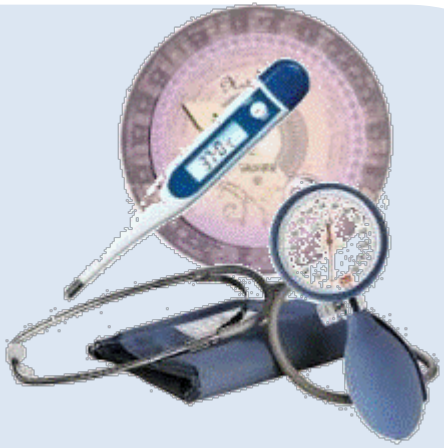
- Offer cerclage where medically indicated including where the cervix continues to shorten despite the use of vaginal progesterone
  - Cared for, or in collaboration with, an expert practitioner
- If cervical length less than or equal to 10 mm consider cervical cerclage, vaginal progesterone or a combination of both
- Consider cervical cerclage for women with a history of:
  - One or more prior spontaneous PTB and/or second-trimester loss related to painless/painful cervical dilation and in the absence of labour or placental abruption *or*
  - Prior cerclage due to painless cervical dilation in second trimester *or*
  - Cervical incompetence
- Cerclage may be indicated if TVCL is less than 25 mm before 24 weeks if:
  - Preterm prelabour rupture of membranes (PPROM) in a previous pregnancy *or*
  - A history of cervical trauma/surgery *or*
  - Prior spontaneous PTB before 34 weeks gestation *and*
  - Current pregnancy singleton

# Clinical assessment

*Rationale:* to determine risk of birth within the next 7 days

- Assess maternal and fetal wellbeing
- Review history and risk factors
  - Medical, surgical, obstetric, psychosocial
- Assess for signs and symptoms of PTL
  - 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 PPROM
  - Assess cervix, liquor
  - Collect high vaginal swab for MC&S for bacterial vaginosis
  - Collect either vaginal-rectal or vaginal-perianal swab for Group B streptococcus
  - Actim® Partus test (if not contraindicated)
- Sterile digital VE
  - Unless contraindicated by ROM/placenta praevia

# Fetal surveillance and investigations

- Fetal surveillance
  - FHR
  - Continuous CTG (interpret with caution if less than 28 weeks gestation)
  - USS, if feasible

- Maternal laboratory investigations
  - Collect high vaginal swab for MC&S for bacterial vaginosis
  - Collect either vaginal-rectal or vaginal-perianal swab for Group B streptococcus
  - Midstream urine for MC&S

# Transvaginal cervical length

**Risk of PTB increases with a shorter cervical length**

- All women: recommend routine cervical length measurement to women during the mid-trimester morphology (18–20 weeks) ultrasound scan
- If history of PTB: recommend serial cervical length screening from 14–24 weeks

# Actim® Partus testing

**Screening test to assess the risk of PTB in next 7–14 days**

Indications for **symptomatic** women with threatened preterm labour:

- Between 22+0 and 37+0 weeks gestation *and*
- Intact membranes *and*
- Cervical dilatation less than or equal to 3 cm

Indications for **asymptomatic** women, greater than 22 weeks gestation, with a history of:

- Cervical surgery/trauma *or*
- PTB in previous pregnancy *or*
- Late miscarriage in previous pregnancy

# Is admission required?

- Consider admission if:
  - Positive Actim® Partus result
  - Cervical dilation
  - Cervical change over 2–4 hours
  - Ruptured membranes
  - Regular contractions
  - 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

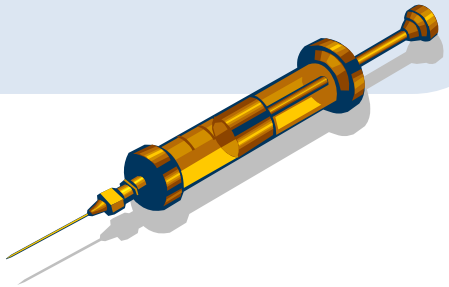
**Improved neonatal outcomes with appropriate transfer**

- Aim for **in-utero** transfer
- Accept a high level of risk for birth en-route if gestation less than 28 weeks
- Contact & discuss with relevant obstetric medical co-ordinator via Queensland Emergency Medical System Coordination Centre (QCC) on 1300 799 127

# 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, consider 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

# Tocolysis contraindicated

**If prolongation of pregnancy is contraindicated**

- In-utero fetal death
- Suspected fetal compromise
- Maternal bleeding/haemodynamic instability
- Lethal fetal anomalies
- Severe pre-eclampsia
- Chorioamnionitis

# Nifedipine

- Tocolytic of choice
- Calcium channel blocker that relaxes smooth muscle
- Effective tocolytic with fewer side effects than other tocolytics

# Antibiotics

**Routine administration in *threatened* PTB 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
- If intact or ruptured membranes and signs of chorioamnionitis, do not inhibit labour
- Consider hastening the birth and use broad spectrum IV antibiotics

# Magnesium sulfate

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

- **Recommend** between 24+0 and 30+0 weeks where birth is expected or planned within 24 hours
- **Consider** for women between 30+0 and 33+6 weeks
- 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*

# 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, Actim® Partus 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/s
- Notify GP of diagnosis and plan of care