Preterm labour and birth

Clinical Guideline Presentation v3.0
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

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