Section 5

Sexual and reproductive health
Section 5
Sexual and reproductive health

Contents
• Women and antenatal health
• Hypertension and premature events
• Labour birth and postnatal care
• Contraception
• Sexually transmitted infections (STIs)
Women and antenatal health

Health check - women

Recommend
- Offer an annual health checkup for all Aboriginal and Torres Strait Islander women including an STI check for sexually active women, as many infections have no symptoms.
- Encourage well women without symptoms aged 50 - 74 years to attend mammography (breast screening) every two years. Women aged 40 - 49 and 70 years and older are also able to attend screening. All women should be advised to be familiar with the normal look and feel of their breasts and to report any new or unusual changes to their General Practitioner or local health service provider without delay [1].
- Human papillomavirus vaccination to eligible females as per latest edition of The Australian Immunisation Handbook [2].
- Pap smear screening is recommended every two years for women who have ever had sex and have an intact cervix, from 18 years of age or within 2 years after first having sex (whichever is later) [3].
- The Australian Drug Evaluation Committee uses a categorisation intended to provide information which can be used by health professionals as the basis for decision making when planning medical management of pregnant patients or those intending to become pregnant. The categories are: A, C, B1, B2, B3, D, and X with explanation of these categories found at http://www.tga.gov.au/.

Related topics
- Acute abdominal pain
- Sexually transmitted infections (STIs)
- Low abdominal pain in female - adult

1. May present with
- Patient request for a women’s health check
- As referral after health screening
- A women’s health issue e.g. contraception, menstrual issues, pregnancy, menopause
- Symptoms of a gynaecological problem e.g. low abdominal pain, abnormal menstrual bleeding, vaginal discharge
- A general health problem and agrees to a women’s health check

2. Immediate management
   Not applicable

3. Clinical assessment
   - Take complete patient history including:
     - family, medical, social and cultural history
     - medication history
     - reproductive history including menstrual, contraceptive, obstetric and STI risk See Sexually transmitted infections (STIs)
     - Pap smear history including date of last Pap smear, previous history of abnormality and previous treatment and follow up
     - breast history, mammogram screening, previous breast problems, investigations and management
   - Perform standard clinical observations +
     - BGL
     - urinalysis
   - Perform physical examination:
     - inspect and palpate abdomen, note scars from previous abdominal surgery, caesarean section
Women and antenatal health

Pap smear collection if due

- A Pap smear is a screening tool, not a diagnostic test. It is appropriate to take a Pap smear as part of the assessment of abnormal vaginal bleeding but always refer for further management by an MO (regardless of Pap smear result).
- It may be appropriate to take a Pap smear at any age if there are symptoms. Women who have had a hysterectomy will continue to require Pap smears if they still have a cervix. In the absence of a cervix the need for vaginal vault Pap smears will depend on the reason for the hysterectomy.

When collecting the Pap smear, consider including a ThinPrep® specimen as per Queensland Health guidelines for the use of liquid based cytology, in the presence of excessive or purulent vaginal secretions or blood [4]. In other States contact your local pathology service for advice.

There are three different Pap smear sampling tools available for use. These are:
1. Ayres spatula
2. Cervix sampler (also known as the broom)
3. Cytobrush

In deciding on choice of tools the practitioner needs to have an understanding of the need to sample the transformation zone and the relationship of this zone to the squamocolumnar junction. It is important to use the appropriate sampling tool in the correct manner to collect the best sample.

1. Ayres spatula
   - Place the end of the spatula in the cervical os and rotate the spatula three times
2. Cervix sampler
   - Place the tip of the cervix sampler into the endocervical canal and rotate the broom three to five times in the same direction keeping the bristles in contact with the cervix
3. Cytobrush
   - Gently insert the brush into the cervical os until resistance is felt keeping the brush in sight within the cervical os
   - Rotate one quarter of a turn (not recommended for use during pregnancy)
   - If using a cytobrush always use it after the spatula or the cervix sampler, as the cytobrush tends to cause slight bleeding which may obscure the cells
Note:

Pregnant women
- The wooden ‘Ayres spatula’ plus a cotton swab or ‘cervix sampler’ is preferred when collecting a Pap smear
- The ‘broom’ of the sampler can also be sent for ThinPrep® testing if needed because the smear is contaminated with mucous
- Do not use the cytobrush in pregnancy because of the potential for contact bleeding and the anxiety this causes [4]

Vaginal vault smears
- Use either spatula or a cervix sampler

HPV DNA testing
- Is recommended as a ‘test of cure’ for women who have been treated for high grade squamous intraepithelial lesion (HSIL)
- If a conventional Pap smear is also required (as will usually be the case), collect this first using the desired collection device(s). Then collect a second specimen for HPV DNA using the cervical sampler included in the Hydrid Capture® 2 collection OR
- Collect and prepare a conventional Pap smear using a plastic Ayres spatula and cytobrush or Cervex brush (broom). Thoroughly rinse the collection devices in a ThinPrep® (PreservCyt) vial. The ThinPrep® vial can be used for both cytology and HPV DNA testing if required
- The pathology form needs to be clearly marked for Cytology and ‘HPV DNA Test of Cure’ if both are required [5]

Specimens collected
- Apply the collected specimens gently to the slide in an even spreading motion
- If two sampling tools are used both samples should be placed on the one slide
- Fix the slide immediately (within 30 seconds) with cytospray holding the spray 5 - 10 cm from the slide and spray 2 - 3 times to cover the slide
- Allow to air dry

When to test for an STI?
See Sexually transmitted infections (STIs)
The threshold for STI testing, especially in young women < 29 years of age and in remote areas where bacterial STIs are common, is low. In this context, collect an endocervical PCR swab for chlamydia and gonorrhoea and a high vaginal PCR swab for trichomonas. If STI diagnosed - repeat Pap smear following treatment
# 4. Management

## On return of sample result [3]

<table>
<thead>
<tr>
<th>Pap smear report</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative smear within normal limits</td>
<td>Repeat Pap smear in 2 years</td>
</tr>
<tr>
<td>Negative smear within normal limits and no endocervical cells present</td>
<td>Repeat Pap smear in 2 years</td>
</tr>
<tr>
<td>Negative with inflammation</td>
<td>If result is “inflammation but is satisfactory for cytology reporting and normal” investigate and treat inflammation to exclude infection (if swabs have not already been collected) See Sexually transmitted infections (STIs) Repeat Pap smear in 2 years</td>
</tr>
<tr>
<td>Unsatisfactory</td>
<td>If asymptomatic and Pap smear result is “unsatisfactory due to inflammation” (and no other abnormality) and suggests repeat after treatment of inflammation See Sexually transmitted infections (STIs) Repeat Pap smear in 6 - 12 weeks</td>
</tr>
</tbody>
</table>

A ThinPrep® specimen should be offered as an adjunctive secondary screening test to women if one or more of the following criteria apply:

a) a woman’s last Pap smear was reported as unsatisfactory due to either inflammatory cells or atrophic changes, blood obscuring the Pap smear or the woman has a history of unsatisfactory Pap smears. MO may order use of local oestrogen creams prior to repeat pap. This needs to be noted on the request form

b) there are clinical signs or symptoms that suggest that the current Pap smear will result in blood or inflammatory exudate sufficient to obscure the Pap smear (as per Queensland Health guidelines for the use of liquid based cytology [4], to reduce the chance of a further unsatisfactory report)

Possible low grade squamous intraepithelial lesion

Low grade squamous intraepithelial lesion (LSIL)

Consult MO who will refer to Gynaecologist for colposcopy ± biopsy or other follow up investigation / treatment Repeat Pap smear at 12 months

If the woman is 30+ years and has no negative cytology in the previous 2 - 3 years, repeat Pap smear in 6 months or arrange immediate colposcopy

Possible high grade squamous intraepithelial lesion

High grade squamous intraepithelial lesion (HSIL)

Consult MO who will refer to Gynaecologist for colposcopy ± biopsy or other follow up investigation / treatment

Glandular abnormalities including adenocarcinoma in situ

Consult MO who will refer to Gynaecologist for colposcopy ± biopsy or other follow up investigation / treatment

Invasive squamous cell carcinoma (SCC) or adenocarcinoma

Urgent consult with MO who will refer to Gynaecological Oncologist

- If symptomatic (abnormal vaginal bleeding - intermenstrual, postcoital, post menopausal) or unusual or suspicious looking cervix, take Pap smear and consult MO
- Provide education / counselling:
  - inform the woman of the role of the Pap smear Register and obtain consent for her details to be included on the Register
Women and antenatal health

• Discuss with the woman how she would like to receive her Pap smear result, (phone, face-to-face or letter) and explain that the test is a screening tool and does not detect all abnormalities
• Offer health promotion / education on other women’s health issues such as sexual assault, domestic violence, continence, breast care / screening, menopause, contraception, pregnancy (including perinatal mental health) and sexual health as required

5. Follow up
   ✓ Give result of Pap smear to patient and inform her when next Pap smear is due. Women with an abnormal Pap smear result who are currently being investigated, treated or followed up should have Pap smears according to the NHMRC guidelines [3] or by the treating Gynaecologist’s recommendations
   ✓ STI results including contact tracing See Sexually transmitted infections (STIs)

6. Referral / consultation
   ✓ Refer abnormalities to MO / NP
   ✓ Refer for concerns regarding menstruation, presence of abnormal bleeding - intermenstrual bleeding (IMB), post coital bleeding (PCB), or post menopausal bleeding (PMB) and investigation regardless of result
   ✓ If an abnormality is noted on examination and / or the Pap smear result recommends medical follow up. Some patients with abnormal Pap smears will need to be managed in close consultation with the Gynaecologist
   ✓ Any Pap smear report which suggests any possibility of cancer / microinvasion needs immediate referral

Queensland Maternity and Neonatal Clinical Guidelines
The Primary Clinical Care Manual (PCCM) is the primary guide for the Scheduled Medicines Rural and Isolated Practice Registered Nurse (SM R&IP) and other Advanced Practice Nurses, Aboriginal and Torres Strait Islander Health Workers and Medical Officers working outside the hospital system. In most instances, the Queensland Maternity and Neonatal Clinical Guidelines relate to practice within maternity units within hospitals. This edition of the PCCM aligns with relevant Queensland Maternity and Neonatal Clinical Guidelines.

The PCCM is to be used where there are unplanned births. Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Clinical Guidelines.

In the event that a woman in preterm labour or threatened preterm labour or other urgent pregnancy complications presents to a facility which does not have a maternity service, early contact should be made with the appropriate MO. Where the RFDS provides primary medical cover for a facility the RFDS MO on call is the appropriate first point of medical contact. The MO will ring Retrieval Services Queensland (RSQ) 1300 799127 if interfacility transfer is necessary or if specialist advice is required. RSQ will be able to coordinate specialist obstetric and / or neonatal advice as required regarding management and if needed, evacuation to an appropriate obstetric / neonatal service.

This is a joint statement by the Statewide Maternity and Neonatal Clinical Network, Royal Flying Doctor Service (Queensland Section), Retrieval Services Queensland and the Rural and Remote Clinical Support Unit (R&R CSU) which is responsible for the production of the PCCM.
Women and antenatal health

Recommend
- The first antenatal visit by MO or Midwife should ideally occur after the first missed period, preferably before 12 weeks gestation
- If a woman presents late, perform all antenatal care activities recommended for first antenatal visit plus those which correspond to current gestation, especially if greater than 32 weeks gestation
- A minimum of five antenatal visits should be offered / provided to women with low risk pregnancies with an aim of seven to nine visits in total
- Consider perinatal mental health

Related topics
- Health check - women
- Group B Streptococcus prophylaxis
- Rh D immunoglobulin

1. May present with
   - Missed period
   - Urinary symptoms

2. Immediate management Not applicable

3. Clinical assessment
   - Obtain complete obstetric / medical / surgical history
   - Complete Obstetric risk score
   - Perform physical examination
   - Perform standard clinical observations +
     - confirmation of pregnancy by urine / blood test (hCG test)
       - accurate establishment of gestation is important. Ultrasound examination may be performed by Ultrasonographer or an Obstetrician / MO with skills

4. Management
   - The antenatal care schedule will depend on the individual woman's needs. Routine reviews recommended in the Queensland Pregnancy Health Record are at:
     - MO and Midwife first visit preferably before 12 weeks
     - further visits at 12 - 18, 20, 24, 28, 30 - 32, 34, 36, 38, 40, 41 weeks (20, 36 and 40 week visits with MO and / or hospital staff where planned birth is to occur)
     - In centres where there is no Midwife refer women for antenatal care to visiting MO following the same schedule
     - Transfer care to referring obstetric service in consultation with obstetric staff at 36 weeks gestation or earlier according to woman’s needs
     - From first visit provide antenatal education on smoking, alcohol and other drug use in pregnancy, healthy nutrition, physical activity, mental health and the importance of the early years of a child’s life as per Queensland Pregnancy Health Record
Shared care arrangements
- In some centres antenatal care is managed through shared care arrangements between GP and birthing facility. Follow current Pregnancy Health Record

High risk pregnancy management
- Frequency of visits for women with high risk pregnancy is determined in consultation, on need and context, by the Obstetrician
- Existing medication therapy reviewed for safety in pregnancy

Groups at high risk for developing diabetes in pregnancy [10]
- Aboriginal and Torres Strait Islander women and other high risk groups such as Asian (including Indian), Pacific Islanders, Maori, Middle Eastern, non-white African and women with history of Polycystic Ovarian Syndrome
- Age > 40 years
- Obesity (BMI > 35 kg / m²)
- Previous baby > 4.5 kg or large for dates
- Previous neonatal hypoglycaemia
- Family history of diabetes mellitus (first degree relative with diabetes including a sister with gestational diabetes mellitus)
- Previous gestational diabetes mellitus
- Medicines: corticosteroids, antipsychotics

Recommend: oral glucose tolerance test (OGTT) at booking in visit

Diabetes in pregnancy management
- Frequency of visits for women with diabetes in pregnancy
  - according to individual woman’s needs in consultation with Obstetrician and Endocrinologist
  - transfer at 36 weeks gestation or earlier, according to agreed management plan, to a maternity service for planned birth care
  - monitor BGL according to individual woman’s needs in consultation with Obstetrician and Endocrinologist

Women who present late or who are reluctant to present for antenatal care
- To minimise the potential for this to occur health promotion and health education programs which address healthy pregnant women are recommended
- Perform all antenatal care activities recommended for first antenatal visit plus those that correspond to current gestation especially if greater than 32 weeks gestation
- Prompt referral to MO / Midwife

High risk pregnancy and mental health
If women have high risk pregnancies and / or births, they are at greater risk of mental health problems as a result of stressful and possible traumatic events. This is particularly so for women who are at a greater risk of mental health issues (past psychiatric history, social isolation, family history of psychiatric illness, history of substance abuse, past history of abuse / neglect / trauma)

Universal psychosocial screening for all women antenatally and postnatally is recommended (use Edinburgh Postnatal Depression Scale and Domestic Violence initiative screening tool)
## Routine antenatal care [13]

### First visit
- Pregnancy confirmed, maternal counselling commenced
- Tobacco / drug / alcohol cessation screening completed (as per Pregnancy Health Record)
- Pre-pregnancy weight, height and BMI recorded (refer to Dietitian if high or low)
- Blood pressure (seated), booking in weight
- Booking in referral sent
- Birth centre care options discussed (if applicable)

### History
- Gynaecological, medical, haematological (blood) conditions, surgical, family, psychosocial, obstetric, sexual
- Social factors domestic / social environment (SAFE Start)
- - domestic violence, substance misuse
- - social / family support (and availability of support services)
- - financial situation (and availability of support services)
- Dietary (including food security)
- Dental
- Immunisation
- Medication - all pre-existing medicines reviewed for safety in pregnancy

### Perform assessment
- Complete physical examination [6] including breast examination
- Calculate obstetric risk score. Can be utilised to inform Midwife Risk Evaluation in deciding models of care
- If amniocentesis or CVS requested, dates uncertain, last menstrual period unknown or diabetes present perform dating ultrasound 8 - 11 weeks
- Examination of abdomen if > 12 weeks
- Listen to and document fetal heart sound and rate (FHR) if > 12 weeks

### Discuss [6]
- Plans for pregnancy, birth, family support
- Perinatal mental health (including antenatal anxiety and depression)
- Findings of physical examination
- Health behaviour risks such as alcohol, tobacco and other drug use and benefits of cessation
- Fetal alcohol syndrome
- Smoking and pregnancy
- Domestic violence
- Nutrition
- Oral health
- Physical activity
- Folate and iodine supplementation
- Normal breast changes / breastfeeding (benefits and appropriate preparation)
- Financial (availability of support services)
- Housing (availability of support services)
- Food security (availability, affordability and accessibility of food)
- Cultural considerations
- Where and when to attend in early pregnancy and routine visits
- Referral(s) as required

### Influenza vaccination [2]
It is recommended that influenza vaccine be offered in advance to women planning a pregnancy. Recommended for all pregnant women at any stage of pregnancy, particularly those who will be in the second or third trimester during the influenza season
First visit (continued)

Oral supplements if indicated [7]

☐ All women should be on a folic acid supplement for the first 12 weeks and ideally preconception. Women with pre-pregnancy diabetes mellitus, previous child or family history of neural tube defects require a 5 mg daily dose, in place of the usual 500 microgram folic acid [7]

☐ Iron supplementation is recommended for women at particular risk of iron deficiency. Routine iron supplementation is not recommended in every pregnancy. It is much more important to give good dietary advice where the diet is likely to be deficient [7]

☐ The National Health and Medical Research Council recommends that all women who are pregnant, breastfeeding or considering pregnancy take an iodine supplement of 150 microgram each day [8]

Investigation

☐ Antenatal blood tests
  - FBC
  - blood glucose level (random, venous)
  - blood group and antibody screen
  - rubella antibody status (IGG)
  - hepatitis B surface antigen (HBsAg)
  - hepatitis C antibody
  - syphilis serology (RPR and EI/TPPA)
  - HIV test with pre-test information and consent

☐ Other pathology / tests
  - blood glucose level
    ○ random, if result ≥ 11.1 mmol / L
    ○ fasting, if result ≥ 7.0 mmol / L or
    ○ HbA1c ≥ 6.5% perform oral glucose tolerance test (OGTT) [10]
  - OGTT for women at high risk of developing diabetes in pregnancy [10]
  - urine dipstick + midstream urine for MC/S
  - Pap smear offered if due
  - offer screening for gonorrhoea and chlamydia to all women at first visit [14]
    See Sexually transmitted infections (STIs)
  - if woman complains of vaginal discharge do PCR for trichomonas and charcoal swab for MC/S
    See Sexually transmitted infections (STIs)

☐ Discuss prenatal screening / chorionic villus sampling 11-13 weeks / Amniocentesis 16 - 18 weeks as indicated

☐ Ultrasounds ordered
  ☐ PaPP A and free βhCG / after 10 completed weeks preferably 3 - 5 days prior to Nuchal USS
  ☐ Nuchal Translucency 11 - 13 weeks + 6 days
  ☐ Diagnostic morphology scan 18 - 20 weeks (if indicated)

Investigation and treatment of anaemia

☐ If haemoglobin is less than 110 g / L take bloods for blood film, reticulocyte count, iron studies, red cell folate, serum B12, Hb electrophoresis

☐ Start iron and folic acid supplements - if supplementation is effective in increasing Hb, the reticulocyte, count when repeated in three weeks, should be greater than 2%

☐ If it is not greater than 2% consult MO. Iron therapy is not recommended in the presence of thalassaemia minor unless the woman is also iron deficient

☐ If haemoglobin less than 105 g / L:
  - consult MO
  - commence vitamin C
  - consider parenteral iron if there is little time available to raise the Hb to safe levels, and / or a pregnant woman with Hb < 100 g / L and not responding to treatment (reticulocyte count greater than 2%) or is 34 or more weeks gestation
**Visit Schedule / Care items / Pathology**

### Care items at every visit
- Blood pressure (seated), urine dipstick / MSU repeated (if indicated), weight (if BMI is high or low)
- Weeks / gestation, fundal height (cm), presentation, descent / fifths above brim, FHR, FM, liquor
- Maternal counselling including tobacco / alcohol / other drug cessation (if applicable)
- Breastfeeding

### Additional care items 12 - 18 weeks
- Booking in visit - demographic, social, medical and obstetric history documented + allied health referrals arranged
- SAFE Start or similar tool □ commenced □ completed □ referred
- Consider need for influenza vaccination
- Models of care discussed and preference identified
- Recommended weight gain and healthy eating discussed and information given
- Physiotherapy discussed (if available)
- Reasons to breastfeed discussed / breastfeeding education provided
- Antenatal classes offered □ accepted □ declined □ booked

### Additional care items 20 weeks
- General health check
- Post diagnostic morphology ultrasound assessment reviewed and discussed
- Initiation of breastfeeding / baby led feeding discussed
  - positioning and attachment of baby
  - skin to skin contact
- Expected date of birth confirmed
- Blood / scan results reviewed
- Consent from Rh negative women for prophylactic Anti D (2 doses)

### Additional care items 25 weeks
- Discuss fetal movements
- Benefits of rooming-in discussed
- Discuss physical activity, exercise and rest
- Discuss home safety and hazard identification for injury prevention

### Additional care items 28 weeks
- Rh negative women with no preformed antibodies to receive 1st prophylactic dose of Anti D [9]
- Discuss preventative strategies for SIDS and SUDI

### Pathology
- OGTT (all high risk women) [10]
- Random venous BGL (if not performing OGTT)
  - random, if result ≥ 11.1 mmol / L
  - fasting, if result ≥ 7.0 mmol / L or
  - HbA1c ≥ 6.5% perform oral glucose tolerance test (OGTT) [10]
- FBC
- Repeat RPR and EIA / TPPA
- Repeat HIV antibody if high risk (intravenous drug use, positive partner)
- For Rh negative women, Rhesus antibody blood screen (prior to administering Anti D)
- Screen for gonorrhoea and chlamydia if high risk (Aboriginal and Torres Strait Islander, inconsistent or no condom usage, previous STI, new or multiple partners, living in area of high prevalence, harmful alcohol use, partner having multiple partners) See Sexually transmitted infections (STIs)
- If woman complains of vaginal discharge do PCR for trichomonas and charcoal swab for MC/S See Sexually transmitted infections (STIs)
### Additional care items 30 - 32 weeks
- Discuss transfer to regional maternity service for birth at 36 weeks / birth preferences / length of hospital stay and time of discharge / return to community / postnatal support

### Additional care items 34 weeks
- Rh negative women to receive 2nd Anti D immunoglobulin [9]
- Re-administer Edinburgh Postnatal Depression Scale (EPDS)
- Expressing of breast milk and safe storage discussed

**Pathology**
- Random venous BGL (if in high risk group)
  - random, if result $\geq 11.1$ mmol / L
  - fasting, if result $\geq 7.0$ mmol / L or
  - HbA1c $\geq 6.5\%$ perform oral glucose tolerance test (OGTT) [10]
- Repeat RPR and EIA / TPPA
- FBC
- Screen for gonorrhoea and chlamydia if high risk (Aboriginal and Torres Strait Islander, inconsistent or no condom usage, previous STI, new or multiple partners, living in area of high prevalence, harmful alcohol use, partner having multiple partners) See Sexually transmitted infections (STIs)
- If woman complains of vaginal discharge do PCR for trichomonas and charcoal swab for MC/S See Sexually transmitted infections (STIs)
- Review all 28 week pathology has been collected and actioned

### Additional care items 35-37 weeks
- Review risk for group B Streptococcus
- Queensland follows a risk factor approach to identify pregnant women for intrapartum antibiotic prophylaxis. Clinical risk factors for disease transmission are defined as:
  - gestation < 37 weeks duration
  - rupture membranes $> 18$ hours and in labour
  - maternal fever $\geq 38\˚C$
  - previous group B Streptococcus newborn / fetal infection
- Inform women that women with group B Streptococcus bacteriuria (of any count) during current pregnancy should have intrapartum antibiotics [11] See Group B Streptococcus prophylaxis

### Additional care items 36 weeks
- Transfer to obstetric facility at 36 weeks (or earlier based on individual woman’s needs) and / or local policy. Send original Pregnancy Health Record with mother. Photocopy record to be kept in mother's medical record. Offer mother a copy
- Discuss signs of early labour and when to go to hospital

### Ongoing antenatal care 36 weeks to birth
- Should follow local birth facility protocols. Repeat RPR post birth

**Note:** There is emerging evidence around screening for Vitamin D levels and supplementation instituted for women, including those with reduced sunlight skin exposure e.g. veiled women, those who use sunscreen regularly, women with dark skin and obese women may also be at risk. Correct action is not yet clear [7].

**Resources**
- Safe Start Psychosocial Assessment tool
Women and antenatal health

**Obstetric risk score** [12]
The Obstetric risk score indicates if the woman needs specialised healthcare during pregnancy. Women with high risk scores should be seen by an Obstetrician as early as possible and by the MO regularly. This Obstetric risk score can be utilised to inform the Midwife Risk Evaluation in deciding models of care.

<table>
<thead>
<tr>
<th>Maternal age</th>
<th>Score</th>
<th>Present pregnancy</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20</td>
<td>1</td>
<td>Height &lt; 157.5 cm (5'2&quot;)</td>
<td>1</td>
</tr>
<tr>
<td>20 - 29</td>
<td>0</td>
<td>Weight &gt; 90 kg</td>
<td>1</td>
</tr>
<tr>
<td>30 - 34</td>
<td>1</td>
<td>Weight &lt; 50 kg</td>
<td>1</td>
</tr>
<tr>
<td>35 or more</td>
<td>2</td>
<td>Smokes 4 cigarettes or more / day</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drinks alcohol</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 1 drink twice a week</td>
<td>1</td>
</tr>
<tr>
<td><strong>Parity</strong></td>
<td></td>
<td><strong>Multiple Pregnancy</strong></td>
<td>4</td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>Breech after 34 weeks</td>
<td>4</td>
</tr>
<tr>
<td>1 - 2</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>Vaginal bleeding after 13 weeks gestation</td>
<td>2</td>
</tr>
<tr>
<td>4 or more</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social factors</strong></td>
<td></td>
<td><strong>Blood pressure</strong></td>
<td></td>
</tr>
<tr>
<td>Family income entirely Social Security</td>
<td>1</td>
<td>140+ / 90+ before 20 weeks</td>
<td>4</td>
</tr>
<tr>
<td>Unsupported mother (no stable union)</td>
<td>1</td>
<td>140+ / 90+ after 20 weeks</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>160+ / 100+ after 20 weeks</td>
<td>4</td>
</tr>
<tr>
<td><strong>Past obstetric history</strong></td>
<td><strong>Past or present medical history</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stillbirth</td>
<td>4</td>
<td>Established diabetes</td>
<td>4</td>
</tr>
<tr>
<td>Neonatal death</td>
<td>4</td>
<td>Gestational diabetes</td>
<td>2</td>
</tr>
<tr>
<td>Preterm birth (&lt; 34 weeks)</td>
<td>2</td>
<td>Cardiac disease</td>
<td>4</td>
</tr>
<tr>
<td>Low birth weight infant (&lt; 2500 g)</td>
<td>2</td>
<td>Chronic respiratory disease</td>
<td>4</td>
</tr>
<tr>
<td>2 or more terminations</td>
<td>2</td>
<td>Chronic renal disease</td>
<td>4</td>
</tr>
<tr>
<td>Caesarean sections</td>
<td>4</td>
<td>Recurrent UTI</td>
<td>1</td>
</tr>
<tr>
<td>Antepartum haemorrhage</td>
<td>4</td>
<td>Endocrine disease</td>
<td>4</td>
</tr>
<tr>
<td>Postpartum haemorrhage</td>
<td>4</td>
<td>Anaemia (Hb &lt; 100 g / dL)</td>
<td>2</td>
</tr>
<tr>
<td><strong>Legend</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High risk</td>
<td>= 8 or more</td>
<td>Blood group antibodies</td>
<td>2</td>
</tr>
<tr>
<td>Medium risk</td>
<td>= 3 to 7</td>
<td>Cervical cone biopsy</td>
<td>4</td>
</tr>
<tr>
<td>Low risk</td>
<td>= 0 to 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A risk score less than 8 does not indicate an absence of risk</td>
<td>Score at first visit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Diabetes in pregnancy
Type 1, type 2 and gestational diabetes mellitus

Recommend
- Women taking regular medicines, including oral anti-hyperglycaemic agents, antihypertensive agents and statins / fibrates, should promptly consult MO / Pharmacist regarding the need for and safety of use of these medicines in pregnancy
- Oral glucose tolerance test (OGTT) is the diagnostic test for gestational diabetes

Background
- Diabetes is either pre-existing (type 1 or type 2) or gestational diabetes mellitus (GDM)

Related topics
See flowcharts for:
Management of women with gestational diabetes
Management of women with type 1 and type 2 diabetes
Protocol for commencing insulin during pregnancy

1. May present with
   - History of gestational diabetes, family history of diabetes
   - Results of:
     - random venous blood glucose level ≥ 11.1 mmol / L
     - fasting venous blood glucose level ≥ 7.0 mmol / L (likely type 2 DM)

For diagnosis of GDM perform: 75 g OGTT. Positive 75 g OGTT = fasting venous glucose ≥ 5.1 mmol / L and at 1 hour venous plasma glucose ≥ 10.0 mmol / L and at 2 hours venous plasma glucose ≥ 8.5 mmol / L - performed at 24 - 28 weeks gestation or earlier if clinically indicated

2. Immediate management  Not applicable

3. Clinical assessment
   - Take complete patient history including:
     - family history of diabetes, kidney disease or other risk factors
   - Perform routine antenatal screen
   - Perform standard clinical observations +
     - weight, height, BMI
     - retinal check (for women with suspicion of type 2 DM only)
     - urinalysis for protein, blood and nitrates
     - urine MC/S
     - albumin:creatinine ratio (protein:creatinine ratio). Not necessary in GDM alone but recommended for obese women
     - HbA1c (not necessary in GDM)
   - Perform physical examination including dating ultrasound scan at:
     - 12 weeks if dates are uncertain
     - 18 weeks morphology scan for fetal anomalies
     - 22 - 23 weeks if specialised cardiac scan indicated
     - 24 - 36 weeks serial growth scans may be indicated if fetus large or small for gestational age. Discuss requirements with Obstetrician and Endocrinologist
4. **Management**

- **See Referral / consultation** regarding specialist review
- Oral hypoglycaemics and other chronic disease medicines will require review for safety in pregnancy
- Expect insulin requirements to increase throughout pregnancy. Insulin resistance greatest around 28 - 32 weeks. Falling insulin requirements should prompt medical review
- MO in consultation with Obstetrician and diabetes team should consider insulin if BGLs above target on 3 consecutive occasions

**Management aims**

- Keep fasting capillary BGL $\leq 5.0$ mmol / L
- Keep 2 hour post-prandial (after meals) capillary BGL $\leq 6.7$ mmol / L
- A blood glucose level under 3.5 mmol / L is classed as hypoglycaemia and should be treated
- Maternal blood glucose level should be monitored for 24 hours postpartum and if indicated continued for longer

5. **Follow up**

- Culturally appropriate education of women with diabetes should be provided by a Diabetes Educator and Dietitian. Education should include complications of diabetes in pregnancy and medical interventions necessary for successful management of the pregnancy

**Gestational diabetes**

- Women who develop gestational diabetes are at increased risk of developing type 2 diabetes in later life. Follow up to consist of:
  - repeat 75 g OGTT at 6 to 12 weeks after birth
  - regular future OGTT as determined by MO review of postnatal and future OGTT results
- Gestational diabetes may recur in future pregnancies. Preconception planning should be discussed and provided. OGTT screening should be undertaken earlier in subsequent pregnancies and further OGTT again at 28 weeks
- Oral folic acid (5 mg) should be recommended three months prior to conception in future pregnancies, and if not being taken in this manner it should be prescribed as soon as pregnancy is confirmed

6. **Referral / consultation**

- Review by Obstetrician as early as possible after diagnosis to institute program of regular ultrasound assessment for fetal growth
- Review by MO every 2 weeks until 28 weeks and then weekly for antenatal checks and blood glucose control
- Review by specialist multidisciplinary diabetes team
Management of women with gestational diabetes flowchart

75g OGTT is positive if
- fasting ≥ 5.1 mmol / L
- 2 hour ≥ 8.5 mmol / L

Attend GDM education with Diabetes Educator and Dietitian

Self-monitor blood glucose
- 3 - 7 days per week
- Fasting and 2 hours post-meal

Target blood glucose levels
- Fasting ≤ 5.0 mmol / L
- 1 hour post-prandial ≤ 7.4 mmol / L
- 2 hour post-prandial ≤ 6.7 mmol / L

Yes
BGL within target
Continue current management

No
BGL above target
If BGLs remain above target on 3 consecutive days, contact diabetes team to discuss metformin and / or insulin therapy
- Refer protocol for commencing insulin
- Commence Insulin Adjustment Program (IAP) if required

Review by Diabetes Educator + Dietitian 2 weekly

Woman attends combined Diabetes / Antenatal Clinic and is put on the Gestational diabetes care plan

Postnatal follow up screen
- 75g OGTT at 6 - 12 weeks postpartum
- Follow up annual fasting venous BGL - 2 yearly OGTT
**Women and antenatal health**

**Management of women with type 1 and type 2 diabetes flowchart**

**Multidisciplinary team approach to care**
- Preconception planning with Obstetrician, Endocrinologist, Diabetes Educator and Dietitian
- Prenatal investigations
- Diabetes complications assessment
- Optimal glycaemic control before conception

**First antenatal visit as soon as possible after pregnancy confirmed** (< 4 weeks)
- Additional antenatal investigations including:
  - history, random BGL, BP, HbA1c
  - review microvascular complications status
  - eye review for signs of retinopathy - each trimester
  - clinical examination for neuropathy. Note: renal microalbuminuria can be physiological in pregnancy
  - review of medications including oral anti-hyperglycaemic agents and insulin therapy
  - dating scan if unsure of dates as per obstetric protocol

<table>
<thead>
<tr>
<th><strong>HbA1c 3-monthly</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aim ≤ 6.5%</td>
</tr>
<tr>
<td>Optimal &lt; 6.0%</td>
</tr>
</tbody>
</table>

**Self-monitoring of blood glucose**
- **Fasting and 2 hour post-prandial**
  - Target levels:
    - fasting ≤ 5.0 mmol / L
    - 2 hour post-prandial ≤ 6.7 mmol / L

**Obstetric review**
- Combined Diabetes / Antenatal Clinic

**Morphology ultrasound**
- 18 - 24 weeks for structural anomalies or cardiac anomalies

**2 weekly blood glucose review by Diabetes Educator and Dietitian to achieve optimal blood glucose control**

**4 weekly growth ultrasound scan from 24 weeks**

- Blood glucose above target: contact diabetes team
- Insulin therapy: gold standard for management
  - Refer to protocol for insulin therapy
- Review insulin dose every 2 - 3 days and adjust if required for optimal blood glucose control

**Woman attends combined Diabetes / Antenatal Clinic**

**Post partum - follow up with Endocrinologist for medication adjustment and again at 1 - 3 months**
Protocol for commencing insulin during pregnancy

- Women with blood glucose levels above target on three consecutive days will most likely be commenced on insulin therapy and their care must be conducted in consultation with Obstetrician and Endocrinologist
- Basal bolus is the commonly used insulin regime to manage diabetes in pregnancy. Insulin adjustment is carried out in response to patterns in blood glucose levels
- Basal (long / intermediate acting) insulin is adjusted if fasting blood glucose levels are elevated above 5.0 mmol / L and bolus, short acting insulin is adjusted if 2 hour post meal levels are elevated above 6.7 mmol / L

Basal bolus regimen

- Individualised insulin regimen for women. Not all women will need 4 doses per day, it will depend on which post meal values are elevated
- Basal bolus regimen comprising 4 injections per day as follows:
  - rapid acting (NovoRapid® or Humalog®) insulin 3 times daily before each meal
  - intermediate acting (isophane) insulin before bed
- If only fasting glucose elevated then start with bedtime Humulin NPH® (insulin isophane) rather than full basal bolus regimen
- Conventional commencement doses:
  - 8 - 10 units of short or rapid acting insulin before breakfast, lunch and dinner
  - 8 - 10 units of isophane insulin before bed
- Dose adjustments are to be made at least weekly, preferably every 3 days with the aim of achieving:
  - fasting blood glucose ≤ 5.0 mmol / L
  - 2 hour post-prandial glucose ≤ 6.7 mmol / L

Alternate insulin regimen

- Mixed insulin (30/70), ½ of the total dose in the morning and ½ of total dose at night:
  - 1st trimester: 0.7 units / kg / day
  - 2nd trimester: 0.8 units / kg / day
  - 3rd trimester: 0.9 - 1.0 units / kg / day
- Adjust the dose every 48 - 72 hours by 2 units with the aim of achieving:
  - fasting blood glucose ≤ 5.0 mmol / L
  - 2 hour post-prandial glucose ≤ 6.7 mmol / L
- Registered Nurses may adjust insulin in collaboration with Diabetes Educator and MO / Obstetric team
- For further support and advice contact the MO or Diabetes Educator in your area
- Women commenced on insulin should see a Dietitian to match diet and insulin and optimise nutrition for pregnancy
References
**Hypertensive disorders in pregnancy**

**Recommend**
- Pregnant women with severe hypertension - systolic blood pressure of 160 mmHg or more and / or diastolic blood pressure of 100 mmHg or more (taken at rest, on at least 2 occasions 30 minutes apart) - should be urgently investigated and / or admitted to hospital for investigation
- Consult MO on all occasions if BP ≥ 140 / 90 mmHg in pregnancy

**Background**
- Hypertension in pregnancy, whether chronic or newly arising is a significant risk to the health of both the mother and her baby and must always be managed in consultation with an MO. New hypertension, if severe or persistent, requires prompt consideration of transfer to a specialist maternity service.
- Hypertension in pregnancy may be a new clinical feature (divided into pre-eclampsia and gestational hypertension) or a chronic disease (essential, secondary, white coat). Chronic hypertension may become complicated by the development of superimposed pre-eclampsia
- **Definition of hypertension in pregnancy**
  - systolic blood pressure is ≥ 140 mmHg and / or diastolic blood pressure is ≥ 90 mmHg [2] taken at rest, on at least 2 occasions 30 minutes apart
  - a rise in systolic blood pressure ≥ 30 mmHg and / or rise in diastolic blood pressure ≥ 15 mmHg may be significant in some women, but it is not included in the definition. Assess these women for clinical and laboratory features of pre-eclampsia
  - the blood pressure should be confirmed by repeated readings over several hours
- **Classification of hypertensive disorders of pregnancy** [1]
  - pre-eclampsia - eclampsia is a complex multi system disease with significant risks to the health of the mother and baby. Pre-eclampsia can occur from 20 weeks and can progress very rapidly
  - gestational hypertension arises after 20 weeks with no features of pre-eclampsia and resolves within 3 months postpartum [2]
  - chronic hypertension - essential, secondary, white coat or pre-eclampsia superimposed on chronic hypertension

**Note:**
The Primary Clinical Care Manual recommends the use of a lower definition of severe hypertension (160 / 100 mmHg) than the Queensland Maternity and Neonatal Clinical Guideline “Hypertensive disorders of pregnancy” [2] because of the greater difficulties which may be encountered in admitting a rural / remote woman to an appropriate maternity service

**Related topics**
- Chronic hypertension - pregnancy
- Pre-eclampsia
- Glasgow coma scale / AVPU
- DRS ABCD resuscitation / the collapsed patient
Hypertension and premature events

Hypertension in pregnancy

1. May present with
   • BP ≥ 140 / 90 mmHg on two or more occasions at least 30 minutes apart
   • A rise in systolic blood pressure ≥ 30 mmHg and / or rise in diastolic blood pressure ≥ 15 mmHg
   • No proteinuria
   • No other symptoms and no signs of pre-eclampsia

2. Immediate management  See Pre-eclampsia

3. Clinical assessment
   • Take complete patient history including:
     - family history of diabetes, kidney disease or other risk factors
   • Perform standard clinical observations +
     - confirm blood pressure readings over several hours
     - urinalysis for protein
   • Perform physical examination

4. Management
   • Consult MO / Obstetrician
   • Women with a systolic blood pressure of 160 mmHg or more (taken at rest, on at least 2 occasions 30 minutes apart) and / or diastolic blood pressure of 100 mmHg or more should be urgently investigated and admission to hospital for investigation should be considered:
     - maternal and fetal investigations must be performed to exclude pre-eclampsia
     - ongoing close monitoring is required to detect the development of pre-eclampsia
     - collect urine for protein creatinine if protein on urinalysis 2+ or more
     - full blood count, LFT, urea, creatinine, electrolytes, LDH and urate
     - fetal welfare assessment by fetal heart rate with doppler and fundal height measurement
   • If BP ≥ 140 / 90 mmHg but ≤ 160 / 100 mmHg, no symptoms, no proteinurias
     - repeat BP after 10 minutes, if BP settles to <140 / 90 mmHg review next day
     - if BP still ≥ 140 / 90 mmHg consult MO

5. Follow up
   • Frequency of blood pressure monitoring will be determined by woman’s individual needs in consultation with MO / Obstetrician
   • Women with gestational hypertension usually do not require ongoing anti-hypertensive treatment

6. Referral / consultation
   • Always refer to MO / Obstetrician
Management overview - blood pressure in pregnancy [2]

< 140 / 90 mmHg

Normal antenatal care

≥ 140 / 90 mmHg

Maternal and fetal clinical assessment

- Gestation
- Urine dipstick for protein (significant if ≥ 2+)
- Weight
- Ask re symptoms of pre-eclampsia (headache, visual disturbances, nausea and vomiting, upper abdominal pain, sudden large weight gain)
- Ask re fetal movements
- Examine for signs of pre-eclampsia (generalised oedema, epigastric or right upper quadrant tenderness, hyperreflexia and ankle clonus)
- Fetal heart rate and symphysio-fundal height

Gestation < 20 weeks

- If BP ≥ 140 / 90 mmHg discuss
  management plan
  with MO
- If no known
  underlying cause or
  pre-existing condition
  consult MO
- If proteinuria ≥ 2+
  and / or symptoms / signs of
  pre-eclampsia
  present (rare < 20 weeks) MO
  consultation should be prompt

Gestation > 20 weeks

- If BP ≥ 140 / 90 mmHg (or rise in
  systolic
  BP ≥ 30 mmHg and / or rise in diastolic
  BP ≥ 15 mmHg)
  notify MO
- If proteinuria
  ≥ 2 + and / or
  symptoms / signs of pre-eclampsia
  also present, MO consultation should be prompt
- If new hypertension
  with BP ≥ 140 / 90 mmHg (or rise in
  systolic
  BP ≥ 30 mmHg and / or rise in diastolic
  BP ≥ 15 mmHg)
  and no proteinuria or
  symptoms / signs of pre-eclampsia
  notify MO
- Arrange to review all
  clinical assessment
  in 24 hours
- No proteinuria
- Ask woman to
  re-attend
  immediately if
  symptoms of
  pre-eclampsia arise

Pre-existing hypertension

Chronic hypertension
(essential, secondary, white coat)

Pre-eclampsia
superimposed on chronic hypertension

Gestational hypertension

New hypertension

Pre-eclampsia

Controlled copy V 1.0
Pre-eclampsia includes eclampsia

Recommend
- Women who have pre-eclampsia must be evacuated / hospitalised under the care of an Obstetrician
- Those who required nifedipine, hydralazine or magnesium sulfate (MgSO₄) or have proteinuria require urgent evacuation / hospitalisation in an obstetrics facility
- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Guideline "Hypertensive disorders of pregnancy" [2]

Background
- A woman with severe pre-eclampsia may feel well and have no symptoms at all

1. May present with
   - Hypertension arises after 20 weeks gestation confirmed on 2 or more occasions
     - A rise in systolic BP of greater or equal to 30 mmHg and / or a rise in diastolic BP greater than or equal to 15 mmHg may be significant in some women and requires prompt MO assessment
   - Proteinuria not due to other causes e.g. UTI
   - Sudden large weight gain
   - Generalised oedema
   - Headache, visual symptoms (flashing lights, blurred vision)
   - Epigastric pain and / or right upper quadrant pain
   - Nausea and vomiting
   - Imminent eclampsia - headache, visual disturbance, drowsiness
   - Note: hyperreflexia and ankle clonus > 2 beats are ominous signs
   - Eclampsia (fitting)

2. Immediate management of eclampsia (fitting)
   - Gently restrain the woman to avoid fit-induced trauma, clear her airway as soon as it is safe to do so and place her in the left lateral position ("recovery" position)
   - Consult MO
   - Magnesium sulfate (MgSO₄) may be ordered to prevent / manage fitting. Caution is required if magnesium sulfate and nifedipine are used concurrently. However, MgSO₄ remains the first line choice for management of eclamptic seizures
   - If the woman is in labour, perform vaginal examination after fit stops as birth may be imminent
   - In addition to Clinical assessment observe conscious state
     - See Glasgow coma scale / AVPU
   - O₂ saturations

3. Clinical assessment
   - Take complete patient history including:
     - past history of epilepsy or
     - increased BP in earlier pregnancies
   - Perform standard clinical observations +
     - note BP in particular
     - urinalysis for protein
     - weight (if possible)
     - fetal HR and sounds, movements
Hypertension and premature events

- Perform physical examination including:
  - assessment of gestation from Last Normal Menstrual Period (LNMP) / early pregnancy ultrasound if available
  - check for oedema, hyperreflexia, clonus (abnormal reflex movements)
- Collect urine for MC/S
- Take bloods for full blood count, LFTs, urea, creatinine, electrolytes, LDH and urate, coagulation studies, fibrinogen

4. Management

If BP > 160 / 100 mmHg
- Consult MO who may advise to give oral nifedipine or IM hydralazine
- Insert a large bore IV cannula
- Prepare the woman for evacuation to a referral maternity facility
- Monitor (every 15 - 30 minutes until evacuated):
  - fetal HR
  - maternal vital signs
  - uterine contractions
  - measure and test all urine output
- Women who have pre-eclampsia must be evacuated / hospitalised. Those who required nifedipine, hydralazine or magnesium sulfate (MgSO₄) or have proteinuria require urgent evacuation / hospitalisation in an obstetrics facility
  - keep nil by mouth
  - MO may request the woman be catheterised
  - nurse in quiet area with subdued light
- If BP > 135 / 85 mmHg but < 160 / 100 mmHg, no symptoms, no proteinuria
  - repeat BP after 10 minutes, if BP settles to < 135 / 85 mmHg review next day.
  - If BP still > 135 / 85 mmHg consult MO

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Nifedipine</th>
<th>DTP IHW / IPAP / Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (not controlled release)</td>
<td>10 mg 20 mg</td>
<td>Oral</td>
<td>10 mg - 20 mg</td>
<td>Stat Dose can be repeated after 30 - 45 minutes on MO / NP orders</td>
</tr>
</tbody>
</table>

Caution with use of nifedipine in women with rheumatic heart disease as pulmonary oedema may occur. Concomitant use of magnesium sulfate and nifedipine is not absolutely contraindicated but care must be taken since hypotension may result. A patient being treated with nifedipine should not be given a bolus of magnesium sulfate [3]. Not recommended for use in combination with salbutamol tocolytic infusion. If hypotension occurs nifedipine and magnesium sulfate should be ceased and reviewed by MO

Provide Consumer Medicine Information: advise the woman that nifedipine may cause facial flushing, headaches, nausea and increased HR

### Hydralazine

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hydralazine must be ordered by an MO / NP

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Initial dose</th>
<th>Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>20 mg powder for reconstitution</td>
<td>IV injection</td>
<td>5 mg - 10 mg via slow IV injection</td>
<td>Commence at 2 mg / hour (IV via controlled infusion device)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IV infusion via controlled infusion device</td>
<td>Repeated doses 5 mg IV 20 minutes apart if required (up to max. 15 mg)</td>
<td>Increase every 10 minutes by 2 mg / hour increments until BP stable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Cease hydralazine if maternal pulse greater than 130 beats / minute</td>
<td>Max. infusion rate 10 mg / hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>If maternal pulse greater than 125 beats / minute consider ceasing infusion</td>
<td></td>
</tr>
</tbody>
</table>


Provide Consumer Medicine Information: hypotension and tachycardia

Management of associated emergency: consult MO

### Magnesium sulfate (MgSO₄)

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Magnesium sulfate infusion must be ordered by an MO / NP. Follow local work instructions for the dilution and preparation of magnesium sulfate

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Loading</th>
<th>Maintenance</th>
<th>Persistent seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Magnesium sulfate concentrated injection 2.47 g in 5 mL (50%)</td>
<td>IV infusion via controlled infusion device</td>
<td>4 g bolus over 20 minutes</td>
<td>1 g / hour for 24 hours depending on clinical parameters</td>
<td>Give a further 2 g bolus over 5 minutes</td>
</tr>
</tbody>
</table>

The woman should be warned that she may experience transient hot flushing. ECG monitoring is not required


Management of associated emergency: consult MO

[2]
5. **Follow up**
- If not evacuated / hospitalised review according to MO instructions
- Consult MO if BP raised again
- See next MO clinic
- Check blood pressure 12 weeks post partum - if not normotensive consult MO

6. **Referral / consultation**
- Consult MO on all occasions if BP >140 / 90 mmHg in pregnancy

**Chronic hypertension**
**Essential, secondary, white coat**

**Recommend**
- Any woman with pre-existing hypertension who becomes pregnant should be cared for in consultation with Physician and Obstetrician
- Avoid angiotensin converting enzyme (ACEI) inhibitors angiotensin II receptor antagonists and diuretics in pregnancy [2]

**Background**
- Blood pressure ≥ 140 / 90 mmHg with no apparent cause, in women prior to pregnancy or before 20 weeks gestation, or in pregnancy and taking antihypertensives, is considered essential hypertension [2]. Where there is high prevalence of hypertension in the population essential hypertension may be detected at antenatal visits
- Secondary hypertension may be due to chronic kidney disease, renal artery stenosis, diabetes, endocrine disorders or coarctation of the aorta

**Vaginal bleeding in early pregnancy**
**Bleeding before 20 weeks gestation includes:**
- ectopic pregnancy, miscarriage, incidental bleeding in pregnancy

**Recommend**
- Consider ectopic (tubal) pregnancy in all women who present with abdominal pain and / or vaginal bleeding whether or not the woman suspects she is pregnant
  - See Immediate management
- Perform pregnancy test (blood or urine)

**Background**
- Positive pregnancy test (urine / blood) does not always mean a viable pregnancy
- A negative pregnancy test (urine) does not discount the possibility of pregnancy
- Risk factors associated with ectopic pregnancy include: history of STI, pelvic inflammatory disease, intrauterine contraceptive device (IUCD) rare, previous ectopic pregnancy, tubal sterilisation and in-vitro fertilisation (IVF), progestogen only pill, Implanon®, injectable progestogen
- Miscarriages most commonly occur between 6 and 12 weeks
- When a miscarriage threatens, but the pregnancy proceeds, there is no greater risk of fetal abnormality than in a pregnancy which was not complicated by bleeding
- STI may contribute to miscarriage

**Related topics**
- Low abdominal pain in female - adult
- Sexually transmitted infections (STIs)
- Rh D immunoglobulin
- Acute abdominal pain
- DRS ABCD resuscitation / the collapsed patient
Ectopic pregnancy

1. May present with
   - Pain - lower abdominal, right iliac fossa, left iliac fossa, suprapubic or shoulder tip. Pain usually precedes bleeding and pain is the predominant symptom
   - Vaginal bleeding
   - Pallor, increased HR
   - Hypotension / shock
   - Right or left sided mass or tenderness on bimanual examination
   - Rigid abdomen with rebound tenderness
   - No sign of intrauterine pregnancy on ultrasound

2. Immediate management
   - Consult MO urgently
   - If blood loss is heavy or continuing or there is increased HR or hypotension / shock:
     - Insert large bore IV cannula (14 G or 16 G if possible)
     - See DRS ABCD resuscitation / the collapsed patient
     - Commence IV sodium chloride 0.9% or Hartmann’s solution. MO will advise quantities and rate
     - The aim is to keep HR < 120, systolic BP > 100 mmHg, urine output > 0.5 mL / kg / hr
   - Take blood for FBC, U/Es and group and x-match
   - Give O₂ See O₂ delivery systems

3. Clinical assessment
   - Take complete patient history including:
     - Contraceptive, reproductive and menstrual history
   - Perform standard clinical observations +
     - Urine pregnancy test, with consent, on any woman of child-bearing age (12-52 years) who presents with abnormal vaginal bleeding or low abdominal pain. These tests are very sensitive. Positive pregnancy test does not always mean a viable pregnancy
     - STI check for chlamydia / gonorrhoea / trichomonas / bacterial vaginosis and syphilis serology if not already done
     - See Sexually transmitted infections (STIs) and Antenatal care
     - Monitor amount and rate of blood loss
   - Physical examination including:
     - Perform gentle abdominal examination only
   - Check documentation of blood group and antibody status

4. Management
   - Consult MO who will advise analgesia (preferably IV opioid or IM) and arrange evacuation / surgery immediately
   - Keep nil by mouth
   - MO may request the woman be catheterised
5. **Follow up**
   - Consider grief counselling if appropriate
   - All Rh (D) negative women should be offered Anti D [5] See Rh D immunoglobulin
   - If applicable follow up STI test results and treat See Sexually transmitted infections (STIs)

6. **Referral / consultation**
   - Consult MO on all occasions of suspected ectopic pregnancy

### Miscarriage / incidental bleeding in pregnancy

1. **May present with**
   - Cramping / suprapubic or low back pain
   - Bleeding (usually precedes pain and is the predominant symptom)
   - Vaginal bleeding may include clots and products of conception
   - Hypotension / shock due to either blood loss, cervical shock or sepsis
   - Confirmed intrauterine pregnancy
   - If incidental bleeding, bleeding is light (unless due to trauma) and abdominal pain is uncommon

2. **Immediate management** See Ectopic pregnancy

3. **Clinical assessment**
   - Take complete patient history including:
     - contraceptive, reproductive and menstrual history
   - Perform standard clinical observations +
     - urine pregnancy test, with consent, on any woman of child-bearing age (12-52 years) who presents with abnormal vaginal bleeding or low abdominal pain. These tests are very sensitive. Positive pregnancy test does not always mean a viable pregnancy
     - STI check for chlamydia / gonorrhoea / trichomonas / bacterial vaginosis and syphilis serology if not already done
       See Sexually transmitted infections (STIs) and Antenatal care
     - monitor amount and rate of blood loss
   - Take blood to commence series of βhCG levels for threatened miscarriage
   - Perform physical examination including:
     - palpate abdomen for tenderness around the uterus, fallopian tubes and ovaries
     - speculum examination:
       - is blood coming through os?
       - is the os closed?
       - is os open with products of conception protruding?
       - is there offensive cervical discharge?
   - Check documentation of blood group and antibody status
4. **Management**

- Keep nil by mouth
- On vaginal examination:
  - if cervical os is closed the pregnancy may be viable (threatened miscarriage) or nonviable (missed or complete miscarriage)
  - incidental bleeding - even if the amount of bleeding is small, consult MO who will advise further management
    - if bleeding not heavy MO will advise rest at home and review immediately if bleeding increases or abdominal pain occurs
  - if cervical os is open, heavy bleeding and / or products of conception seen, MO will likely advise:
    - removal of products of conception with sponge forceps
    - if fever or offensive cervical discharge - IV antibiotics
    - evacuation / hospitalisation
- For inevitable miscarriage with heavy loss - give ergometrine maleate, provided not hypertensive i.e. diastolic BP not > 90 mmHg and no heart disease

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ergometrine</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / IPAP / Mid</td>
</tr>
</tbody>
</table>

**Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP**

**Midwife may proceed**

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>500 microgram / 1 mL</td>
<td>IM</td>
<td>500 microgram</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IV</td>
<td>250 microgram</td>
<td></td>
</tr>
</tbody>
</table>

**Provide Consumer Medicine Information:** administer slowly over at least one minute to avoid hypotension

Management of associated emergency: consult MO

5. **Follow up**

- Consider grief counselling for parents who have experienced miscarriage / intrauterine fetal death
- If not evacuated / hospitalised review according to MO instructions
- All Rh (D) negative women should be offered Anti D [5] See Rh D immunoglobulin
- Next MO clinic including repeat blood / urine pregnancy test and ultrasound scan
- If applicable follow up STI test results and treat See Sexually transmitted infections (STIs)

6. **Referral / consultation**

- Consult MO on all occasions of vaginal bleeding in pregnancy
Antepartum haemorrhage (APH)
Bleeding after 20 weeks gestation

**Recommend**
- Do not perform digital vaginal examination
- If blood loss heavy See Immediate management
- Definition of antepartum haemorrhage (APH)
  - bleeding after 20 weeks gestation of more than 15 mL of blood

**Background**

**Causes of APH**

- Placental abruption
  - part of the placenta has separated from the uterine wall
  - bleeding may be partly or completely hidden behind the placenta (consider this when assessing vaginal blood loss)
  - uterus hard and tender
  - pain (if posterior placenta, may have vague backache only)
  - if labour occurs it is often rapid
- Placenta previa
  - placenta partially or completely overlies the cervical canal
- Vasa previa
  - results in fetal blood loss
  - it is painless
  - fetal distress occurs
  - usually results in fetal death
- Antepartum haemorrhage of unknown cause
  - bleeding painless, usually bright red and may be recurrent
- Other causes
  - lower genital tract bleeding

**Related topics**
- Rh D immunoglobulin
- DRS ABCD resuscitation / the collapsed patient

1. **May present with**
   - Painless or painful vaginal bleeding
   - Increased maternal HR, hypotension / shock
   - Vomiting
   - Uterus hard and tender or contracting
   - Fetal distress

2. **Immediate management**
   - Consult MO urgently
   - If blood loss is heavy or continuing or increased HR or hypotension / shock:
     - insert large bore IV cannula (14 G or 16 G if possible)
     - commence IV sodium chloride 0.9% or Hartmann's solution. MO will advise quantities and rate. The aim is to keep HR < 120 mmHg, systolic BP > 100 mmHg, urine output > 0.5 mL / kg / hour
   - Take blood for FBC, U/Es, group and x-match and clotting factor
   - Give O₂ See O₂ delivery systems
   - Lie woman in left or right lateral position - not supine
3. Clinical assessment
   • Take complete patient history including:
     - any documentation in clinical record of ultrasound results which indicates
       location of placenta in the uterus in the current pregnancy
     - documentation of blood group and antibody status
     - contraceptive, reproductive and menstrual history
   • Perform standard clinical observations +
     - O₂ saturation level
     - conscious state See Glasgow coma scale / AVPU
     - check fetal heart sound, rate and movements
     - monitor amount and rate of blood loss
   • Perform physical examination including:
     - assess gestation from LNMP / early pregnancy ultrasound / fundal height
     - examine abdomen - is uterus soft or hard? tender? contracting?
     - do not perform digital vaginal examination

4. Management
   • Consult MO on all occasions
   • Urgent evacuation / hospitalisation to an obstetric facility will be necessary
   • Keep nil by mouth
   • Analgesia: MO will advise - preferably IV opioid or IM
   • MO may request woman be catheterised
   • MO or Midwife will perform sterile speculum examination prior to evacuation to
     ensure that unexpected birth is not imminent

5. Follow up
    Offer grief counselling for parents who have experienced antepartum haemorrhage
     with fetal death
    All Rh (D) negative women should be given Anti D [5] See Rh D immunoglobulin

6. Referral / consultation
    Consult MO on all occasions of vaginal bleeding in pregnancy
1. May present with
   **Acute cystitis**
   - Lower abdominal pain and sometimes mild low back pain, low abdominal or suprapubic pain, without dysuria or frequency, in early pregnancy could also be PID. Any woman presenting with low abdominal pain should be assessed for PID
   - Urinary frequency
   - Discomfort / burning on passing urine (dysuria)
   - Abnormal urinalysis (leucocytes / nitrites / protein / blood)

   **Pyelonephritis**
   - Fever, rigors, nausea, vomiting
   - Loin pain
   - Abnormal urinalysis (leucocytes / nitrites / protein / blood)

   **Asymptomatic bacteriuria**
   - Asymptomatic bacteriuria in pregnancy should be treated due to the increased risk of pyelonephritis and preterm labour
   - Abnormal urinalysis (nitrites / protein / blood)
   - Pure growth > $10^5$ / L on urine culture

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Full history including:
     - past episodes of UTI both in and out of pregnancy and sexual history
   - Perform standard clinical observations +
     - urinalysis (nitrites / protein / blood)
     - MSU for microscopy culture and sensitivity
   - do STI tests for:
     - gonorrhoea / chlamydia
     - trichomonas / bacterial vaginosis
     - syphilis if not already done
     - See Routine antenatal care
     - See Health check - women
     - See Sexually transmitted infections (STIs)
   - Perform physical examination including palpating abdomen especially for suprapubic or loin tenderness
   - Complete a routine antenatal maternal and fetal examination including abdominal palpation and assessment of fetal HR

4. **Management**
   **Acute cystitis**
   - Advise increased fluid intake
   - Before result of MC/S is available treat with cephalexin unless allergic to penicillin or other beta-lactam antibiotics or amoxycillin / clavulanate acid
   - Amoxycillin (only recommended if susceptibility of the organism is proven) [7]
### Hypertension and premature events

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Cephalixin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / Mid</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td><strong>Strength</strong></td>
<td><strong>Route of administration</strong></td>
<td><strong>Recommended dosage</strong></td>
</tr>
<tr>
<td>Capsule</td>
<td>250 mg / 500 mg</td>
<td>Oral</td>
<td>500 mg bd</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

- or -

### Schedule 4 Cephalexin DTP

| Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP |
| Scheduled Medicines Rural & Isolated Practice Registered Nurse may proceed |
| Midwife may proceed |
| **Form** | **Strength** | **Route of administration** | **Recommended dosage** | **Duration** |
| Tablet | 500 mg / 125 mg | Oral | 500 mg / 125 mg bd | 5 days |

Provide Consumer Medicine Information: take with food. Take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

- If allergic to penicillin or beta lactam antibiotics treat with nitrofurantoin

### Schedule 4 Amoxycillin / clavulanic acid DTP

| Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP |
| Scheduled Medicines Rural & Isolated Practice Registered Nurse may proceed |
| Midwife may proceed |
| **Form** | **Strength** | **Route of administration** | **Recommended dosage** | **Duration** |
| Tablet | 500 mg / 125 mg | Oral | 500 mg / 125 mg bd | 5 days |

Provide Consumer Medicine Information: take with food. Take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

- If allergic to penicillin or beta lactam antibiotics treat with nitrofurantoin

### Schedule 4 Nitrofurantoin DTP

| Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP |
| Scheduled Medicines Rural & Isolated Practice Registered Nurse may proceed |
| Midwife may proceed |
| **Form** | **Strength** | **Route of administration** | **Recommended dosage** | **Duration** |
| Capsule | 50 mg / 100 mg | Oral | 100 mg bd | 5 days |

Do not use in women at or near term or delivery because of the risk of neonatal haemolytic anaemia in G6PD deficient patients. Not for use in patients with renal impairment

Provide Consumer Medicine Information: take with food or milk. Take until course completed

Management of associated emergency: consult MO

- **Pyelonephritis**
  - Consult MO, patient will need IV antibiotics and evacuation / hospitalisation

- **Asymptomatic bacteriuria** (antenatal screening)
  - If woman not allergic and susceptibility of the organism is proven [7] treat with amoxycillin
Hypertension and premature events

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Amoxycillin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / Mid</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsule</td>
<td>250 mg</td>
<td>Oral</td>
<td>250 - 500 mg tds</td>
<td>7 days</td>
</tr>
<tr>
<td>Capsule</td>
<td>500 mg</td>
<td>Oral</td>
<td>250 - 500 mg tds</td>
<td>7 days</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

5. **Follow up**
   - Women with asymptomatic bacteriuria from group B *Streptococcus* will require antibiotic cover in labour, even if treated [9]
   - Check culture and sensitivity and consult MO if resistant organism found
   - Follow up STI test results and treat See Sexually transmitted infections (STIs)
   - Repeat MSU at least 48 hours after completion of treatment to confirm clearance of infection
   - Consult MO if UTI persists or recurs after treatment
   - Repeat MSU monthly until birth

Post birth follow up
   - MSU at six week postnatal visit
   - Consult MO re: renal ultrasound and serum urea / creatinine / uric acid at 3 months postpartum

6. **Referral / consultation**
   - Consult MO as above

### Group B *Streptococcus* prophylaxis

**Recommend**
- Staff working in isolated or rural areas may be required to give the first dose of antibiotic to affected women to ensure adequate prophylaxis
- Antibiotics where possible should be given at least 4 hours prior to delivery, however if birth is within 2 hours, this is not a reason to withhold antibiotic treatment [9]
- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Guideline on early onset group B streptococcal disease [9]
- Queensland follows a risk factor approach, rather than a universal screening approach to management of group B *Streptococcus* in pregnancy

1. **May present with the following known risk factors**
   - Preterm labour at less than 37 weeks (spontaneous or induced labour)
   - Rupture of membranes > 18 hours prior to birth
   - Maternal fever ≥ 38°C (intrapartum or within 24 hours of giving birth)
   - Group B *Streptococcus* colonisation in current pregnancy
   - Group B *Streptococcus* bacteriuria in current pregnancy
   - Previous baby affected by early onset group B *Streptococcus* disease irrespective of mother’s colonisation status in current pregnancy

2. **Immediate management** Not applicable
3. **Clinical assessment**
   - Take complete patient history including:
     - presence of group B *Streptococcus* in previous pregnancy
     - current pregnancy, gestation and date and time membranes ruptured
   - Perform standard clinical observations +
     - fetal HR and rhythm
   - Perform physical examination

4. **Management**
   - Consult MO and advise of group B *Streptococcus* status
   - All women colonised with group B *Streptococcus* in current pregnancy and / or with known risk factors (as in 1. above) should be treated as per Queensland Maternity and Neonatal Guideline for early onset group B streptococcal disease [9]
   - Insert IV cannula
   - Plan evacuation to obstetric facility

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th><strong>Benzylpenicillin</strong></th>
<th><strong>DTP IHW / IPAP / Mid</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td><strong>Strength</strong></td>
<td><strong>Route of administration</strong></td>
<td><strong>Recommended dosage</strong></td>
</tr>
<tr>
<td>Vial</td>
<td>600 mg</td>
<td>IV (IM only if IV cannulation unsuccessful)</td>
<td><strong>Loading dose</strong> 1.2 g</td>
</tr>
<tr>
<td></td>
<td>1.2 g</td>
<td></td>
<td><strong>Maintenance dose</strong> 600 mg 4 hourly</td>
</tr>
<tr>
<td></td>
<td>3 g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: See Anaphylaxis and severe allergic reaction [9]

- If allergic to penicillin, treat with lincomycin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th><strong>Lincomycin</strong></th>
<th><strong>DTP IHW / IPAP / Mid</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td><strong>Strength</strong></td>
<td><strong>Route of administration</strong></td>
<td><strong>Recommended dosage</strong></td>
</tr>
<tr>
<td>Ampoule</td>
<td>600 mg / 2 mL</td>
<td>IV (IM only if IV cannulation unsuccessful)</td>
<td>600 mg</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: See Anaphylaxis and severe allergic reaction [9]

5. **Follow up of neonate**
   - The baby born to a woman requiring group B *Streptococcus* prophylaxis must have neonatal / paediatric review immediately after birth
   - If adequate intrapartum antibiotic cover, observe for signs of sepsis and take temperature, pulse and respiratory rate 4 hourly for 24 - 48 hours
   - If inadequate intrapartum antibiotic cover, refer to the Queensland Maternity and Neonatal Guideline on early onset group B streptococcal disease for neonatal management
   - If birth occurs prior to evacuation request neonatal support / advice from retrieval team
6. Referral / consultation
    Consult MO on all occasions of a woman requiring group B *Streptococcus* prophylaxis
    Paediatrician

**Preterm prelabour rupture of membranes**

**Recommend**
- Digital vaginal examination must not be performed if not in labour due to the risk of infection
- Consult MO. Where the RFDS provides primary medical cover for a facility the RFDS MO on call is the appropriate first point of medical contact. The MO will undertake assessment, management and possible transfer with specialist consultation as necessary (facilitated through Retrieval Services Queensland)

**Background**
- Definitions of rupture of the amniotic membranes prior to the onset of labour:
  - prelabour rupture of membranes (PROM) means rupture of membranes after 37 completed weeks
  - preterm prelabour rupture of membranes (PPROM) is rupture of membranes before 37 weeks
- This Primary Clinical Care Manual chapter is intended for facilities that do not have planned birthing and is congruent with the Queensland Maternity and Neonatal Clinical Guideline on Assessment and management of preterm labour [10]

**Related topics**
- Suppression of preterm labour
- Prevention of neonatal respiratory distress syndrome
- Group B *Streptococcus* prophylaxis
- Umbilical cord presentation / prolapse
- Rh D immunoglobulin
- Sexually transmitted infections (STIs)

1. May present with
   - Draining liquid from vagina - colour of liquid may be clear, blood stained, meconium (green to black), yellow
   - Vaginal spotting or ‘show’
   - History of gush followed by continuing leak
   - Pool of fluid in the posterior vaginal fornix is suggestive of liquor
   - Cord prolapse
   - Intrauterine infection
   - Regular uterine activity (preterm labour)
   - Lower back pain
   - Lower abdominal cramping
   - Pelvic pressure
   - Infection (STI or non STI)

2. Immediate management
   - Check fetal HR, if fetal HR abnormal, cord prolapse or presentation may be present [See Umbilical cord presentation / prolapse]
   - Digital vaginal examination must not be performed if not in labour or if membranes ruptured, due to the risk of infection
Hypertension and premature events

- Speculum examination should be performed by an experienced practitioner to exclude cord prolapse:
  - full sterile technique to be followed
  - lubricate speculum with sterile water (not obstetric cream or other lubricants)
  - approach, but do not touch the cervix with speculum
  - note cervical dilation, effacement, fetal hair / head or cord, cervical discharge, fluid coming through cervix
  - do not perform fetal Fibronectin (fFN) with rupture of membranes, visual evidence of moderate bleeding, cervical suture in situ, infection
  - Note: fFN can be used after recent intercourse. A negative result is a valid negative. A positive result may be a false positive, but will still require transfer
  - check fFN if membranes intact
  - if unsure whether fluid loss is liquor, amniocentesis may help but not totally reliable. Observe the colour change from orange to blue. Liquor gives an immediate and distinct colour change. Blood and meconium cause false positives
  - collect low vaginal / anorectal swab for MC/S and PCR including to check for gonorrhoea / chlamydia / trichomonas / bacterial vaginosis / group B *Streptococcus* colonisation See Sexually transmitted infections (STIs)

3. Clinical assessment

- Obtain a complete patient history including:
  - past reproductive history
  - current pregnancy, sexual history, date and time membranes ruptured, colour of fluid loss and odour
- Perform standard clinical observations 4 hourly at a minimum:
  - urinalysis and collect MSU for MC/S
  - check fetal heart sound, rate and fetal movements
  - monitor fluid loss: colour - meconium stained or bloody? offensive?
- Assess gestation from LNMP / early pregnancy ultrasound
- Assess placental site from pregnancy ultrasound to rule out placenta praevia (contraindication for vaginal examination)
- Perform physical examination including:
  - abdominal examination - fundal height, fetal lie and presentation, is the uterus contracting?

4. Management

- Consult MO:
  - may request evacuation / hospitalisation in an obstetrics facility
  - may recommend commencement of oral or IV antibiotic in consultation with receiving facility
- Complete bed rest prior to evacuation
- If the gestation is between 24 and 34 weeks and in labour MO will order betamethasone 11.4 mg IM to accelerate fetal lung maturation [10]
  See Prevention of neonatal respiratory distress syndrome
- Women with uterine activity who require transfer should be considered for tocolysis [10] prior to evacuation to suppress labour See Suppression of preterm labour
- A history of group B *Streptococcus* colonisation or of recurrent herpes genitalis is important in deciding upon the necessary urgency of evacuation

5. Follow up

Women who have a positive swab / urine for group B *Streptococcus* in the current pregnancy will require antibiotic cover in labour
See Group B *Streptococcus* prophylaxis

6. Referral / consultation

Consult MO on all occasions of suspected prelabour with or without preterm rupture of membranes

456  Controlled copy V1.0  Primary Clinical Care Manual 2013
Suppression of preterm labour

Recommend
- The best neonatal outcomes are achieved if the baby can safely be transported in-utero to receiving maternity facility
- Consult MO. Where the RFDS provides primary medical cover for a facility the RFDS MO on call is the appropriate first point of medical contact. The MO will undertake assessment, management and possible transfer with specialist consultation as necessary (facilitated through Retrieval Services Queensland)
- Aim to postpone birth for at least 48 hours whilst steroids accelerate fetal lung maturation
- Suppression of labour is likely to be successful at less than 4 cm of cervical dilatation, but less likely if dilatation is more than 6 cm
- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Clinical Guideline on Assessment and management of preterm labour
- This Primary Clinical Care Manual chapter is intended for facilities that do not have planned birthing and is congruent with the Queensland Maternity and Neonatal Clinical Guideline on Assessment and management of preterm labour [10]

Background
- Preterm labour is defined as regular uterine contractions (at least one every 10 minutes) at 34 weeks or less gestation
- This period of gestation is chosen because at greater than 34 weeks the risks of suppression of spontaneous labour outweigh the risks of prematurity
- May be caused by febrile illness such as UTI, intrauterine infection or trauma
- Contraindications to suppression of labour include gestation more than 34 weeks, labour too advanced, fetal death in-utero, placental abruption, maternal infection, pre-eclampsia, lethal fetal anomalies, suspected fetal compromise, maternal hypotension: BP < 90 mmHg systolic, PV bleeding from placenta previa [10]
- Fetal fibronectin (fFN) testing: a negative result is associated with a 98% likelihood that birth will not occur within 72 hours of testing, unless a new pregnancy complication arises. A positive result indicates an approximately 50% likelihood of birth occurring within 72 hours

Related topics
- Rh D immunoglobulin
- Prevention of neonatal respiratory distress syndrome
- Group B Streptococcus prophylaxis
- Normal labour and birth
- Neonatal resuscitation
- Urinary tract infection in pregnancy

1. May present with
- Regular, painful, uterine contractions
- Evidence of change in the cervix - show, cervix effaced or dilated
- Ruptured membranes
- Urinary tract infection in pregnancy
- Maternal infection
- Lower abdominal cramping
- Lower back pain
- Pelvic pressure
2. Immediate management
   • Consult MO. If birth is imminent prepare for birth See Normal labour and birth
   • Prepare neonatal resuscitation equipment See Neonatal resuscitation

3. Clinical assessment
   • Take complete history including:
     - past reproductive, current pregnancy, sexual history
     - group B Streptococcus status - if had positive swab / urine the patient will require antibiotic cover in labour
   • Perform standard clinical observations +
     - assess gestation from last normal menstrual period / early pregnancy ultrasound (if performed)
     - assess placenta not praevia from ultrasound reports (if performed)
     - examine fluid loss: liquor, blood, purulent, meconium
     - time uterine contractions: frequency, duration, strength
     - urinalysis, collect MSU for MC/S
     - fetal heart sound, rate and fetal movements
   • Perform physical examination including:
     - maternal abdominal examination
     - check fundal height and fetal lie and presentation
     - sterile speculum examination should be performed by a competent practitioner to exclude cord prolapse
     - full sterile technique to be followed
     - lubricate the speculum with sterile water (not obstetric cream)
     - approach, but do not touch the cervix with speculum
     - note cervical dilation and effacement, fetal hair / head or cord, cervical discharge
     - check fFN if membranes intact (do not perform fFN with rupture of membranes, visual evidence of moderate bleeding, cervical cerclage in situ, infection).
       Note: fFN can be used after recent intercourse. A negative result is a valid negative. A positive result may be a false positive, but will still require transfer
     - If membranes intact collect low vaginal / anorectal swab for MC/S and PCR to check for prophylaxis
       See Sexually transmitted infections (STIs)
       See Group B Streptococcus prophylaxis
       - gonorrhoea / chlamydia / trichomonas / bacterial vaginosis / group B streptococcus colonisation
   • Consider assessing cervical dilation by sterile digital vaginal examination unless contraindicated by ruptured membranes or suspected placenta praevia

4. Management
   • Consult MO who will:
     - organise evacuation / hospitalisation to an obstetrics facility with neonatal capability
     - inform the neonatal unit of transfer and admission
     - may order steroids (betamethasone 11.4 mg IM) to accelerate fetal lung maturation [10] See Prevention of neonatal respiratory distress syndrome
     - may order antibiotics if UTI, group B streptococcus or STI suspected
   • Insert large bore IV cannula
   • Record maternal BP, pulse and respiratory rate at a minimum every 30 minutes until evacuated
   • Perform fetal HR and sound at a minimum of 15 minute intervals until evacuated
   • Monitor uterine contractions closely
   • Prepare woman for evacuation - place pillow / rolled towel under right side so woman is lying on her left hand side
• Complete bed rest prior to evacuation
• Give tocolytic medication (medicine to suppress uterine contractions - oral nifedipine is the preferred option), unless contraindicated. Then if required, maintenance dose i.e. 20 mg q6h for 48 hours (BP observations every 30 minutes for 1 hour then q2h for 24 hours then q4h) max. of 160 mg per day [10]

**Antibiotics [10]**
Prophylactic antibiotics for group B *Streptococcus* are not recommended in threatened preterm labour, but should be administered in established preterm labour

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Nifedipine</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td></td>
<td>IHW / IPAP / Mid</td>
</tr>
</tbody>
</table>

**Schedule 4 Nifedipine DTP**

**IHW / IPAP / Mid**

Retail Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Midwife may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet (not controlled release)</td>
<td>10 mg 20 mg</td>
<td>Oral Chew the tablet to aid rapid absorption</td>
<td>20 mg</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If contractions persist after 30 minutes repeat 20 mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>If contractions persist after a further 30 minutes repeat 20 mg on MO / NP order if BP stable</td>
</tr>
</tbody>
</table>

**Contraindications for nifedipine.** Discuss alternate tocolytic medicine with MO

- Maternal cardiac disease (including rheumatic heart disease)
- Hypotension
- Liver dysfunction
- Antepartum haemorrhage
- Documented allergy to nifedipine

**Concurrent use**
- Concurrent use of transdermal nitrates or antihypertensives
- Concurrent use of IV salbutamol or magnesium sulfate
- Fetal distress / fetal death in utero

Provide Consumer Medicine Information: advise women nifedipine may cause facial flushing, headache, nausea and increase HR

Management of associated emergency: consult MO [10]

5. **Follow up**
   - Follow up MSU results and treat See Urinary tract infection in pregnancy
   - Follow up STI results and treat See Sexually transmitted infections (STIs)
   - Women who have a positive swab / urine for group B *Streptococcus* in the current pregnancy will require antibiotic cover in labour [9] See Group B *Streptococcus* prophylaxis
   - All Rh (D) negative women should be given Anti D [5] See Rh D immunoglobulin

6. **Referral /consultation**
   - Consult MO on all occasions of suspected preterm labour
Prevention of neonatal respiratory distress syndrome

**Recommend**
- Give corticosteroid therapy to women between 24 and 34 weeks gestation who are at risk of preterm birth within the next 7 days

**Background**
- Corticosteroids given to women in early labour assist fetal lung maturation and reduce the risk of respiratory distress syndrome, intracerebral haemorrhage and / or necrotising enterocolitis after birth [12]
- Repeat courses of corticosteroids should not be used routinely [13]

**Related topics**
- Suppression of preterm labour
- Preterm prelabour rupture of membranes
- Normal labour and birth
- Neonatal resuscitation

1. **May present with**
   - Preterm labour between 24 and 34 weeks gestation

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Take complete history including:
     - past reproductive history
     - current pregnancy
     - sexual history
   - Perform standard clinical observations +
     - fetal HR, sound and movement
   - Perform physical examination including:
     - assess gestation from last normal menstrual period / early pregnancy ultrasound (if performed)
     - check fundal height

4. **Management**
   - Consult MO before treatment and for order of second dose of betamethasone. (It is vital these orders are complete. By the time a second dose is needed the woman should be in hospital)
   - Standard recommended treatment for prevention of neonatal respiratory distress syndrome is two (2) doses of betamethasone 24 hours apart

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Betamethasone injection</th>
<th>DTP IHW / Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>5.7 mg / mL</td>
<td>IM</td>
<td>11.4 mg</td>
<td>Stat Further doses on MO / NP orders</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information
Management of associated emergency: consult MO

[10]
5. **Follow up**  
- Evacuation / hospitalisation for ongoing management

6. **Referral / consultation**  
- Consult MO on all occasions of premature labour before treatment

**Umbilical cord presentation or prolapse**

**Recommend**  
- This is a life threatening situation **See Immediate management**

1. **May present with**  
   **Umbilical cord presentation**  
   - Umbilical cord found on digital vaginal examination to be in front of presenting part with intact membranes - of importance because of risk of cord prolapse if membranes rupture  
   **Umbilical cord prolapse**  
   - Membranes ruptured and cord comes out before the baby, of importance because:  
     - presenting part will press on the cord cutting off the O₂ supply to the baby and it will die  
     - umbilical cord outside vagina will spasm, cutting off O₂ supply to the baby and it will die

2. **Immediate management**  
   If the umbilical cord is known or suspected to be either present behind intact membranes or prolapsed with ruptured membranes:  
   - Call for help and consult MO urgently  
   - Assist mother into the knee-chest position (see diagram) or place two pillows under the buttocks or lie on left side with head tilted down  
   - Hold the presenting part **off the cord** using your fingers  
   - Avoid touching the cord  
   - Give O₂ **See O₂ delivery systems**  
   - Check fetal heart sound and rate
3. **Clinical assessment**
   - Take complete history (if time allows and not documented in antenatal notes) including: past reproductive, current pregnancy, sexual history
   - Perform clinical observations +
     - fetal HR, sound and movement
     - assess gestation from LNMP / early pregnancy ultrasound
   - Physical examination including
     - check fundal height
   - Where possible a second person will be required to assist

4. **Management**
   - Insert an indwelling catheter into the bladder
     - run 500 mL of sodium chloride 0.9% into the bladder
     - clamp the catheter - this will hold the presenting part off the cord
     - the fingers holding the presenting part can now be withdrawn
   - MO:
     - will organise urgent evacuation / caesarean section
     - advise suppression if in labour and fetal heart present
     - advise analgesia (IM opioid or preferably IV)
   - Insert largest IV cannula possible
   - Keep nil by mouth
   - In isolated areas, if a woman presents with a cord prolapse, the baby may already be deceased. However, unless this is certain, it is best to act as above

5. **Follow up**
   - Requires urgent caesarean section if fetus alive
   - Grief counselling as indicated
   - All Rh (D) negative women should be given Anti D [5]

6. **Referral / consultation**
   - Consult MO on all occasions of umbilical cord presentation or prolapse

References
Labour birth and postnatal care

Normal labour and birth

Recommend

- Plan for births to take place at an appropriately equipped and staffed facility
- Pregnant women from isolated areas where birthing services are not available should be advised to leave their communities at 36 weeks (or earlier depending on woman’s individual needs) and travel to the appropriate town or city where they attend the antenatal clinic as needed until birth
- Prepare for the event that some births will occur in facilities that do not undertake planned births
- Birth in an evacuation aircraft should be avoided if at all possible
- All births in rural and remote communities must, wherever possible, be attended by a Midwife or MO
- Only Midwives or MO should perform vaginal examinations on women in labour
- Registered Nurses and Health Workers should undertake a supportive role for the birthing woman and facilitate the normal physiological birth process

Background

- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Clinical Guidelines on Normal Birth
- The Primary Clinical Care Manual chapter is intended for facilities that do not have planned births and is congruent with the Queensland Maternity and Neonatal Clinical Guidelines on Normal Birth

Related topics

- Neonatal resuscitation
- Preterm prelabour rupture of membranes
- Group B Streptococcus prophylaxis
- Postpartum haemorrhage
- Rh D immunoglobulin

1st stage of labour

1. May present with
   - Lower back pain
   - A pattern of escalating uterine activity i.e. contractions which increase in strength, frequency and duration
   - Evidence of rupture of membranes
   - A show (passage of bloody mucous)

2. Immediate management
   - If indicated the Midwife or MO may perform a vaginal examination to determine changes in cervical effacement and / or dilatation, position and descent of the presenting part. If the membranes are ruptured digital vaginal examination should be avoided unless a cord prolapse is considered possible or birth is thought to be imminent
   - If the baby is not born yet but birth is imminent, take time to prepare equipment, and consider:
     - time labour started?
     - time membranes ruptured?
     - any meconium?
     - fetal movements?
   - Consider whether the baby is likely to be healthy or in need of resuscitation:
     - what is the gestation?
     - is there one baby or twins?
Labour birth and postnatal care

- past reproductive history?
- any problems in this pregnancy?

• Ask others to help
• Prepare birth and neonatal resuscitation equipment
• Prepare oxytocic medication
• Consult MO at this stage

3. Clinical assessment

• Take a complete history if not already taken during antenatal care including:
  - past reproductive history
  - current pregnancy
  - mental health history

• Perform standard clinical observations:
  - assess gestation from last normal menstrual period (LNMP) / early pregnancy ultrasound
  - vaginal loss: liquor, blood, meconium
  - fetal heart rate (FHR)
  - uterine contractions: frequency, duration, strength

• Perform physical examination including:
  - fundal height in relation to xiphisternum
  - fetal lie and presentation (cephalic, breech)

4. Management

A decision needs to be made as to whether birth will take place in the community or whether urgent evacuation is appropriate. This will depend on parity of the woman, stage of labour at presentation, labour progression and the staff availability / mix at the facility. Such a decision needs to be undertaken in consultation with the relevant evacuation provider e.g. RFDS MO. Specialist obstetric and / or neonatal advice may be obtained, if necessary, via QCC (Queensland Emergency Medical System Coordination Centre) 1300 799 127

Ruptured membranes but not in labour

• In the absence of any contraindications, all efforts should be made to transfer to an appropriate maternity unit. If diagnosis is uncertain, only a speculum examination should be performed and digital vaginal examination should be avoided unless a cord prolapse is considered possible

Fetal fibronectin testing (fFN)

• If the diagnosis of labour is uncertain at preterm gestations, fFN testing of a vaginal swab sample may be appropriate after discussion with an MO. A fFN test should be performed before a digital vaginal examination is undertaken. The presence of blood or amniotic fluid in the vagina may make the result unreliable. Recent sexual intercourse may make a test result difficult to interpret or may result in a false positive result, however a negative result is valid

• fFN is most useful when a negative result is obtained - in this instance, there is a less than 2% likelihood of birth within the next 72 hours, unless a new pregnancy complication arises. A positive result is associated with an approximately 50% chance of birth within the next 72 hours

Fetal observation in 1st stage of labour

• Fetal HR (FHR) is auscultated towards the end of, and for at least 30 seconds after, the end of a contraction, ¼ to ½ hourly. Normal range is 110 - 160 / min.

• After a contraction there should be no deceleration (slowing of) FHR, if there is a drop in FHR after contractions, ask the woman to change her position (women in labour should not lie flat on their back due to potential supine hypotension)
Maternal observations

- ½ hourly (minimum) - contractions (number in 10 minutes), vaginal loss, heart rate
- 2 hourly - abdominal palpation, bladder emptying
- 4 hourly - BP, temperature, urinalysis
- Vaginal examinations individualised to woman’s needs - typically 4 hourly, until the cervix is 8 cms dilated, then 2 hourly - assessment of cervical dilatation may need to be more frequent than would normally be undertaken in a maternity unit, to allow for early decision making if progress is abnormal

Partogram [1]

- When the cervix reaches 4 cm - 5 cm dilatation, which for practical purposes demarcates the latent phase of labour from the active phase of labour, warning (or alert) and action lines should be drawn on the partogram, as demonstrated below
  - X - cervical dilatation as measured at vaginal examination
  - O - descent of the head as measured on abdominal examination

- Encourage the woman to drink to thirst and maintain nutritional intake, monitor for nausea and dehydration and take action as appropriate. Offer light food as desired
- Support
  - appropriate family member / support present
  - adequate explanation, encouragement and reassurance
- Consult MO if delay in progress
  - if progress of cervical dilatation / descent of the head crosses the warning (or alert) line on the partogram, this will give an early indication of the need for transfer to referral maternity facility or intervention. In the setting of management of unexpected labour in a facility which does not manage planned births this is of particular importance
  - if cervical dilatation / descent of the head crosses the action line on the partogram the likelihood of a successful vaginal birth with continuation of the current management plan is unlikely and management should be carefully reviewed

- Pain management as per woman’s individual requirement
  - try mobilisation, shower, massage, heat therapy
  - if requested by the woman, use nitrous oxide and O₂ (Entonox®)
  - if all other pain relief strategies are unsatisfactory and the woman requests further pain relief, she is not allergic and if birth is not imminent - give morphine in a single injection with or without metoclopramide. Morphine is opioid of choice in the first stage of labour. Prior to administration of opioid perform vaginal examination to determine progress of labour and exclude imminent birth
## Labour birth and postnatal care

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Up to 70% max. nitrous oxide mixed with $O_2$ 30%</td>
<td>Inhalation self administered</td>
<td>Titrated according to requirements</td>
<td>As required</td>
</tr>
</tbody>
</table>

If using separate cylinders of nitrous oxide and $O_2$, ensure correct mixture ratios.

Provide Consumer Medicine Information: self administered by woman.

Management of associated emergency: caution in the presence of Vitamin $B_12$ deficiency. Consult MO.

### Nitrous oxide and $O_2$ (Entonox®) DTP

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas</td>
<td>Up to 70% max. nitrous oxide mixed with $O_2$ 30%</td>
<td>Inhalation self administered</td>
<td>Titrated according to requirements</td>
<td>As required</td>
</tr>
</tbody>
</table>

### Morphine DTP

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>10 mg / mL</td>
<td>IM / SC</td>
<td>0.1 mg - 0.2 mg / kg to a max. of 10 mg</td>
<td>Stat Further doses on MO / NP order</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: advise can cause nausea and vomiting, drowsiness.

Management of associated emergency: caution in those with significant renal / liver disease. Respiratory depression is rare. If it should occur give naloxone. See Poisoning / overdose - opioids. Note: as naloxone counteracts the opioid, it may cause the return of severe pain.

- If an opioid is administered neonatal naloxone must be available. See Neonatal resuscitation for indications and use. Remain with the labouring woman after morphine has been administered.

### Metoclopramide DTP

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>10 mg / 2 mL</td>
<td>IM or IV (IHW may not administer IV)</td>
<td>Adult only 10 mg</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: not for use in patients with Parkinson's disease or children and use with caution in women < 20 years of age.

Management of associated emergency: dystonic reactions e.g. oculogyric crisis is extremely rare (unless repeated doses or in children). If oculogyric crisis develops in an adult give benztropine 2 mg IM or IV. See Mental health behavioural emergencies.
The period between the end of first stage and the commencement of the second stage of labour - maternal expulsive efforts. Women can become restless, fearful or may vomit. Attending staff should remain with the woman and be supportive and encouraging.

### Transition

2\textsuperscript{nd} stage of labour

1. **May present with**
   - Contractions: stronger, longer but less frequent
   - Small amount vaginal blood and mucous "show"
   - Urge to defecate
   - Urge to push involuntarily
   - Membranes rupture
   - Full dilatation of cervix

2. **Immediate management**  See Management

3. **Clinical assessment**
   - Document time second stage commenced
   - Auscultate fetal HR towards the end of and for at least 30 seconds after the contraction has finished, less than or equal to 5 minute frequency after each contraction. In the event that the apparent fetal heart rate is low, compare with maternal pulse to differentiate
   - Check vulva for pouting, gaping of the anus and fullness of the perineum

4. **Management**
   - Support and encourage the woman. Assist her to select a position in which she is most comfortable (she may change positions frequently). There may be some advantage in encouraging the mother to change her position if there is slow progress in the second stage of labour
   - Delay pushing if no urge to push
   - Maternal observations - temperature and BP - 4 hourly (unless BP elevated in which case take ½ hourly), maternal heart rate ½ hourly, abdominal palpation, vaginal examination - if indicated, contractions - continuous assessment
   - Bladder - monitor and encourage emptying
   - Offer oral fluids between contractions
   - Assess discomfort and pain
   - Support the woman’s natural instincts in relation to pushing
   - Document time of spontaneous rupture of membranes, note colour consistency and odour of liquor
   - If head is visible with contractions prepare for birth
   - Use nitrous oxide and O\textsubscript{2} if required for analgesia
   - Record fetal HR after each push by the woman - if fetal HR drops after contractions, ask the woman to change her position (a labouring woman should not lie flat on their back due to potential supine hypotension)
   - Consult MO if delay in progress (nulliparous woman 1 hour in passive second stage {if no urge to push}, 2 hours in active second stage / multiparous woman after 1 hour in active second stage)
Labour birth and postnatal care

Birth

- When the head is visible with contractions, encourage the woman to adopt a comfortable position - she may stand, kneel on all fours, or lie in a lateral position or in an upright sitting position
- Put on personal protective equipment
- Support the woman’s own expulsive efforts
- The head will stretch the perineum as it slowly comes down with contractions
- When the perineum is thin and the head stretches the labia apart between contractions, the head will birth with the next two or three contractions
- The anus (not the perineum) may be covered with a peripad
- Using ‘hands on’ to flex the fetal head or ‘hands poised’ to stop sudden expulsion has no affect on perineal trauma - ‘hands on’ reduces postpartum perineal pain
- Encouraging the woman to pant with contractions or to push between contractions will help slow the birth and may protect the perineum from trauma of the head. The head will birth and extend freeing the baby’s chin. With the next contraction, the head will turn
- Encourage the woman’s expulsive efforts until the anterior shoulder slips under the symphysis pubis, then when the anterior shoulder is visible support the baby and lift the baby towards the mother’s abdomen
- Look at the clock, note time of birth, document time
- Check the uterus for another baby, the top of the uterus should be no higher than the umbilicus and firm
- Give oxytocin to the mother
- In women with previous history of post partum haemorrhage (PPH) or at risk of PPH:
  - give oxytocin + ergometrine maleate (Syntometrine®) with metoclopramide (unless ergometrine is contraindicated e.g. woman is hypertensive, diastolic BP > 90 mmHg and / or she has cardiovascular disease)
  - in the event that ergometrine is contraindicated, insert IV cannula during labour if there is time and give only oxytocin
- The cord is clamped when cord pulsation ceases, earlier if baby requires resuscitation (active management of the third stage is recommended). Two cord clamps are placed not less than 2 cm from the baby’s skin. The cord is cut using sterile scissors between the two clamps by the accoucheur, mother or other person
- Collect cord blood

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxytocin (Syntocinon®)</td>
<td></td>
</tr>
<tr>
<td>DTP</td>
<td>IHW / IPAP / Mid</td>
</tr>
</tbody>
</table>

**Schedule 4 Oxytocin (Syntocinon®)**

**Table:**

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>5 International units / mL</td>
<td>IM or IV</td>
<td>10 International units</td>
<td>Stat May be repeated once in the event of persistent heavy bleeding</td>
</tr>
<tr>
<td>Ampoule</td>
<td>10 International units / mL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: consult MO

468 Controlled copy V1.0 Primary Clinical Care Manual 2013
**Schedule 4**

### Oxytocin / ergometrine maleate

*(Syntometrine®)*

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>Oxytocin 5 International units / mL / ergometrine maleate 0.5 mg / mL</td>
<td>IM</td>
<td>1 mL</td>
<td>Stat</td>
</tr>
</tbody>
</table>

**DTP**

IHW / IPAP / Mid

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Midwife may proceed

Provide Consumer Medicine Information

Management of associated emergency: consult MO

- with or without

### Metoclopramide

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>10 mg / 2 mL</td>
<td>IM or IV (IHW may not administer IV)</td>
<td>Adult only 10 mg</td>
<td>Stat</td>
</tr>
</tbody>
</table>

**DTP**

IHW / IPAP / Mid

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Midwife may proceed

Provide Consumer Medicine Information: not for use in patients with Parkinson's disease or children and use with caution in women < 20 years of age

Management of associated emergency: dystonic reactions e.g. oculogyric crisis is extremely rare (unless repeated doses or in children). If oculogyric crisis develops in an adult give benztropine 2 mg IM or IV

See Mental health behavioural emergencies
Care of the newborn

- Keep the baby warm. Pass baby to mother (prevent neonatal hypothermia)
- Keep baby skin-to-skin with mother for at least the first hour to assist baby with warmth, bonding, adaptation to extra-uterine life and facilitate breastfeeding [6]
- The sex of the newborn is identified to the agreement of mother and support person(s)
- The Apgar score is used to evaluate and record the newborn’s condition at one minute after birth and again at five minutes and ten minutes after birth

### Apgar score

Apgar Scoring is a method of providing an objective assessment of the neonate’s condition at 1, 5 and 10 minutes after birth. It is not for determining action taken in resuscitation. The 10 minute score is the best predictor of long term outcome but still has a poor predictive value.

Min score = 0 / Max score = 10

<table>
<thead>
<tr>
<th>Score</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>Absent</td>
<td>Less than 100</td>
<td>More than 100</td>
</tr>
<tr>
<td>Respiratory effort</td>
<td>Absent</td>
<td>Slow / irregular</td>
<td>Crying / good</td>
</tr>
<tr>
<td>Colour</td>
<td>Blue / white</td>
<td>Pink body, blue extremities</td>
<td>Pink</td>
</tr>
<tr>
<td>Tone</td>
<td>Limp</td>
<td>Poor tone</td>
<td>Active and flexed</td>
</tr>
<tr>
<td>Irritability to nasal catheter</td>
<td>Absent</td>
<td>Grimace</td>
<td>Cough / sneeze</td>
</tr>
</tbody>
</table>

3rd stage of labour

The third stage of labour refers to the period of time following the birth of the baby, to the separation and expulsion of the placenta and membranes and control of any bleeding

- Ensure oxytocic agent has been administered to the mother immediately after the birth of the baby
- Clamp and cut the umbilical cord close to the perineum within 2 - 3 minutes of administration of the oxytocic
- Immediately after cord clamping, place one hand on the uterine fundus and await the onset of a strong uterine contraction. This is likely to occur within 2 - 3 minutes after the oxytocic administration
  - deliver placenta by controlled cord traction (CCT, Brandt Andrews technique) in consultation with MO. Controlled cord traction must not be undertaken until oxytocic medication has been administered and the uterus is felt to be hard and contracted and not before, guard the uterus by putting upward pressure on it with your left hand on the uterus (see diagram)
  - deliver the placenta and membranes by gentle downward traction on the cord
- During CCT observe signs of separation of the placenta including:
  - lengthening of the cord
  - small amount of fresh blood loss and
  - the uterine fundus becomes smaller and rounder

**Note:** If the placenta does not descend during 20 - 30 seconds of CCT or there is resistance to CCT

- **Do not continue to pull on the cord**
• Hold the cord loosely i.e. without any pulling / traction and wait until the uterus is well contracted again
• With the next contraction, repeat controlled cord traction with counter traction

Birth of placenta and membranes
Once the placenta is visible, release cord traction and counter traction on the uterus, then:
• The placenta may be taken into two hands and gently twisted so that the membranes form a ‘rope’. In a gentle upward and downward movement ease the membranes out of the vagina without tearing them
• Note the time and document
• Immediately massage the uterus to ensure it remains contracted
• Examine the placenta and membranes to ensure they are complete, document findings
• Measure the blood loss and document
• Palpate uterus to ensure contracted
• Using good lighting, gently examine the vaginal walls and perineum for tears using a piece of gauze wrapped around your gloved fingers
• Bleeding from tears can be controlled with direct pressure
• Discuss need for sutures with evacuating MO

Post birth observations and care
Mother
• Remove soiled clothing, drapes and bed linen. Make mother comfortable - provide sponge, shower, nutrition and hydration
• ¼ hourly observations (BP, HR, temperature, respiratory rate, vaginal loss, height of uterine fundus, perineum, urine output) for 2 hours
• Encourage early breastfeeding
• If heavy or continuing vaginal blood loss See Postpartum haemorrhage
• Check and dispose of placenta in accordance with mother’s wishes. Record and complete mother’s and neonate’s health record

Newborn
• Work on the principle of keeping the baby pink, warm and sweet (BGL normal)
• Keep warm by placing warm dry wraps / blankets over both mother and baby (hat if available)
• A brief head to toe examination should occur within the first few minutes of life
• Confirm the newborn’s identification arm and leg bands with the mother and secure them on the infant
Labour birth and postnatal care

- A plastic cord clamp is placed not less than 2 cm from the baby’s skin
- 15 - 30 minute observations (HR, respiratory rate / presence or absence of respiratory distress, temperature, cord, tone, colour, skin warmth) for the first 2 hours and then only as indicated. Ensure adequate lighting for observation and position newborn to ensure patent airway
- Bare weigh and give vitamin K injection (with informed consent) and at birth immunisations See Immunisation program

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Nil</th>
<th>Phytomenadione - Vitamin K (Konakion®)</th>
<th>NON DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Strength</td>
<td>Route of administration</td>
<td>Recommended dosage</td>
</tr>
<tr>
<td>Ampoule</td>
<td>2 mg / 0.2 mL</td>
<td>IM to newborn immediately after birth</td>
<td>1 mg stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: consult MO

5. Follow up
   - Women who have an unplanned birth in a facility that does not undertake planned births should be subsequently managed in referral hospital
   - Follow up when returning home will include seeing MO / Midwife / Child Health Nurse for 6 week postnatal visit (including Pap smear if required)
   - Close neonatal monitoring is required for babies of women with diabetes in pregnancy, small for gestational age babies or babies with intrauterine growth restriction. Feed the baby as soon as possible after delivery and monitor for detection of hypoglycaemia
   - All Rh D women should be given Anti D if baby positive within 72 hours of birth [8] See Rh D immunoglobulin
   - Place baby on Birth Register

6. Referral / consultation
   - Newborn check of the baby is required by MO / Midwife / Child Health Registered Nurse within 72 hours of birth

Rh D immunoglobulin

Recommend
- Rh D immunoglobulin is indicated for the prevention of Rh D sensitisation in Rh D negative women
- Administer Rh D immunoglobulin as soon as possible after the sensitising event, but always within 72 hours [8]
- Offer routine antenatal anti-D prophylaxis to all non-sensitised pregnant women who are Rh D negative at 28 weeks and 34 weeks gestation
- Screen for antibodies with blood sample from mother at 28 weeks before the first routine prophylactic injection is given

Related topics
- Labour and birth
- Vaginal bleeding in early pregnancy
- Antepartum haemorrhage
- Preterm prelabour rupture of membranes
- Antenatal care
1. May present with

- Sensitising events in the first trimester (up to and including week 12 of gestation). A dose of 250 International units Rh D immunoglobulin (minidose) should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indicators:
  - threatened miscarriage
  - miscarriage
  - termination of pregnancy
  - ectopic pregnancy
  - chorionic villus sampling
- Sensitising events beyond the first trimester (after week 12 of gestation). A dose of 625 International units Rh D immunoglobulin should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indicators:
  - genetic studies (chorionic villus sampling, amniocentesis and cordocentesis)
  - abdominal trauma considered sufficient to cause feto-maternal haemorrhage
  - each occasion of revealed or concealed antepartum haemorrhage (where a woman suffers unexplained uterine pain, the possibility of a concealed antepartum haemorrhage should be considered, with a view to immunoprophylaxis)
  - external cephalic version (performed or attempted)
  - miscarriage or termination of the pregnancy
  - intrauterine death
- Antenatal prophylaxis (at 28 weeks and 34 weeks of gestation)
  - universal prophylaxis with Rh D immunoglobulin is recommended for pregnant women who are Rh D negative with no preformed anti-D antibodies
  - Rh D immunoglobulin, in the form of 625 International units should be offered at 28 weeks and again at 34 weeks, to all Rh D negative women with no preformed anti-D antibodies
  - it is essential that women are screened again for pre-existent anti-D and that a blood sample is taken before the first routine prophylactic injection is given at 28 weeks. The result of the test does not need to be available before administration
  - repeat screening is not necessary before the second administration at 34 weeks
- Postpartum
  - a dose of 625 International units Rh D immunoglobulin should be offered to every Rh D negative woman giving birth except when the baby is known to be Rh D negative
  - Rh D immunoglobulin should not be given to women with pre-existing anti-D antibodies, except where this is known to be due to antenatally administered Rh D immunoglobulin
  - if it is unclear whether the anti-D detected in the mother’s blood is passive from the anti-D administration or preformed, consult MO. If there is continuing doubt, Rh D immunoglobulin should be administered
  - the magnitude of Feto-Maternal Haemorrhage (FMH) should be assessed by a method capable of quantifying a haemorrhage of ≥ 6 mL of fetal red cells (12 mL whole blood). For FMH of ≥ 6 mL red cells, further doses should be administered sufficient to prevent maternal immunisation
  - administration of 625 International units Rh D immunoglobulin is sufficient to prevent immunisation by FMH of up to 6 mL of fetal red cells (12 mL whole blood)
2. **Immediate management**  Not applicable

3. **Clinical assessment**
   - Rh D negative woman [8]
     - feto-maternal haemorrhage volume - 2.5 mL of fetal red cells (5 mL whole blood) / up to 6 mL of fetal red cells (12 mL whole blood) / greater than 6 mL fetal red cells (12 mL whole blood)
     - sensitising event up to and including 12 weeks gestation
     - sensitising event after 12 weeks gestation
     - antenatal prophylaxis - at 28 weeks and 34 weeks gestation
     - postpartum

4. **Management**
   - Consult MO
     - administration of 250 International units Rh D immunoglobulin (minidose) is sufficient to prevent immunisation by FMH of 2.5 mL of fetal red cells (5 mL whole blood)
     - administration of 625 International units Rh D immunoglobulin is sufficient to prevent immunisation by FMH of up to 6 mL of fetal red cells (12 mL whole blood)

**Note:** give anti-D, test maternal blood for antibodies, if pathology result shows greater FMH give more anti-D within 72 hours

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Rh D immunoglobulin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid</td>
<td>DTP Mid</td>
</tr>
<tr>
<td>Midwife may proceed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>250 International units</td>
<td>Deep, slow intramuscular injection (if more than 5 mL is required give in divided doses in different sites)</td>
<td>Pregnancy sensitising events in the first trimester 250 International units</td>
<td>Stat</td>
</tr>
<tr>
<td>Ampoule</td>
<td>625 International units</td>
<td></td>
<td>Sensitising events beyond the first trimester 625 International units</td>
<td></td>
</tr>
<tr>
<td>Ampoule</td>
<td>250 International units</td>
<td></td>
<td>Sensitising event in a multiple pregnancy 625 International units</td>
<td></td>
</tr>
<tr>
<td>Ampoule</td>
<td></td>
<td></td>
<td>Antenatal prophylaxis (28 and 34 weeks) 625 International units</td>
<td></td>
</tr>
<tr>
<td>Ampoule</td>
<td></td>
<td></td>
<td>Postpartum (unless the baby is known to be Rh D negative) 625 International units</td>
<td></td>
</tr>
</tbody>
</table>

**Contraindications:** in the maternity setting Rh D immunoglobulin should not be given to: a baby; an Rh D positive woman; an Rh D negative woman with preformed anti-D antibodies

Provide Consumer Medicine Information

Management of associated emergency: as per local care manual consult MO
5. **Follow up**  
- Where FMH quantitation shows that FMH greater than that covered by the dose already administered has occurred, administration of an additional dose(s) sufficient to provide immunoprophylaxis must be administered and preferably within 72 hours.

6. **Referral / consultation**  
- For sensitising events beyond the first trimester consult with MO.
- If it is unclear whether the anti-D detected in the mother's blood is passive from the anti-D administration or preformed, consult MO.

### Postpartum haemorrhage (PPH)  
**Primary and secondary**

#### Primary postpartum haemorrhage

**Recommend**
- Provide immediate management for patients who have a large blood loss (≥ 500 mL) from genital tract or drop in blood pressure.
- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Clinical Guideline on Primary Postpartum Haemorrhage [9].

**Background**
- Definition - Primary postpartum haemorrhage occurs within 24 hours of birth.
- High risk women include those who have or are over 35 years of age, or who have: obesity, Asian ethnicity, grand multiparity (P4 or more), over distended uterus, fibroids, anaemia, past history of PPH, APH, placenta praevia, Von Willebrand disease, prolonged or precipitate labour, operative delivery, large baby, chorioamnionitis [9].

1. **May present with**
   - Bleeding from the genital tract during the third stage of labour or within 24 hours of birth.
   - Haemorrhage may occur before or after the placenta is delivered.

The 4 T's - cause of haemorrhage
- **Tone** - is the uterus firm?
- **Trauma** - is there cervical, vaginal and perineal lacerations, pelvic haematoma, uterine inversion, ruptured uterus?
- **Tissue** - is there retained membranes, placenta?
- **Thrombin** - is there evidence of an abnormal bleeding tendency? Are the woman's blood clotting factors abnormal? [10]

2. **Immediate management**

**DRS ABCD resuscitation / the collapsed patient**

If blood loss is heavy or continuing or there is increased maternal HR or signs of hypotension / shock:
- Summon help.
- Send someone to consult MO.
- Ensure standard precautions.
- Lie woman flat and reassure.
- Rub uterus firmly to stimulate contraction of uterus.
- Administer O₂ via mask See O₂ delivery systems.
- Keep woman warm.
Labour birth and postnatal care

- Ensure active management of third stage has occurred i.e. oxytocin given
- Insert 2 large bore (greater than 16 G) IV cannula
  - collect group and x-match, FBC, coagulopathy
  - commence IV fluids, usually starting with Hartmann’s solution - do not wait for signs of shock. Use rapid infusion sets, pump sets or pressure bags. MO will order fluids including:
    - 2 - 3 litres of crystalloid fluid
    - blood component therapy as necessary and available in the event that significant crystalloid fluid is required
    - aim for HR < 120, systolic BP > 100 mmHg, urine output > 0.5 mL / kg / hour
  - check clinical observations every 5 minutes
- Administer uterotonic (e.g. oxytocic) medicine (as a second dose):
  - Syntocinon® (oxytocin alone is as effective as Syntometrine® but has fewer side effects)
  - ergometrine, provided it is not contraindicated i.e. not hypertensive (diastolic BP not ≥ 90 mmHg or history of hypertension) and no heart disease
  - misoprostol must be used with “Specialist Staff or Country Medical Superintendent” oversight
- Pass an in / out urinary catheter or insert an indwelling catheter
- If bleeding continues and the woman’s condition continues to deteriorate commence bimanual compression until MO assistance arrives - avoid vigorous massage

3. Clinical assessment
- Take emergency patient history (if re-presents)
- Perform pulse and blood pressure, respirations every 5 minutes +
  - 15 minute temperature, \(O_2\) saturations and level of consciousness
  
  See Glasgow coma scale / AVPU
  - ½ hourly pain level as indicated
- Perform physical examination including:
  - tone check for atonic uterus, check bladder - is it full?
  - tissue check for completion of third stage - check to ensure placenta and membranes are complete and ascertain whether tissue has been left behind
  - check for trauma to genital tract (cervix, vagina and perineum) - identify the apex of any tear or laceration
- Monitor fluid balance (intake and loss)
- Monitor urine output

4. Management
- Consult MO urgently who will organise urgent evacuation to appropriately equipped and staffed facility
- Insert 2 large bore (greater than 16 G) IV cannula
- Collect blood for group and cross match FBC, UEC and LFTs and coagulation studies when inserting IV cannula
- Give \(O_2\) at 15 L / min See \(O_2\) delivery systems
- Tone
  - compress uterus to expel clots, then rub fundus to initiate and maintain (rub well) contraction (stop bleeding)
  - empty bladder - insert an indwelling urinary catheter
  - monitor tone
- Tissue
  - if placenta is still in uterus deliver as soon as possible
  - perform vaginal examination to see if placenta felt in vagina, trapped in cervix or unable to be felt and / or adherent
Labour birth and postnatal care

- if placenta, membranes incomplete - notify MO
- give oxytocin medication (if second dose not already given)

• Trauma
  - apply firm pressure or clamps to bleeding vessels / wounds until repair possible
  - repair by an appropriately skilled practitioner with suitable lighting, positioning and pain relief
  - consult with MO for appropriate practitioner skill mix if anal sphincter or other complex trauma

• Observe closely as woman is at risk of further bleeding. If heavy bleeding recurs at any time, consult MO and consider:
  - applying bi manual compression to uterus
  - aortic compression below the umbilicus

• Use blankets to keep woman warm
• MO will advise further management
• If retained placenta and evacuating and attending MO is on site, the MO may attempt manual removal of placenta under Entonox® (nitrous oxide and O₂) and appropriate analgesia (it is prudent also to give atropine because of vagal effect of cervical dilatation and to start antibiotics afterwards)

---

### Schedule 4 Oxytocin (Syntocinon®)

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>5 International units / mL</td>
<td>IM</td>
<td>10 International units</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td>10 International units / mL</td>
<td>IV (slowly)</td>
<td>5 International units</td>
<td></td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP
Midwife may proceed

<table>
<thead>
<tr>
<th>Provide Consumer Medicine Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management of associated emergency: consult MO</td>
</tr>
</tbody>
</table>

[5] [9]

• In addition MO may order oxytocin infusion 40 units in 1 L sodium chloride 0.9% or Hartmann’s solution
• MO will advise rate, initially start to run over 4 hours. Note: Oxytocin must never be given in an infusion of 5% glucose or any other hypertonic solution
Labour birth and postnatal care

- If placenta delivered and bleeding heavy or continues give ergometrine (as well as oxytocin), provided not contraindicated, i.e. not hypertensive (diastolic BP not > 90 mmHg) and no heart disease

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ergometrine maleate</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / IPAP / Mid</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP. Do not proceed if ergometrine / oxytocin not previously given

Midwife may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>500 microgram / 1 mL</td>
<td>IM or IV (slowly)</td>
<td>250 microgram</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(IHW and IPAP must not administer IV)</td>
<td></td>
<td>May be repeated once</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: consult MO

- With or without metoclopramide. Do not delay administration of oxytocin by preparing antiemetic

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Metoclopramide</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / IPAP / Mid</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Midwife may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>10 mg / 2 mL</td>
<td>IM or IV (IHW may not administer IV)</td>
<td>Adult only 10 mg</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Further doses on MO / NP order</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: not for use in patients with Parkinson's disease or children and use with caution in women < 20 years of age

Management of associated emergency: dystonic reactions e.g. oculogyric crisis is extremely rare (unless repeated doses or in children). If oculogyric crisis develops in an adult give benztrapine 2 mg IM or IV

See Mental health behavioural emergencies

- If indicated for persistent postpartum haemorrhage not responsive to oxytocin (Syntocinon®) or ergometrine give misoprostol

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Misoprostol</th>
<th>NON</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>DTP</td>
</tr>
</tbody>
</table>

Misoprostol must be ordered by MO who has oversight of a Country Medical Superintendent or RFDS Principal MO (oversight may be distant oversight)

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>200 microgram</td>
<td>Per rectum</td>
<td>800 - 1000 microgram</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: consult MO

[4] [9]
Labour birth and postnatal care

- Prostaglandin F2 alpha (carboprost) is available (with restrictions) as second line management of life-threatening primary postpartum haemorrhage [9]. Will not be available in remote areas.

5. **Follow up**
   - Evacuation is required to facility with equipment and expertise to manage woman

6. **Referral / consultation**
   - Consult MO urgently on all occasions of primary postpartum haemorrhage

---

**Secondary postpartum haemorrhage**

**Recommend**
- Provide immediate management for secondary PPH (if blood loss is heavy, estimated above 500 mL) See Postpartum haemorrhage (PPH)

**Background**
- **Definition**
  - secondary PPH occurs between twenty four hours and six weeks postpartum
  - can be caused by: infection including STI and / or retained products of conception / hormonal imbalance / pregnancy related tumour (rare, gives false positive pregnancy test) / incidental

**Related topics**
- Primary postpartum haemorrhage
- Sexually transmitted infections (STIs)

1. **May present with**
   - Suprapubic cramps or low back pain
   - Vaginal bleeding may include clots and products of conception
   - Hypotension / shock due to either blood loss or sepsis

2. **Immediate management**
   - If blood loss is heavy (estimated above 500 mL) See Primary postpartum haemorrhage

3. **Clinical assessment**
   - Take complete history including:
     - details of delivery and completeness of placenta and membranes
   - Perform standard clinical observations
   - Perform physical examination including:
     - palpate abdomen for palpable uterus and tenderness
     - perform sterile speculum examination:
       - is blood coming through os?
       - is os open with products of conception protruding?
       - is there offensive cervical discharge?
     - if blood loss not heavy do an STI check See Sexually transmitted infections (STIs)
4. Management

- Consult MO
- If os is open, heavy bleeding and / or products seen MO may advise:
  - removal of products with sponge forceps
  - commencement of IV antibiotics
  - evacuation / hospitalisation (may require curettage of retained products of conception under general anaesthesia)
- Keep nil by mouth
- Monitor amount and rate of blood loss
- If os is closed and fever or offensive cervical discharge MO may advise IV antibiotics
- If os is closed and bleeding not heavy, MO may advise oral antibiotics and advise bed rest at home

5. Follow up

- If not evacuated / hospitalised, review next day
- See next MO clinic
- Follow up STI test results and treat See Sexually transmitted infections (STIs)

6. Referral / consultation

- Consult MO on all occasions of secondary postpartum haemorrhage

Episiotomy and repair of perineum

Recommend
- Do not perform episiotomy as a routine procedure in a normal birth
- Episiotomy should only be performed by a Midwife or MO if indicated

Background
- Episiotomy is used to hasten birth in the situation of acute fetal distress, facilitate birth if the mother is in immediate life threatening danger, to achieve satisfactory progress with the birth when the perineum is responsible for lack of progress
- Midwife and / or MO will also advise in case of breech delivery, fetal distress, or the perineum remains white, rigid and thick as the baby’s head crowns

1. May present with

- Fetal distress
- Rigid, white, thick perineum as head crowns
- Delayed second stage
- Instrumental delivery
- Breech delivery
- Prematurity

2. Immediate management

- Infiltrate perineum with 1% lignocaine
- Perform 3 - 4 cm cut with sterile straight scissors

3. Clinical assessment

- Physical examination including inspect the perineum, note elasticity and identifying reason for performing episiotomy and document
4. **Management**

- Infiltrate the perineum with 1% lignocaine plain, a total of 5 - 10 mL
- Guard the baby’s head by putting two fingers between it and the perineum
- Place the fingers of your left hand on the baby’s head
- Use straight, blunt ended scissors
- Leave your fingers between the head and the perineum
- Make a cut 3 - 4 cm at 7 o’clock
- Apply gentle pressure to control / prevent sudden expulsion of the head

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Lignocaine</th>
<th>DTP Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Midwife may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Strength</td>
<td>Route of administration</td>
<td>Recommended dosage</td>
</tr>
<tr>
<td>Ampoule</td>
<td>1% 50 mg / 5 mL</td>
<td>Local infiltration</td>
<td>Adult up to max. of 3 mg / kg / dose to a total max. infiltration of 200 mg</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: consult MO

---

**Repair of the perineum**

Repair after birth of baby and delivery of placenta, unless bleeding perineum. May be left for repair in receiving hospital

- Thoroughly inspect the perineum and vaginal walls
- Infiltrate the perineum and vaginal wall with 1% lignocaine
- Wait until the area is anaesthetised before commencing the repair

Episiotomy

- Use 2.0 vicryl undyed suture material on biggest needle

5. **Follow up**

- Wash perineum daily and after opening bowels
- Change perineal pads every 4 to 6 hours or more frequently if heavy lochia
- Give advice on diet - at least 8 glasses of water / fluids per day and healthy diet to prevent constipation
- Avoid sexual intercourse until the perineal wound heals

6. **Referral / consultation**

- Non Midwives consult MO on all occasions of impending birth where episiotomy may be required
- Consult MO for all third / fourth degree tears
Labour birth and postnatal care

**Neonatal resuscitation**

[13]

**Recommend**
- See Immediate management flowchart
- If time allows always prepare neonatal resuscitation equipment items prior to delivery in the order in which they would be used (see flowchart)
- Effective ventilation is the key to successful neonatal resuscitation [13]. Ventilation should be established before considering and administering neonatal naloxone
- Never administer neonatal naloxone to the infant of a mother with opioid addiction (or on methadone maintenance). Sudden reversal of chronic opioid action can cause severe life-threatening withdrawal symptoms, including refractory seizures
- Facilities where planned births occur are advised to refer to the Queensland Maternity and Neonatal Clinical Guideline on Neonatal resuscitation [14] and all facilities are advised to refer to the Queensland Maternity and Neonatal Clinical Guidelines on Neonatal Stabilisation for Retrieval
- Where the RFDS provides primary medical cover for a facility the RFDS MO on call is the appropriate first point of medical contact. The MO will undertake assessment, management and transfer with specialist as necessary (facilitated through Retrieval Services Queensland ☎ 1300 799 127)

**Background**
- Neonatal resuscitation equipment is required in all facilities in the event of unplanned delivery
- The most important interventions in neonatal resuscitation are ensuring the airway is open
- If the infant is not breathing, provide effective positive pressure ventilation
- If a mother received opioids within 4 hours of birth, her newborn may experience some degree of respiratory depression due to transplacental medication effect
- Neonatal naloxone is not a resuscitation medicine

1. **May present with**
   - Unresponsive newborn
   - Newborn with low or absent HR
   - Newborn with poor colour - blue / white
   - Absent or poor respiratory effort
   - Newborn with poor muscle tone (limp)
   - Meconium

2. **Immediate management**
   - Call for help
   - Consult MO urgently
   - See Neonatal newborn life support flowchart for immediate management

<table>
<thead>
<tr>
<th>Important clinical observations</th>
<th>HR over 100 bpm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spontaneous breathing</td>
<td>Temperature is &gt; 36.5°C</td>
</tr>
</tbody>
</table>

3. **Clinical assessment**
   - Perform clinical observations +:
     - HR (use paediatric stethoscope)
     - colour, BGL, assess baby’s tone
     - respiratory effort
   - Take temperature (unless resuscitation is required, in which case, use measures to maintain infant’s body temperature and take temperature after resuscitation)
4. Management

Temperature
- for term and near term newborn baby dry and remove wet linen
- for very premature newborns
  - increase air temperature to 26°C if possible
  - immediately after birth place the baby in a polyethylene bag (cover the body only with plastic leaving head exposed) or under a polyethylene sheet without drying and continue such care until temperature is stable [14]. Examples of food or medical grade heat resistant plastic include ziplock bag, oven bag, neo-wrap®, plastic wrap
  - as soon as possible after the baby is born cover the head, as babies lose most heat through their head. Do not cover baby’s head with plastic

- Keep the face, neck and chest observable
- Place baby flat on back or side with head towards and feet away from you on neonatal resuscitation trolley (or equivalent with overhead heater)
- Ensure that the baby’s head, neck and jaw are in a neutral or slightly extended position to allow an open airway [13]
- Clear the airway, using suction if required
- Provide resuscitation measures according to Newborn life support flowchart [13]

Note: $O_2$ is not usually required unless the baby remains centrally cyanosed at 5 minutes of age or unless ventilation plus chest compressions are needed. The priority is to establish breathing and HR, rather than to give $O_2$

- If mother has been given morphine soon before birth, it may be appropriate to give IM or IV neonatal naloxone to a baby who has low tone and does not establish regular breathing after other effective resuscitation measures have been applied. Naloxone is never indicated if adequate ventilation of the lungs and adequate HR has not yet been achieved
- If neonate requires retrieval prepare baby as outlined in the Queensland Maternity and Neonatal Clinical Guidelines on Neonatal Stabilisation for Retrieval in consultation with retrieval team and referring MO
Labour birth and postnatal care

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Naloxone hydrochloride</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SM R&amp;IP / IPAP / Mid</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Scheduled Medicines Rural & Isolated Practice Registered Nurse may proceed

Midwife may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ampoule</td>
<td>0.4 mg / mL</td>
<td>IM or IV</td>
<td>Neonate 0.1 mg / kg / dose to a max. of 0.4 mg</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Can be repeated every 2 - 3 minutes on MO / NP orders</td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: opioid analgesics have a longer duration of action than naloxone and respiratory depression may return as the naloxone wears off. Continued observation and monitoring of respiratory function in the newborn is essential. Consult MO [14]

5. **Follow up**

- Mother and baby should be subsequently managed in maternity service
- It is important post birth to facilitate mother / baby attachment and initiate breastfeeding or expressing if the mother intends to breastfeed
- The health of the neonate will determine follow up when returning home but will include seeing Child Health Nurse regularly and MO at 6 weeks
- For asymptomatic well baby with risk factors for hypoglycaemia [15]:
  - check BGL at 1, 2 and 4 hours of age and then every 4 - 6 hours until monitoring is ceased (aim BGL is ≥ 2.6 mmol / L for 24 hours)
  - OR
  - pre second feed. This should be within 3 hours of birth, then check pre-feeds until monitoring ceased (aim BGL is ≥ 2.6 mmol / L for 24 hours)
  - if BGL 1.5 - 2.5 mmol / L offer feed immediately, recheck BGL after 30 - 60 minutes
  - if BGL is persistently less than 2.0 mmol / L, MO will discuss with Neonatologist

6. **Referral / consultation**

- Consult MO urgently on all occasions where neonatal resuscitation is required
Labour birth and postnatal care

Newborn life support

Each set of actions in the algorithm should be applied for about 30 seconds, then response should be assessed. If heart rate, breathing, tone and oxygenation do not improve or the infant is deteriorating, progress to the next step.

Targeted pre-ductal* SpO₂ after birth

<table>
<thead>
<tr>
<th>Time</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>60-70%</td>
</tr>
<tr>
<td>2 min</td>
<td>65-85%</td>
</tr>
<tr>
<td>3 min</td>
<td>70-90%</td>
</tr>
<tr>
<td>4 min</td>
<td>75-90%</td>
</tr>
<tr>
<td>5 min</td>
<td>80-90%</td>
</tr>
<tr>
<td>10 min</td>
<td>85-90%</td>
</tr>
</tbody>
</table>

Adrenaline IV

10 - 30 microgram / kg

(0.1-0.3 mL / kg of 1:10,000 solution)

Every 2 - 3 minutes if HR below 60

*Pre-ductal means the SpO₂ is recorded from the right side of the baby e.g. right hand or chest.

Flowchart based on Australian Resuscitation Council Guideline 13.4
**Mastitis / breast abscess**

**Recommend**
- Breastfeeding (or expressing) must continue to reduce the risk of complications such as breast abscess. It is safe for healthy infants to receive this milk.
- Assist the mother to continue breastfeeding or expressing. If the mother decides to cease breastfeeding, weaning should wait until the condition is resolved to reduce the risk of breast abscess.
- Encourage regular removal of the breastmilk by feeding or expressing.

### 1. May present with
- Tenderness and redness usually in one quadrant of the breast
- Fever, malaise (flu-like aches and pains), headaches, anxiety and occasional vomiting
- Fluctuation will not be evident until the abscess is well advanced and considerable breast tissue damage has occurred
- Most episodes of mastitis occur in the first 6 weeks postpartum but can occur anytime during lactation
- Some causes include:
  - blocked ducts due to breastmilk not being removed from the breast
  - damaged nipples
  - oversupply of milk in the first few weeks
  - sudden changes in feeding patterns
  - tiredness, illness and stress

### 2. Immediate management  Not applicable

### 3. Clinical assessment
- Take complete patient history:
  - birth details for mother and baby, including gestation and current age of baby, any difficulties with breastfeeding, other methods of feeding being used, social and emotional wellbeing including availability of support
- Perform clinical observations
- Physical examination including:
  - note attachment of baby to breast
  - examine breast for redness, tenderness and mass, examine axilla for lymph nodes, observe for signs of blocked ducts while palpating the breast tissue
  - check for evidence of thrush in the baby’s mouth and / or mother’s nipples
  - damage to nipples - sore, cracked, bleeding

### 4. Management
- Give paracetamol
- Discuss possible causes with the mother, reinforcing appropriate breastfeeding management and specific treatment strategies related to the identified cause
- Continue to breastfeed baby
- The baby can feed from the breast that is affected (but often this is too painful or baby will refuse this breast)
- If the baby is not feeding on the affected breast it should be expressed every 3 - 4 hours
- With advice and support the mother can independently manage the condition
- Assess mother’s risk factors which may have contributed to occurrence e.g. nipple trauma, maternal or neonatal infections, milk stasis, ineffective milk removal, trauma and anaemia
• Encourage the mother to wear unrestrictive clothing and ensure that her bra, if she wears one, is supportive but not tight
• Encourage the mother to rest, drink to thirst and maintain a healthy diet
• Apply warm packs just prior to, or during feeds and encourage gentle massage to assist the ejection reflex. Cold packs after the feed may provide comfort and decrease venous congestion if present
• Without treatment, the mastitis will exacerbate
• The early use of antibiotics will prevent the formation of most breast abscesses. If not allergic to penicillin, treat with flucloxacillin. In the event that there is a history of anaphylactic reaction to penicillins and of reactions to cephalosporins, MO must be consulted before antibiotics are prescribed

See Simple analgesia front fold out

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Flucloxacillin DTP IHW / SM R&amp;IP / IPAP / Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP Midwife and Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Strength</td>
<td>Route of administration</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Capsule</td>
<td>250 mg 500 mg</td>
<td>Oral</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: should be taken ½ to 1 hour before food, considered safe for breastfeeding women. Does not accumulate in breast milk and levels in breast milk are undetectable 6 hours after dosage. Take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

If allergic to penicillin and no previous reaction to cephalosporins, treat with cepalexin. In the event that there is a history of anaphylactic reaction consult MO

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Cephalexin DTP IHW / SM R&amp;IP / IPAP / Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP Midwife and Scheduled Medicine Rural &amp; Isolated Practice Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Form</td>
<td>Strength</td>
<td>Route of administration</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Capsule</td>
<td>250 mg 500 mg</td>
<td>Oral</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: considered safe for breastfeeding women. Does not accumulate in breast milk and levels in breast milk are undetectable 6 hours after dosage. Take until course completed

Management of associated emergency: See Anaphylaxis and severe allergic reaction

If a breast abscess is suspected consult MO. Incision and drainage under general anaesthesia is usually necessary

5. Follow up
   • Provide breastfeeding advice and support as required
   • Refer mother to breastfeeding support services if available
   • Review next day, if no improvement consult MO - may need evacuation
   • If mother wishes to wean from breastfeeding provide information
6. **Referral / consultation**
   - Consult MO / Midwife on all occasions of breast abscess
   - Consult MO on all occasions of mastitis if not improving on review next day

**Postnatal check up**

**Recommend**
- It is recommended that the postnatal visit occurs at 6 weeks post delivery. However the postpartum visit should be individualised to reflect the woman's needs [17]
- To be performed by experienced practitioner

**Related topics**
- Progestogen only pill
- Rh D immunoglobulin
- Episiotomy and repair of perineum

1. **May present with**
   - ≥ 6 weeks post partum

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Take complete birth history (from the woman plus discharge summary)
     - Specific enquiry on vaginal bleeding, perineal/caesarean wound pain, tiredness, backache, urinary symptoms, bowel movements, rectal bleeding, breast and nipple tenderness, sleep patterns and mood
     - Check antenatal record for Blood Group, if Rh Neg, confirm Anti D has been given
     - Confirm birth details - vaginal or caesarean delivery, gestation?
     - socioeconomic status
     - parity (primipara, completed family)
     - personal choice and previous experience with contraceptive methods
     - past medical history, present illness, family history
     - stability of relationship and need for protection against STI
   - Perform standard clinical observations + (Pap & OGTT if indicated)
   - Physical examination including
     - wound (if caesarean) or perineum
     - breasts and nipples (if indicated)
     - palpate uterine fundus (vaginal delivery only)
     - skin and hair
4. Management

- Discuss with woman
  - breastfeeding
  - contraception - oral, depo, tubal ligation, IUCD, vasectomy? See Contraception
  - after pains, fatigue, sleeping (observe for signs of anaemia)
  - family or other support networks, financial situation, housing condition, food security, domestic / social environment
  - intercourse - can probably be resumed safely as early as two weeks postpartum
  - smoking, nutrition, physical activity, alcohol and other substance use
  - SIDS prevention
  - infection prevention / hygiene
  - immunisations for baby
- Ensure Rh D immunoglobulin has been given (if indicated) See Rh D immunoglobulin
- Offer MMR if rubella antibodies are < 30 International units / ml. Check not pregnant first See Immunisation program

5. Follow up

- Refer to Mental Health / Social Worker as required
- Refer to Child Health Nurse for child health check
- Refer as required to Medical Officer, visiting outreach Obstetric service

6. Referral / consultation

- Consult MO / Midwife

References

Contraception

Recommend
- This section is based on Family Planning New South Wales (FPNSW), Family Planning Queensland (FPQ), Family Planning Victoria (FPV) Contraception: An Australian Clinical Practice Handbook 3rd edition 2012. Please refer to Contraception Handbook for comprehensive information for the safe supply of contraception
- Contraception is always initiated by MO / NP
- Recommend simultaneous use of condoms and other contraception methods for protection against HIV and other STIs when a risk of STI / HIV transmission exists [1]

Background
- Properly used, contraception reduces the rate of fertility to between < 1% (sterilisation, implants and injectable progestogen) and 25% (coitus interruptus)
- Even methods with higher failure rates can help with birth spacing

Related topics
Sexually transmitted infections (STIs)
Health check - women

1. May present with
   - Present to the clinic requesting contraception
   - Subject raised during a consultation for another reason

2. Immediate management  Not applicable

3. Clinical assessment
   - Take full history:
     - medical history (particularly migraines, Venous Thromboembolism (VTE), liver disease, gynaecological cancer, breast cancer, history of CVA or heart disease or arterial risk factors)
     - family history particularly VTE and hereditary thrombophilias
     - sexual history
     - menstrual history
     - gynaecological and Pap smear history
     - obstetric history
     - previous contraceptive use
   - Perform standard clinical observations + weight / height - BMI, urine pregnancy test where indicated
   - Perform initial physical examination including Pap smear and STI screen if indicated
   - Discuss contraception needs - method of contraception choice influenced by:
     - efficacy, accessibility, cost, age, relationship status, reversibility
     - health risks, side effects (past and present medical and family history)
     - user friendliness
     - personal beliefs
     - socioeconomic status
     - parity (primipara, completed family)
     - personal choice and previous experience with contraceptive methods
     - need for protection against STI
   - Provide information on types of contraception available (supported with appropriate written / verbal information). FPQ Fact Sheets are available at: www.fpq.com.au/publications/fsBrochures/menu_contraception.php
Contraception

- Hormonal contraception
  - combined hormonal contraception ("The Pill" or vaginal ring NuvaRing®)
  - progestogen only Pill ("Mini-pill")
  - long-acting hormonal contraception
    o injectable progestogen (Depo-Provera®, Depo-Ralovera®)
    o progestogen releasing subdermal implant (Implanon®)
    o progestogen releasing intrauterine device or system (Mirena®)
    o intrauterine contraceptive device (IUCD)
  - emergency hormonal contraception

- Barrier methods
  - condom (male and female), diaphragm

- Sterilisation
  - tubal sterilisation, vasectomy

- Natural methods
  - fertility awareness based methods
  - coitus interruptus (withdrawal)
  - lactational amenorrhoea
  - abstinence

- The WHO and UK Medical Eligibility Criteria (MEC) for contraceptive use takes into account a patient's personal characteristics (age, history of pregnancy) and a patient's pre-existing medical conditions (e.g. diabetes, hypertension) [5]

<table>
<thead>
<tr>
<th>WHO / UKMEC Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A condition for which there is no restriction for use of the contraceptive method</td>
</tr>
<tr>
<td>2</td>
<td>A condition where the advantages of using the method generally outweigh theoretical or proven risks</td>
</tr>
<tr>
<td>3</td>
<td>A condition where theoretical or proven risks usually outweigh the advantages of using the method</td>
</tr>
<tr>
<td>4</td>
<td>A condition which represents an unacceptable health risk if the contraceptive method is used</td>
</tr>
</tbody>
</table>

4. Management

- Consult MO / NP for assessment
- Consult MO
  - if a medical condition is present in a patient who is currently using contraception that is contraindicated for its use
- Consult MO / NP
  - for review and prescription once the contraceptive method has been chosen
- Attention needs to be paid to providing all young men and women who are sexually active with information and appropriate support from the perspectives of pregnancy, STI prevention and child protection
  See Sexually transmitted infections (STIs) and Abuse and neglect - child
- Valid consent is required for methods which are either irreversible (sterilisation), long acting / temporarily irreversible (injectable progestogen) or not reversible without medical intervention (intrauterine devices and hormonal implants)
- Informed consent in this context means:
  - providers are fully informed about the variety of methods, the methods are available to their patients and they inform their patients that some methods may take time to arrange
- time is allowed during the consultation to give information and accurately answer questions about the method and alternatives. Patients are encouraged to take time to think about their choice of method prior to commencing its use - information is current and understandable in a language and cultural context
  - Storage for the contraceptive device is available to the patient (e.g. NuvaRing® requires storage at 25°C after dispensing and should be protected from sunlight and temperatures above 30°C)

5. **Follow up**
   - Information on what to do if contraceptive method fails
   - When to return for clinical follow up

6. **Referral / consultation**
   - MO / NP for assessment and prescription
   - Referral to MO / specialist with skills for contraceptive implants, IUCD and sterilisation

repid **Combined hormonal contraception** adult

<table>
<thead>
<tr>
<th>Recommend</th>
</tr>
</thead>
<tbody>
<tr>
<td>✷ See Missed pill flowchart</td>
</tr>
</tbody>
</table>

**Related topics**

Health check - women
Contraception

1. **May present with**
   - Request for repeat supply of oral contraceptive pill or vaginal ring
   - Request for contraception
   - Subject raised during a consultation for another reason

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Initial assessment by MO / NP
   - Clinical assessment **See Contraception** including:
     - contraception needs
     - methods of contraception available
     - choice of contraception
     - WHO / UKMEC for contraceptive use
     - pregnancy test where indicated (a negative test does not always exclude pregnancy and recent conception)
     - BP, weight, BMI
     - menstrual pattern
**WHO / UKMEC category 4**

### Absolute contraindications

Conditions which represent unacceptable health risks

For comprehensive list see [5]

- Breastfeeding and less than 6 weeks postpartum
- Migraine with aura at any age
- Ischaemic heart disease, stroke, TIA (current or past)
- Smoking ≥ 15 cigarettes / day in a woman aged ≥ 35 years
- BP systolic ≥ 160 or diastolic ≥ 95 mmHg
- Vascular disease
- Diabetes with vascular complications or of > 20 years
- History of VTE / currently on anticoagulants
- Known thrombogenic mutation
- Major surgery with prolonged immobilisation
- Breast cancer
- Active viral hepatitis, severe decompensated cirrhosis, hepatocellular adenoma or carcinoma
- SLE with positive (or unknown) antiphospholipid antibodies
- Raynaud's disease with lupus anticoagulant

---

**WHO / UKMEC category 3**

### Strong relative contraindications

Conditions where the risks usually outweigh the advantages

For comprehensive list see [5]

- Smoking up to 15 cigarettes daily in a woman aged ≥ 35 years
- Ceased smoking < 1 year ago in a woman aged ≥ 35 years
- Raised blood pressure BP systolic > 140 - 159 mmHg or diastolic > 90 - 94 mmHg
- BMI of ≥ 35 kg / m²
- Adequately controlled hypertension
- Known hyperlipidaemia
- Past history (> 5 years ago) of migraine with aura at any age
- Migraine without aura if it develops when using combined hormonal contraception
- Type 2 diabetes with vascular complications or of > 20 years
- Breastfeeding ≥ 6 weeks to < 6 months postpartum fully or almost fully breastfeeding
- Less than 21 days postpartum
- Family history of venous thromboembolism (VTE) e.g. DVT / PE in first degree relative aged < 45 years
- History of breast cancer - no evidence of disease > 5 years
- Carriers of known gene mutations associated with breast cancer e.g. BRCA1
- Undiagnosed breast mass
- Gallbladder disease - current or medically treated
- Liver enzyme inducing medications

**Note:** If a woman has more than one of the first nine conditions, which increase the risk of cardiovascular disease, clinical judgement must be exercised. In most instances, the combined conditions should be regarded as belonging to category 4 (contraindicated). If the method is provided, record the woman’s special condition in the clinical record and advise her of warning signs relevant to her condition.
### WHO / UKMEC category 2

#### Generally safe to use

<table>
<thead>
<tr>
<th>Conditions where the advantages generally outweigh the risks</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smoking in a woman aged &lt; 35 years</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 35 years who stopped smoking ≥ 1 year ago</td>
<td></td>
</tr>
<tr>
<td>Age ≥ 40 years</td>
<td></td>
</tr>
<tr>
<td>Type 2 diabetes without vascular complications</td>
<td></td>
</tr>
<tr>
<td>Migraine without aura at any age</td>
<td></td>
</tr>
<tr>
<td>Family history of VTE (first degree relatives ≥ 45 years)</td>
<td></td>
</tr>
<tr>
<td>Breastfeeding and ≥ 6 weeks to &lt; 6 months postpartum partial</td>
<td></td>
</tr>
<tr>
<td>breastfeeding medium to minimal</td>
<td></td>
</tr>
<tr>
<td>Superficial venous thrombosis</td>
<td></td>
</tr>
<tr>
<td>Uncomplicated valvular and congenital heart disease</td>
<td></td>
</tr>
<tr>
<td>History of high BP during pregnancy (current BP normal)</td>
<td></td>
</tr>
<tr>
<td>BMI ≥ 30 - 35 kg / m²</td>
<td></td>
</tr>
<tr>
<td>Unexplained vaginal bleeding</td>
<td></td>
</tr>
<tr>
<td>AIDS (using antiretroviral therapy)</td>
<td></td>
</tr>
<tr>
<td>Cervical intraepithelial neoplasia</td>
<td></td>
</tr>
<tr>
<td>Cervical cancer (awaiting treatment)</td>
<td></td>
</tr>
<tr>
<td>Gallbladder disease (asymptomatic or post cholecystectomy)</td>
<td></td>
</tr>
<tr>
<td>Inflammatory bowel disease (crohns, ulcerative colitis, ulcerative colitis)</td>
<td></td>
</tr>
<tr>
<td>Sickle cell disease</td>
<td></td>
</tr>
<tr>
<td>Major surgery without prolonged immobilisation</td>
<td></td>
</tr>
</tbody>
</table>

For comprehensive list see [5]

#### Note:
When a woman has more than one of the first five conditions, which increase the risk of cardiovascular disease, clinical judgement must be exercised. In most instances, the combined conditions should be regarded as belonging to category 3 (strong relative contraindication). If the method is provided, record the woman’s special condition in the clinical record and advise her of warning signs relevant to her condition.

- **Interactions**
  - Liver enzyme inducing medicines which may render the pill and other hormonal contraceptives less protective:
    - Most anticonvulsants
    - Many antiretroviral medicines used for HIV management
    - Rifampacin, rifamycin
    - Some herbal products e.g. St John’s Wort. See Depression
  - Additional contraceptive precautions are not required during or after courses of antibiotics that do not induce liver enzymes. Detailed information on medication interactions with hormonal contraceptives can be obtained from Australian Contraception Handbook [5], MO / NP / Family Planning Qld / Pharmacist or Drug interactions with hormonal contraception [2] available at: [www.fsrh.org/](http://www.fsrh.org/)

- **Side effects:**
  - Unscheduled bleeding
  - Nausea
  - Breast tenderness
  - Acne (usually improves)
  - Headache
  - Reduced libido
  - Mood changes
  - Weight gain
  - Chloasma
  - Amenorrhoea
• Additional device related side effects reported by users of the vaginal ring are
  - increased vaginal discharge
  - device discomfort
  - expulsion of the ring
  - discomfort for either partner during sex

4. Management
• Confirm that it is less than 12 months since last MO / NP assessment for oral contraceptive pill prescription

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Oral contraceptive pills (Combined pills)</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Form</strong></td>
<td><strong>Strength</strong></td>
<td><strong>Route of administration</strong></td>
<td></td>
</tr>
<tr>
<td>Tablet</td>
<td>Ethinyloestriadiol 30 microgram / levonorgestrel 150 microgram e.g. Nordette®, Monofeme®, Microgynon 30®, Levlen®</td>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>Tablet</td>
<td>Ethinyloestriadiol 35 microgram / norethisterone 500 microgram e.g. Brevinor®, Norimin®</td>
<td>Oral</td>
<td></td>
</tr>
<tr>
<td>Tablet</td>
<td>Ethinyloestriadiol 35 microgram / norethisterone 1 milligram e.g. Brevinor 1®, Norimin 1®</td>
<td>Oral</td>
<td></td>
</tr>
</tbody>
</table>

The patient must be initially assessed by an MO / NP and prescribed hormonal contraception. Confirm it is less than 12 months since last MO / NP assessment. Max. supply at any one time not to exceed 4 months

Provide Consumer Medicine Information: Most problems relate to missed pills, vomiting and diarrhoea, poor cycle control and what to do in the event of surgery. Side effects such as nausea, breast tenderness, acne and increase in blood pressure require review by an MO. The patient may respond to a change of prescription or other interim measures such as antiemetics. If the symptoms are severe the pill may be stopped but other forms of contraception will be needed. Nausea can be helped by taking the pill at night

Management of associated emergency: signs of DVT / PE with sudden pain and swelling of leg or increased shortness of breath and chest pain

• Vaginal ring e.g. NuvaRing® is a soft plastic ring which is inserted into the vagina. It contains oestrogen and progestogen and is 99% effective when used properly. A new ring is inserted into the vagina every 4 weeks. After insertion the ring is left in place for 3 weeks, then removed and a new ring inserted a week later [4]. Women who request a vaginal ring will be assessed for suitability by MO / SRH / NP
- **Essential information: combined hormonal contraception**
  - Starting combined pill or ring
    - preferably start an active pill or insert the first ring on day 1 - 5 of a normal menstrual cycle (day 1 is first day of menses and day 5 is 4 days later) as it is then effective immediately. However, packaging varies and health care providers need to be familiar with the way different combined pill packaging types are “followed” to assist patients to commence and continue taking pills correctly
    - active pills or the ring can be started at any time of cycle if not pregnant or at risk of recent conception. If commenced beyond day 5 will not be effective until 7 active pills taken or the ring insitu for 7 days
    - start ‘at risk’ patients anytime in the cycle with active pills or the ring using “the 7 day rule” where additional methods of contraception or abstinence are advised for this first 7 days
  - Missed pills [5]
    - oral contraceptive pill should be taken at around the same time each day. If taken late by less than 24 hours then still protected, take missed pill as soon as remember
    - if more than 24 hours, a back up method of contraception or abstinence is required until seven consecutive active pills have been taken

### Missed pill flowchart [5]

**Is the pill ≥ 24 hours late? (e.g. is it ≥ 48 hours since the last pill was taken?)**

**Yes**
- Take the pill most recently missed straight away
- This may mean 2 pills in one day
- Any other missed pills can be discarded
- Use condoms for 7 days

**No**
- Take the pill straight away
- This may mean 2 pills in one day
- The pill will continue to work

<7 pills taken **since** last placebo break. Use condoms for 7 days. Consider LNG - emergency contraception if had unprotected sex in past 5 days.

<7 pills left **before** next placebo break. Skip placebos and continue active pills and use condoms for 7 days

**Note:** 7 consecutive days of active pills is required before contraception is effective
• Vomiting or severe diarrhoea
  - due to the risk of incomplete absorption, additional methods of contraception should be used during the illness and for 7 days following. If the vomiting and / or severe diarrhoea occurs during the last 7 active tablets of the packet, take the next packet without the pill free interval or insert the next ring without the ring free interval
• Poor cycle control
  - as a general rule the lowest dose pill should be used that obtains good cycle control. Breakthrough bleeding in the first 2 months is common and is likely to settle spontaneously. However, some patients have a continuing problem with breakthrough bleeding and it may be necessary to change their prescription. In this instance consult MO and refer the patient to the next MO clinic as necessary. Other causes of abnormal bleeding, particularly pregnancy, cervical pathology (polyps, cancer) or infection related bleeding need to be considered before assuming bleeding is pill related. Chlamydia infection should always be excluded in any patient presenting with bleeding abnormalities
• Thromboembolic disease risk
  - major surgery with prolonged immobilisation
  - combined hormonal contraceptives (pill or ring) containing oestrogen should be stopped 4 weeks prior to major elective surgery and any surgery to the legs. The pill can be recommenced 2 weeks after the surgery. Arrange another contraceptive method if ceasing combined pill or ring
• Other risk factors include: obesity, age, family history of venous thromboembolic event (VTE) in first degree family, postpartum, history of current VTE, known thrombogenic mutations
• Advise the patient to consult MO immediately if any of the following occur:
  - severe chest pain
  - sudden onset shortness of breath
  - calf pain
  - severe abdominal pain
  - severe prolonged headache
  - migraines with aura

5. Follow up
   - Patients should be reviewed after the first 3 - 4 cycles on the pill or ring to:
     - check BP
     - discuss side effects and review any problems in pill taking or ring use
   - Patients on the combined oral contraceptive pill or ring should be followed up every 12 months by an MO / NP

6. Referral / consultation
   - MO / NP
Progestogen only pill adult

Recommend
- For women not able to take combined hormonal contraception who wish to use an oral method

Background
- Works by changing cervical mucous and endometrium. Does not suppress ovulation therefore medicine must be taken at the same time each day
  See Missed pill flowchart

Related topics
- Combined hormonal contraception

1. May present with
- Postnatal lactating woman
- Request for repeat supply of oral contraceptive pill
- Request for contraception
- Side effects of combined hormonal contraception
- New contraindication has developed for combined oral contraceptive pill

2. Immediate management  Not applicable

3. Clinical assessment
- Initial assessment by MO / NP
- Clinical assessment See Contraception including:
  - contraception needs
  - method of contraception available
  - choice of contraception
  - WHO / UKMEC for contraceptive use

WHO / UKMEC for contraceptive use

<table>
<thead>
<tr>
<th>WHO / UKMEC category 4</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute contraindications</td>
<td>Conditions which represent unacceptable health risks</td>
</tr>
<tr>
<td></td>
<td>• Current breast cancer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHO / UKMEC category 3</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong relative contraindications</td>
<td>Conditions where the risks usually outweigh the advantages</td>
</tr>
<tr>
<td></td>
<td>• Active viral hepatitis</td>
</tr>
<tr>
<td></td>
<td>• Liver tumour (benign or malignant)</td>
</tr>
<tr>
<td></td>
<td>• Severe (decompensated) cirrhosis</td>
</tr>
<tr>
<td></td>
<td>• Past history of breast cancer - no evidence of disease &gt; 5 years</td>
</tr>
<tr>
<td></td>
<td>• SLE with positive (or unknown) antiphospholipid antibodies</td>
</tr>
<tr>
<td></td>
<td>• Ischaemic heart disease or stroke if develops when using POPs</td>
</tr>
</tbody>
</table>

For comprehensive list see [5]
Contraception

<table>
<thead>
<tr>
<th>WHO / UKMEC category 2</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally safe to use</td>
<td>• Ischaemic heart disease or stroke - current or history</td>
</tr>
<tr>
<td></td>
<td>• Hypertension with vascular disease</td>
</tr>
<tr>
<td></td>
<td>• Multiple risk factors for cardiovascular disease</td>
</tr>
<tr>
<td></td>
<td>• Migraine with aura at any age past or present</td>
</tr>
<tr>
<td></td>
<td>• Diabetes with or without complications</td>
</tr>
<tr>
<td></td>
<td>• History of VTE - past or present</td>
</tr>
<tr>
<td></td>
<td>• Major surgery with prolonged immobilisation</td>
</tr>
<tr>
<td></td>
<td>• Known thrombogenic mutations</td>
</tr>
<tr>
<td></td>
<td>• Carriers of known gene mutations associated with breast cancer e.g. BRCA1</td>
</tr>
<tr>
<td></td>
<td>• Unexplained abnormal vaginal bleeding</td>
</tr>
<tr>
<td></td>
<td>• Known hyperlipidaemia</td>
</tr>
<tr>
<td></td>
<td>• Gallbladder disease</td>
</tr>
<tr>
<td></td>
<td>• Inflammatory bowel disease (crohns, ulcerative colitis)</td>
</tr>
<tr>
<td></td>
<td>• SLE without positive antiphospholipid antibodies</td>
</tr>
<tr>
<td></td>
<td>• AIDS using antiretrovirals</td>
</tr>
</tbody>
</table>

**Conditions where the advantages generally outweigh the risks**

For comprehensive list see [5]

• Ischaemic heart disease or stroke - current or history
• Hypertension with vascular disease
• Multiple risk factors for cardiovascular disease
• Migraine with aura at any age past or present
• Diabetes with or without complications
• History of VTE - past or present
• Major surgery with prolonged immobilisation
• Known thrombogenic mutations
• Carriers of known gene mutations associated with breast cancer e.g. BRCA1
• Unexplained abnormal vaginal bleeding
• Known hyperlipidaemia
• Gallbladder disease
• Inflammatory bowel disease (crohns, ulcerative colitis)
• SLE without positive antiphospholipid antibodies
• AIDS using antiretrovirals

4. Management

- Confirm less than 12 months since last MO / NP assessment for progestogen only pill prescription

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Oral contraceptive pills (Progestogen only pills)</th>
<th>DTP IHW / SRH / Mid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Midwife may proceed to supply levonorgestrel only (max. 8 weeks)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>Levonorgestrel 30 microgram e.g. Microlut®</td>
<td>Oral</td>
<td>1 tablet daily</td>
<td>Max. supply at any one time not to exceed 4 months</td>
</tr>
<tr>
<td></td>
<td>Norethisterone 350 microgram e.g. Micronor®</td>
<td>Oral</td>
<td>1 tablet daily</td>
<td>Max. supply at any one time not to exceed 4 months</td>
</tr>
</tbody>
</table>

The patient must be initially assessed by an MO / NP and prescribed hormonal contraception. Confirm it is less than 12 months since last MO / NP assessments

Provide Consumer Medicine Information: must be taken ± 3 hours each day

Management of associated emergency: signs of DVT / PE with sudden pain and swelling of leg or increased shortness of breath and chest pain

### Essential information: progestogen only pill (POP)

- Starting progestogen only pill
  - start on day 1 - 5 of a normal menstrual cycle (day 1 is first day of menses and day 5 is 4 days later) as it is then effective immediately. If started at any other time, additional methods of contraception or abstinence should be advised for the first 48 hours until contraceptive effect (3 consecutive pills) is reliably established
• Missed pills
  - if any more than 3 hours late with a progestogen only pill (POP) (27 hours or more since last one taken) contraceptive efficacy will be lost for the next 48 hours so the pill is considered “missed”. If a pill is missed take it as soon as possible and the next one at the normal time. Advise abstinence or additional methods of contraception during the next 48 hours (3 consecutive pills) and emergency contraception if any unprotected intercourse takes place
• Lactation
  - excreted in breast milk. Dosage to infant is extremely small and not found to affect milk quality, quantity or infant growth or development. Suitable for breastfeeding women
• Vomiting and / or severe diarrhoea
  - due to the risk of incomplete absorption, additional methods of contraception should be used during the illness and for 48 hours (3 consecutive pills) following
• Interactions - medicines which may render the pill less protective
  - see Combined hormonal contraception
  - antibiotics do not affect the absorption of the progestogen only pill
  - detailed information on drug interactions with hormonal contraceptives can be obtained from the Australian Contraception Handbook [5], Family Planning Queensland or Drug Interactions with Hormonal Contraception [2] available at: www.fsrh.org/
  - the progestogen only pill is not recommended in those taking liver enzyme inducing medicines
• Irregular vaginal bleeding
  - irregular vaginal bleeding is a known side effect of progestogen only pill. Troublesome spotting occurs in some women. In this instance consult MO and refer the patient to the next MO clinic as necessary. Other causes of abnormal bleeding, particularly pregnancy, cervical pathology (polyps, cancer) or infection related bleeding need to be considered

5. Follow up
    Patients on the oral contraceptive pill should be followed up every 12 months by MO
    Ensure adequate supply of progestogen only pill

6. Referral / consultation
    MO / NP

   Long-acting hormonal contraception adult
   Depot medroxyprogesterone acetate (DMPA)

   Recommend
   ❖ For women not able to take combined hormonal contraception
   ❖ Women who choose a longer acting method

   Background
   ❖ Works by preventing ovulation and changing the endometrial lining and cervical mucous

   Related topics
   ❁ Contraception
   ❁ Health check - women

1. May present with
   • Request for contraception
   • Request for administration of depot medroxyprogesterone acetate
2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Initial assessment by authorised SRH, NP or MO
   - Clinical assessment See Contraception including:
     - contraception needs
     - methods of contraception available
     - choice of contraception
     - WHO / UKMEC for contraceptive use
     - pregnancy test where indicated (a negative test does not always exclude pregnancy and recent conception)
     - BP, weight, BMI and menstrual pattern

### WHO / UKMEC for contraceptive use

<table>
<thead>
<tr>
<th>WHO / UKMEC category 4</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Absolute contraindications</strong></td>
<td></td>
</tr>
<tr>
<td>Conditions which represent unacceptable health risks</td>
<td>• Current breast cancer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHO / UKMEC category 3</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strong relative contraindications</strong></td>
<td></td>
</tr>
<tr>
<td>Conditions where the risks usually outweigh the advantages</td>
<td>• Ischaemic heart disease or stroke / TIA</td>
</tr>
<tr>
<td>For comprehensive list see [5]</td>
<td>• Multiple risk factors for cardiovascular disease</td>
</tr>
<tr>
<td></td>
<td>• Hypertension with vascular disease</td>
</tr>
<tr>
<td></td>
<td>• Type 2 diabetes with vascular complications (including hypertension, nephropathy, retinopathy or neuropathy) or of &gt; 20 years duration</td>
</tr>
<tr>
<td></td>
<td>• Past history of breast cancer with no evidence of disease ≥ 5 years</td>
</tr>
<tr>
<td></td>
<td>• Hepatocellular liver tumour (benign or malignant)</td>
</tr>
<tr>
<td></td>
<td>• SLE with positive (or unknown) antiphospholipid antibodies</td>
</tr>
<tr>
<td></td>
<td>• Severe (decompensated) cirrhosis</td>
</tr>
<tr>
<td></td>
<td>• Unexplained abnormal vaginal bleeding (suspicious for serious underlying condition)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHO / UKMEC category 2</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Generally safe to use</strong></td>
<td></td>
</tr>
<tr>
<td>Conditions where the advantages generally outweigh the risks</td>
<td>• Women &lt; 18 years and &gt; 45 years</td>
</tr>
<tr>
<td>For comprehensive list see [5]</td>
<td>• BP ≥ 160 systolic or diastolic ≥ 95mmHg</td>
</tr>
<tr>
<td></td>
<td>• History of VTE - past or present</td>
</tr>
<tr>
<td></td>
<td>• Migraine with or without aura at any age</td>
</tr>
<tr>
<td></td>
<td>• Diabetes &lt; 20 years without vascular complications</td>
</tr>
<tr>
<td></td>
<td>• Breast disease</td>
</tr>
<tr>
<td></td>
<td>• Known thrombogenic mutations</td>
</tr>
<tr>
<td></td>
<td>• History of VTE - past or present</td>
</tr>
<tr>
<td></td>
<td>• CIN or cervical cancer (awaiting treatment)</td>
</tr>
<tr>
<td></td>
<td>• Lactation &lt; 6 weeks postpartum</td>
</tr>
<tr>
<td></td>
<td>• Hyperlipidaemia</td>
</tr>
<tr>
<td></td>
<td>• Gallbladder disease</td>
</tr>
<tr>
<td></td>
<td>• SLE without positive antiphospholipid antibodies</td>
</tr>
</tbody>
</table>
Contraception

- Side effects include:
  - a change in vaginal bleeding patterns occurs in all women who use progestogen only contraception. Amenorrhoea is common in women using depot medroxyprogesterone acetate. Some women will get irregular light bleeding
  - weight gain, headaches and acne
  - delayed return of ovulatory cycle and therefore a delay in the return of fertility
  - average return to previous menstrual pattern is 8 months
  - depot medroxyprogesterone acetate users experience a reduction in bone mineral density (about 6% over 2 years) however bone loss will be reversible for most women - bone issues important for women < 18 years and > 45 years of age

4. Management

- Confirm that < 12 months since last MO / NP review for depot medroxyprogesterone acetate prescription and initiation of first dose
- The first dose should be given day 1 - 5 of a normal menstrual cycle (day 1 is first day of menses and day 5 is 4 days later). It is effective immediately in this situation
- If given at any other time, exclude pregnancy and particularly recent conception and advise additional contraception or abstinence for the next 7 days
- Each subsequent dose is given at 12 weekly +/- 2 week intervals
- Prior to administration of depot medroxyprogesterone acetate injection check annually:
  - BP, weight, menstrual / bleeding pattern and review medical eligibility
  - a urine pregnancy test is only necessary if later than 14 weeks since the last injection
  - if presenting later than 14 weeks since previous injection it is important to exclude pregnancy. If pregnancy cannot be excluded the risk of giving the injection needs to be weighed against the possible risk of pregnancy if the injection is not given [6]. Consult MO / NP

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Depot medroxyprogesterone acetate</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IHW</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Authorised Indigenous Health Worker must consult MO / NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Ampoule</td>
</tr>
</tbody>
</table>

The patient must be initially assessed by an MO / NP and prescribed hormonal contraception. Confirm it is less than 12 months since last MO / NP assessment. Note: 150 mg dose is required for contraception

Provide Consumer Medicine Information
Management of associated emergency [7]

- Irregular vaginal bleeding is not common with the use of injectable progestogen contraception. However, bleeding history should be checked before each dose is given. If any doubt about normality of bleeding pattern perform Health check - women and refer to MO / NP
- Some patients may experience side effects such as weight gain, breast tenderness and mood change with injectable hormonal contraception, but the incidence is low. Patients who experience side effects require review by an MO / NP
- Interactions
  - liver enzyme inducing medicines including antiretrovirals do not affect the efficacy of depot medroxyprogesterone acetate. It is therefore a good choice of contraception for women taking these medicines
5. Follow up
   - Patients on injectable hormonal contraception should be followed up every 12 months by an MO
   - Delayed return of fertility and amenorrhoea may occur after discontinuing treatment. This is normal and in the vast majority normal fertility and normal periods will return within a year. If in doubt consult MO / NP or refer to next MO clinic

6. Referral / consultation
   - MO / NP

   **Sub-dermal progestogen implant** adult

   **Recommend**
   - Assessment, insertion, follow up and removal must be performed by a specifically trained Health Professional. If implant is not palpable conduct pregnancy test and advise alternate method until location is confirmed. Implanon® (implant used in Australia to June 2011) is only visible with ultrasound and MRI but Implanon NXT® (implant used in Australia since June 2011) is radio opaque and can be seen on plain x-ray, CT and ultrasound
   
   **Background**
   - Long-acting contraceptive effect lasting 3 years
   - Failure rates < 0.1%
   - Important to exclude pregnancy or recent conception before insertion as amenorrhoea is a common side effect
   - Effective immediately if inserted on day 1 - 5 of the cycle or if currently on reliable contraception, otherwise requires 7 days
   - Side effects include change in menses (amenorrhoea, oligomenorrhoea, frequent periods, prolonged periods or prolonged spotting are all possible), breast tenderness, weight gain, acne and mood changes
   - Is easily reversible

   **Emergency contraception** adult

   **Recommend**
   - Approved for use within 72 hours of unprotected sexual intercourse (UPSI). Proven effectiveness up to 4 days but may be used up to 5 days after unprotected sexual intercourse
   - Copper Intrauterine Contraceptive Device (IUCD) (limited possibility of use as specialist needs to insert the device within 5 days of unprotected sex)
   - Levonorgestrel 1.5 mg may be purchased over the counter in pharmacies (proof of age may be requested by some Pharmacists)

**Related topics**
- Sexually transmitted infections (STIs)
- Rape and sexual assault

1. May present with
   - Request for emergency contraception following unprotected sexual intercourse or contraception failure
   - Sexual assault / rape
   - Need for emergency contraceptive pill (ECP) found with health history for other presentation
• Taking medicine that interferes with hormonal contraception and unprotected sex has occurred in appropriate time frame for emergency contraceptive pill (ECP)

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - If history of sexual assault / rape - forensic examination may be required using the sexual assault investigation kit
   - Obtain patient history including:
     - menstrual, coital, contraceptive history to assess risk of established pregnancy and need to give emergency contraception
     - STI risk and medication
   - Perform standard clinical observations if required

**WHO / UKMEC for contraceptive use**

<table>
<thead>
<tr>
<th>WHO / UKMEC category 4</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute contraindications</td>
<td>There are no evidence based absolute contraindications to hormonal levonorgestrel emergency contraception except:</td>
</tr>
<tr>
<td></td>
<td>• established pregnancy</td>
</tr>
<tr>
<td></td>
<td>• allergy to its components [5]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHO / UKMEC category 3</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong relative contraindication</td>
<td>There are no evidence based strong contraindications to hormonal emergency contraception [5]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WHO / UKMEC category 2</th>
<th>Medical condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally safe to use</td>
<td>For comprehensive list see [5]</td>
</tr>
<tr>
<td>Conditions where the advantages generally outweigh the risks</td>
<td>• Current DVT / PE</td>
</tr>
<tr>
<td></td>
<td>• Breast cancer (current or past)</td>
</tr>
<tr>
<td></td>
<td>• Inflammatory bowel disease affecting absorption</td>
</tr>
<tr>
<td></td>
<td>• Acute intermittent porphyria</td>
</tr>
</tbody>
</table>

4. **Management**
   - Ensure the following:
     - the woman is clear on how to take the tablet(s)
     - advise barrier methods until the next period or commence another method immediately - consult MO
     - review for pregnancy test and / or ongoing contraception in 3 weeks if indicated
     - if levonorgestrel 1.5 mg is not available discuss alternatives with MO
     - where relevant the woman is offered STI screening, urine testing or lower vaginal swab for PCR and possibly serology
Contraception

Schedule 3 Levonorgestrel DTP
IHW / IPAP / SRH / Mid

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP
Midwife and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed
RN and SM R&IP See Scope of practice when administering and supplying medicines

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>1.5 mg</td>
<td>Oral</td>
<td>1.5 mg</td>
<td>Stat Within 72 hours (3 days) of the first episode of unprotected sexual intercourse</td>
</tr>
</tbody>
</table>

Note: Approved for use up until 72 hours after unprotected sexual intercourse: there is proven effectiveness up until 96 hours (4 days). It may be provided up until 120 hours however there is a five times increase in the risk of pregnancy if it is given on the fifth day if compared with administration within the first 24 hours

Provide Consumer Medicine Information: the dose should be repeated (with the addition of an antiemetic) if vomiting occurs within 2 hours of it being administered. Vomiting more than 2 hours after either dose is not considered to affect effectiveness. This medicine is affected by liver enzyme inducing medicines. Women who are currently taking or have ceased a liver enzyme inducing medicine within 28 days should be advised to use a 3 mg dose [5].

Management of associated emergency: consult MO [8]

5. Follow up
   - All patients require follow up to exclude pregnancy and STI, if at risk, at the MO clinic in 3 weeks to discuss contraception
   - If vomited within 2 hours of swallowing tablets, repeat the treatment. Vomiting after 2 hours should not affect efficacy

6. Referral / consultation MO / NP

   **Barrier methods of contraception adult**

   **Condoms**
   - Safe, side effect free method of contraception
   - Availability of emergency contraception in case of failure may increase acceptability
   - Provides a high degree of protection against bacterial and viral STI, HIV and unwanted pregnancy
   - Used properly failure rate is approximately 2 - 12%
   - There are many different types of condoms available in chemist shops, supermarkets or by mail order (latex and non latex, lubricated or non-lubricated, different sizes, different colours, different flavours, smooth or ribbed or studded, in packets of 3, 12 or 24)
   - How to use a male condom See Sexually transmitted infections (STIs)
   - Female condoms are available by mail order

   **Diaphragm adult**
   - Soft non latex device which acts as a cervical barrier. Placed over the cervix before intercourse and left in place for at least 6 hours after intercourse
   - Needs to be fitted by a trained Health Care Worker who will assess the woman, fit the correct size device and teach the woman how to insert and remove it
   - Manufacturer's advice is to use with spermicidal creams however these creams are not currently available in Australia
   - Failure rates higher than other methods. Typical use efficacy rate is 88% [5]
   - Size of diaphragm needs to be reassessed with an increase or decrease in weight of 3 or more kilogram
   - Diaphragms should be checked for deterioration. With proper care they may last up to 2 years
Intrauterine contraceptive device (IUCD) adult

Recommend
- Assessment, insertion, follow up and removal of an IUCD must be performed by a specifically trained MO

Background
- Two types of copper IUCD in Australia (Multiload® and TT380A®) and levonorgestrel intrauterine contraceptive device (Mirena®)

Copper IUCD
- Acts by changing the lining of the uterus making it unsuitable for a pregnancy implantation and preventing sperm from reaching the ovum
- Can be used as emergency contraception if inserted within 5 days of unprotected intercourse
- Very effective - failure rate < 1% and can be left in place for up to 10 years (TT380® standard) or 5 years (Multiload® and TT380® short). Copper IUCD inserted after the age of 40 can be left in place as contraception until 12 months after LNMP if menopause at > 50 years old or 2 years after LNMP if menopause at < 50 years

Progestogen-releasing intrauterine device - Mirena®
- This intrauterine contraceptive device contains levonorgestrel that is released continuously for at least 5 years
- Acts by altering the lining of the uterus making it unsuitable for a pregnancy and by preventing sperm travelling through cervical mucous
- Very effective contraceptive with failure rate of 0.1%
- The device can be used to treat menorrhagia (excessive periods) and to provide the progestogen source for Hormonal Replacement Therapy (HRT), as well as for contraception

Side effects
- Copper
  - heavy, painful periods - can lead to anaemia, however it is not uncommon to have irregular vaginal spotting in the first month after insertion
- Mirena®
  - after initial irregular spotting which can last for up to 5 months, users of this device usually experience a very light regular period or amenorrhoea (absence of periods)
- Acne, weight gain, headaches and breast tenderness have been reported with the levonorgestrel IUCD however the amount of circulating hormone is extremely low

Complications
- Lost string - the strings should be visible extruding from the external cervical os on speculum examination. If not visible, the most common cause is that it has drawn up into the cervical canal or uterus and the IUCD itself is still in situ and providing contraception. The IUCD presence can be confirmed by ultrasound. Other possibilities include the IUCD has been expelled, the IUCD has perforated the uterine wall or the woman is pregnant and the uterus has enlarged. Perform a pregnancy test:
  - if negative (- ve) refer to next MO clinic, advising additional contraception until the location of the device is established
  - if positive (+ ve) consult MO
**Contraception**

- Unusual bleeding or lower abdominal pain - refer to MO immediately (even if pregnancy test is negative)
- Ectopic pregnancy - if pregnancy occurs with an IUCD in place there is a higher risk of ectopic pregnancy but overall the rate is less than for women not using contraception
- Uterine pregnancy - there is a risk of early miscarriage and 2nd trimester septic miscarriage. If IUCD string is seen on speculum examination, consult MO regarding removal of IUCD
- Pelvic inflammatory disease (PID) - the risk of PID is 1:400 in the first 20 days. After that the risk of PID reflects the woman's risk of exposure to STI
- Uterine perforation (rare - approximately 2.3 per 1000 insertions, but serious complication)
- Expulsion uncommon - but more common in nulliparous women, postpartum insertions

**Sterilisation adult**

- Sterilisation should be regarded as a permanent procedure
- Usually only considered in older men or women who are sure their childbearing is complete
- Female
  - tubal sterilisation usually requires general anaesthesia and is performed laparoscopically. Failure rates are low, although higher if performed at the same time as caesarean section
  - does not affect menses or sexual function
- Male
  - vasectomy is a relatively straightforward procedure usually performed under local anaesthetic
  - effect is not immediate - it may take several months to obtain a zero sperm count and during this time other contraception is necessary
  - generally few side effects, might have pain, bruising and infection

**Natural methods adult**

- Fertility awareness based methods
  - relies on avoiding intercourse during the most fertile time of the month i.e. around ovulation
  - comprehensive knowledge of the menstrual cycle is important
  - time of ovulation can be calculated if the cycle is regular. It is usually accompanied by a measurable temperature rise and changes in cervical mucous
  - can be successful if both partners are highly motivated and have been taught about the method by a trained Health Care Worker
  - failure rate quoted as from 1 - 25%
  - women with irregular periods, around menopause and after child birth may find this method difficult
- Coitus interruptus
  - relies upon withdrawal of the penis prior to ejaculation
  - the least effective method of contraception especially for those with little experience with this method. Failure rate may be up to 25%
- Sperm is in pre-cum which lubricates the penis before ejaculation and can remain alive in the female genital tract for several days.

- Lactational amenorrhoea
  - Can be 98% effective as contraceptive for up to 6 months after childbirth as long as remain amenorrheic and fully breastfeeding.
  - Must be fully breastfeeding (no complements of milk or solids) and regularly breastfeeding including night feeds.
  - Ovulation occurs before the first menstrual bleed, so care must be taken with this method.

References
Sexually transmitted infections (STIs) adult

Recommend
- Informed consent to be obtained prior to STI testing
- STI testing in pre-pubertal asymptomatic children requires parental consent and should not be performed unless specifically requested by the MO
  See Rape and sexual assault
- Consult MO on any occasion patient presents acutely ill and with single or multiple painful / inflamed joints (possible disseminated gonococcal infection). Will urgently require hospital admission and parenteral antibiotics

Background
- Often STIs do not have any symptoms
- The presence of an STI increases the likelihood of transmission of HIV
- Chlamydia is the most common notifiable STI in Australia. Chlamydia and genital herpes are seen in all areas. Gonorrhoea and trichomonas are common in rural and remote regions, while genital warts are a frequent presentation in urban areas. Genital warts are becoming less common because of the HPV vaccine
- Excessively high rates of chlamydia and gonorrhoea persist in remote regions, leading to psycho-social distress, gynaecological problems, pregnancy loss, infertility and a population particularly vulnerable to an epidemic of HIV infection
- There is currently a resurgence of syphilis in remote populations and a significant epidemic is continuing among men who have sex with men
- Donovanosis is now rare but it should be considered in remote areas especially in the context of genital ulcer disease

Important principles of treating STIs
- Symptomatic cases and contacts of individuals with a known STI must be treated at first presentation (presumptive treatment). Do not wait for pathology results
- Timely (immediate) contact tracing and treatment of sex partners is essential to avoid reinfection
- People diagnosed with chlamydia or gonorrhoea need to be re-screened at 3 months as one third of patients will be reinfected
- If someone tests positive for an STI, offer testing for other common STIs, and for HIV, hepatitis B and hepatitis C See Investigations / testing
- Pelvic inflammatory disease (PID) must be considered in the presence of low abdominal pain in sexually active women in whom other causes have been excluded See Low abdominal pain in female - adult
- For a patient with genital sores, always call the Public Health Nurse, Syphilis Register for advice on ☎️ 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- Asymptomatic screening is important and should be offered annually in high risk populations or where prevalence rates are high
Sexually transmitted infections (STIs)

**When to test for STIs**

<table>
<thead>
<tr>
<th>Who</th>
<th>When</th>
<th>What</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sexually active people 15 - 39 years in remote Aboriginal and Torres Strait Islander settings or where prevalence rates are high [3]</td>
<td>Annually (at a minimum)</td>
<td>chlamydia, gonorrhea, trichomonas, syphilis</td>
</tr>
<tr>
<td>Sexually active young people 15 - 29 years in other rural and remote areas / general population [13]</td>
<td></td>
<td>chlamydia</td>
</tr>
<tr>
<td>Men and women aged 40 - 49 years in remote Aboriginal and Torres Strait Islander settings or where prevalence rates are high [3]</td>
<td>Annually</td>
<td>syphilis</td>
</tr>
<tr>
<td>A patient presents with / as:</td>
<td>At presentation</td>
<td>A full STI check</td>
</tr>
<tr>
<td>- symptoms of an STI</td>
<td></td>
<td>chlamydia, gonorrhea, trichomonas, syphilis</td>
</tr>
<tr>
<td>- a sexual contact of someone with a symptom of an STI</td>
<td></td>
<td>HIV</td>
</tr>
<tr>
<td>- a sexual contact of someone who has tested positive for an STI</td>
<td></td>
<td>hep B (if not immune or not chronically infected)</td>
</tr>
<tr>
<td>- positive pathology of an STI</td>
<td></td>
<td>hep C</td>
</tr>
<tr>
<td>- a recent change of sexual partner or inconsistent / no condom use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- requesting an STI check</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is pregnant</td>
<td>See Antenatal care</td>
<td></td>
</tr>
</tbody>
</table>

Regular screening is recommended for other groups including - men who have sex with men (MSM), people who inject drugs, sex industry workers and culturally and linguistically diverse populations (migrants, refugees, international students, backpackers, others such as first and second generation families of these groups), [15] or based on epidemiological disease patterns - contact local Sexual Health Service for advice.

**How to do an STI check**

**Take a patient history**

**Note:** History and examination are often not necessary for an asymptomatic screen e.g. annual Health Check.

Ask about symptoms

- urethral (penile) / vaginal discharge - onset, colour, odour
- pain or burning on passing urine (dysuria)
- abnormal vaginal or rectal bleeding
- genital rashes, lumps and sores
- itching / discomfort in the perineum, perianal and pubic region
- low abdominal pain in women
- pain with sex (dyspareunia)
- if an STI is not treated it may cause symptoms such as fever, muscle / joint pains, rashes, enlarged lymph nodes

For each symptom ask about

- site - where is the pain / lesion / discharge located?
- onset - when did the symptom start?
- character - size, appearance, distribution, description of discharge, odour
- radiation - does it go anywhere else / are there other associated symptoms
- alleviating factors - does anything help to relieve the symptom(s)?
- timing - have you had it before? Does it come and go or is it consistent?
- exacerbating factors - does anything make it worse?
- severity - of pain / symptom
Sexually transmitted infections (STIs)

- Take a reproductive history including
  - menstrual
  - obstetric
  - contraceptive
  - Pap smear history
- Take a sexual history and assess STI risk including
  - new partner, multiple partners (or partner has multiple partners), regular / casual partners
  - same sex partners
  - condom use
  - recent history of STI
  - nature of sexual intercourse - do they have oral, vaginal, anal intercourse
- Assess Blood Born Virus (BBV) risk
  - Injecting drug use (IDU), tattoos, body piercing, prison term, cultural penile incisions

Perform examination
- If a patient has no symptoms and is not a ‘contact’, examination is often not necessary
- The extent and nature of the examination depends on the history and may include:
  - the mouth, the skin (rash), lymph nodes for swelling or tenderness
  - the abdomen for tenderness See Acute abdominal pain and Low abdominal pain in female - adult
  - the external genitalia including the perianal area for rashes, lumps, sores or skin splits
  - in men - urethra for discharge and inflammation. Testes and epididymis for tenderness or swelling
  - women - vulva / vagina / cervix for inflammation, discharge, bleeding
  - bi-manual examination for tenderness and masses (if practitioner experienced)

Take tests / investigations for STIs
- All STI testing must be done with the patient's knowledge and informed consent. Pre-test information and discussion is particularly important in relation to HIV testing See HIV infection
- The local Sexual Health Service will provide advice if needed

A full STI check includes tests / investigations for
- Chlamydia
- Gonorrhoea
- Trichomonas
- Syphilis
- HIV
- Hepatitis B* (if not immune)
- Hepatitis C (also offered for surveillance purposes)
- If there is a genital sore, in addition to the above, collect tests for genital ulcer disease (GUD) See Genital sores / ulcers

STI tests should be appropriate to the sex acts performed (oral, anal, vaginal) e.g. men who have sex with men (MSM), also take throat swabs (chlamydia / gonorrhoea PCR and culture and sensitivity) and anal swabs (chlamydia / gonorrhoea PCR and MC/S)

*Hepatitis B immune status should be established and vaccination offered if not immune and not chronically infected See Hepatitis. If immune or documented to be fully vaccinated, it is not necessary to repeat at each STI check. If chronically infected see current edition of the Chronic Disease Guidelines for recommended monitoring available at www.health.qld.gov.au/cdg/default.asp
Sexually transmitted infections (STIs)

**STI specimen collection - blood tests**

*Syphilis, HIV, Hep C, Hep B* (*Hep B if not immune or not chronically infected)*

- Blood test
  - 2 x serum gel tubes of blood

  Write on pathology form
  - Syphilis serology
  - HIV
  - Hep C
  - Hep B sAg, sAb, cAb

  Store and transport at room temperature

**STI specimen collection - male**

*Chlamydia, gonorrhoea, trichomonas*

**Asymptomatic or has symptoms but no discharge from penis**

- First Catch Urine (FCU‡) for gonorrhoea and chlamydia PCR
  - 20 - 30mL of first part of stream of urine

  Write on pathology form
  - First catch urine PCR gonorrhoea and chlamydia

  Store in fridge and transport cold

**OR**

- Has discharge from penis (self collected or by health care provider)
  - 3 x external urethral swabs for:
    - dry swab for gonorrhoea and chlamydia PCR
    - dry swab for trichomonas PCR
    - charcoal swab and slide for MC/S (gonorrhoea)

  (Do not insert swab into urethra. Milk penis, so discharge visible)

  Write on pathology form
  - Urethral swab PCR gonorrhoea and chlamydia
  - Urethral swab PCR trichomonas
  - Urethral swab / slide MC/S

  PCR – use dry swabs and place directly into dry containers

  MC/S – charcoal swab – roll once across a glass slide, air dry. Put swab in transport media

  Store and transport at room temperature

‡ First part of stream

Pathology form: Include clinical notes e.g. relevant history, symptoms of STI, or routine asymptomatic screen. Ensure Aboriginal and Torres Strait Islander status is ticked where appropriate (for health planning)
STI specimen collection - female
Chlamydia, gonorrhoea, trichomonas

If health practitioner is experienced and patient consents, perform a speculum examination. Alternatively, either low vaginal swabs (self collected) or First Catch Urine (FCU) can be done. If an asymptomatic screen just collect FCU.

**Speculum exam (take 3 swabs)**
- 2 endocervical (E/C) swabs:
  - 1 dry swab (or cobas® PCR swab) for chlamydia and gonorrhoea PCR
  - 1 charcoal swab and slide for MC/S (gonorrhoea, candida, bacterial vaginosis)
  - Remove secretions from cervical os, insert swabs into endocervical canal and rotate to absorb secretion
- 1 dry high vaginal swab (HVS) - for trichomonas PCR
- Pap smear +/- thin prep (if due)

**Non-speculum exam (take 3 low vaginal swabs)**
- 1 dry swab - gonorrhoea and chlamydia PCR
- 1 dry swab - trichomonas PCR
- 1 charcoal swab and slide for MC/S (gonorrhoea, candida, bacterial vaginosis)
  - Ask woman to insert swab 5 cm into vagina and rotate several times

**OR**

**First Catch Urine (FCU)** (self collected)
- For chlamydia, gonorrhoea trichomonas PCR
  - 20 - 30 mL of first part of stream of urine

**Write on pathology form**
- Cervical swab - gonorrhoea and chlamydia PCR
- Cervical swab and slide MC/S
- High Vaginal Swab (HVS) trichomonas PCR
- Pap smear (if due)

**Write on pathology form**
- Low Vaginal Swab (LVS) gonorrhoea, chlamydia PCR
- Low Vaginal Swab (LVS) trichomonas PCR
- Low vaginal swab (LVS) and slide MC/S

**Pathology form:** include clinical notes e.g. relevant history, symptoms of STI, or routine asymptomatic screen. Ensure Aboriginal and Torres Strait Islander status is ticked where appropriate (for health planning). ‡ First part of stream.
Sexually transmitted infections (STIs)

STI management

Medication management

- Symptomatic cases and contacts of individuals with a known STI must be treated at first presentation (presumptive treatment). Do not wait for pathology results.
- Once only treatment is highly effective for chlamydia / gonorrhoea. “Proof of cure” test is not necessary.
- If single dose treatments are used, watch the patient take the medicine and document this in the medical record.
- All STI pathology must be followed up / reviewed and treated within one week of testing.
- Check for allergies prior to treatment e.g. to penicillin, or other beta-lactam antibiotics (includes ceftriaxone), the quinolones (includes ciprofloxacin), the erythromycin group of antibiotics (includes azithromycin) or to metronidazole.

Contact tracing / partner notification

- Timely (immediate, on day of presentation) contact tracing and treatment of sex partners is essential to avoid reinfection.
- Contacts of individuals with a known STI must be treated on the day of presentation. Do not wait for pathology results.

How to perform contact tracing

- The aims of contact tracing are:
  - to prevent reinfection.
  - to identify individuals who may be infected and would benefit from treatment.
  - to interrupt on-going transmission of disease.
- Confidentiality of all parties must be maintained.
  - names of all “contacts” from the previous 6 months or as relevant to STI.
  - the name of the index case must never be disclosed to the “contacts”.
  - document in the “contact’s” medical record that they need immediate treatment for the diagnosed STI and testing for the other common STI.
  - do not write the name of the index case in the “contact’s” medical record, do not write the name of the “contact” in the medical record of the index case.
  - the patient may choose to inform their “contacts” themselves or may want the clinic staff to do this.
  - if clinic staff are initiating contact tracing, three attempts (telephone or home visits) should be made and documented.
  - notify the appropriate health service staff if a named contact is outside your health centre’s area.
  - maintain an information system to track notification and treatment of contacts as applies in your region.
  - consult the MO, Sexual Health Clinic or Contact Tracing Support Officer if you need advice or help with contact tracing:
    - Far North Queensland 07 4226 4777
    - Townsville, Mackay, Mount Isa 07 4778 9600
    - Sunshine Coast, Wide Bay, Central Queensland 07 5470 5244
    - Brisbane Metro North 07 3837 5611
    - Brisbane Metro South, Gold Coast, West Moreton, Darling Downs and South West 07 3176 7587.
Sexually transmitted infections (STIs)

Education and prevention and condoms
Assure the patient his / her confidentiality will be protected
• If treatment is required explain the need to abstain from sex for 3 days after they and their partner have been treated
• Give information about the transmission, symptoms and complications of STI
  See www.health.qld.gov.au/sexhealth/ for handouts / information
• Discuss safe sex practises, contact tracing / partner notification - explain why and how and provide condoms
• Make sure condoms and lubricant are freely available and can be obtained easily and discreetly

STI follow up

产品研发 (STIs)

Encourage follow up one week after presentation / treatment
- check:
  o adherence with medication and symptom resolution
  o check test results: STI results (especially HIV) should be given in person
  o ask again about sex partner(s) and check if sexual partner(s) have been tested / treated - contact tracing is essential to avoid reinfection
  o reinforce education and prevention information and check condoms supplied
  o encourage patient to present for a check any time they get symptoms or are at risk of STI e.g. new partner See When to test for STIs

Every patient with an STI diagnosis should have an STI check at 2 to 3 months after initial treatment
- about one third are re-infected at 3 months, often because their partner was not treated
- patients treated for infectious syphilis e.g. syphilis of less than 2 years duration, should be tested at 3 - 6 months and at 12 months See Syphilis
- HIV test should be offered at the time of initial STI diagnosis, however a repeat test may be needed at 6 weeks - after the ‘window period’ See HIV infection
Selecting STI HMP flowchart

Use the following flowchart to assist in the selection of HMP based on the patient presentation

Patient has a symptom of an STI

- Vaginal discharge
  - See Chlamydia / gonorrhoea / trichomonas
- Urethral (penile) discharge / dysuria
  - See Chlamydia / gonorrhoea / trichomonas
- Genital sores
  - See Genital sores / ulcers
- Pain / swelling in testes
  - See Epididymo-orchitis
- Female with low abdominal pain
  - See Low abdominal pain in female, probable pelvic inflammatory disease (PID)
- Signs and / or symptoms of syphilis
  - See Syphilis

Patient has a positive pathology test

- Chlamydia
  - See Chlamydia / gonorrhoea / trichomonas
- Gonorrhoea
  - See Chlamydia / gonorrhoea / trichomonas
- Trichomonas
  - See Chlamydia / gonorrhoea / trichomonas
- Syphilis
  - See Syphilis
- HIV
  - See HIV infection
- Genital herpes and / or donovanosis
  - See Genital sores / ulcers

Patient is a sexual contact of someone with an STI confirmed on pathology test

- Genital herpes and / or donovanosis
  - See Genital sores / ulcers

Patient is a sexual contact of someone with symptoms of an STI

- Vaginal discharge
  - See Chlamydia / gonorrhoea / trichomonas
- Urethral (penile) discharge / dysuria
  - See Chlamydia / gonorrhoea / trichomonas
- Low abdominal pain in woman
  - See Syphilis
- Syphilis
  - See Syphilis
Sexually transmitted infections (STIs)

Chlamydia / gonorrhoea / trichomonas adult

**Recommend**
- Treat for chlamydia, gonorrhoea, trichomonas, if a man has a urethral discharge or dysuria, or a woman presents with vaginal discharge (the cause of vaginal discharge is difficult to diagnose on clinical examination alone).
- If symptomatic or a contact of a patient with a known STI, treat at first presentation (presumptive treatment - do not wait for pathology results).
- Timely (immediate) contact tracing and treatment of sex partners is essential to avoid re-infection.
- **Ciprofloxacin is not recommended as a first line treatment. Do not offer unless injection is refused / contraindicated.** Ciprofloxacin should not be used in MSM or gonorrhoea acquired overseas.

**Background**
- Chlamydia, gonorrhoea and trichomonas are often asymptomatic or the symptoms go unrecognised.
- The most likely cause of a urethral discharge in a man is chlamydia and / or gonorrhoea.
- 10 - 15% of women with untreated chlamydia or gonorrhoea will develop an upper genital tract infection (pelvic inflammatory disease) which usually presents with low abdominal pain.
- Chlamydia and gonorrhoea can damage the fallopian tubes increasing the risk of ectopic pregnancy and infertility.
- Trichomonas is an STI that may persist in women for years (in men probably up to 4 months) [14].

**Related topics**
- Low abdominal pain in female - adult
- Epididymo-orchitis
- How to do an STI check
- STI specimen collection - blood test, male, female
- Contact tracing / partner notification

1. **May present with**
   - Asymptomatic
     - positive pathology result for chlamydia and / or gonorrhoea and / or trichomonas
     - named contact of someone with chlamydia, gonorrhoea, trichomonas, PID, epididymo-orchitis
   - Symptoms
     - men:
       - a urethral (penile) discharge and / or pain or dysuria
     - women:
       - creamy yellow or blood stained vaginal discharge or cervix bleeds easily when swabbed
       - abnormal bleeding: intermenstrual bleeding (IMB) or post coital (after sex) bleeding (PCB)
       - low abdominal pain (PID) which may be mild to severe (acute abdomen) or pain with penetrative sex
       - PV bleeding during pregnancy: threatened miscarriage, preterm rupture of membranes, preterm labour, neonatal infection or postpartum infection
       - inflammation of the vulva and vaginal walls which may cause soreness or itching. White or green vaginal discharge which is typically ‘frothy’ and has a ‘fishy’ odour (typical of trichomonas)
   - Occasionally may present acutely ill with single or multiple painful / inflamed joints (possible disseminated gonococcal infection)
Sexually transmitted infections (STIs)

2. Immediate management
   Not applicable

3. Clinical assessment
   • Obtain patient history and offer an examination See How to do an STI check
   • Perform standard clinical observations
   • If symptomatic test for: See STI specimen collection
     - chlamydia, gonorrhoea, trichomonas
     - also offer testing for syphilis, HIV, hepatitis B, hepatitis C
     - additionally for women:
       ○ urine pregnancy test on all women of childbearing age (12 - 52 years)
       ○ urinalysis - if nitrites positive send MSU for MC/S
       ○ if the woman complains of low abdominal pain or experiences pain during the examination or complains of pain during sexual intercourse assess for pelvic inflammatory disease (PID)
       See Low abdominal pain in female - adult
       ○ Pap smear if due See Pap smear collection
   • If patient has been recalled due to positive pathology result or is a named contact of a patient with a known STI, offer full STI screen See How to do an STI check

4. Management
   • Contact MO on any occasion patient presents acutely ill and with single or multiple painful / inflamed joints (possible disseminated gonococcal infection). Will require emergency hospital admission and IV antibiotics
   • Medication management
     - treat at this presentation (presumptive treatment). Do not wait for pathology results
       ○ symptomatic cases (vaginal discharge / penile discharge or dysuria in men)
       ○ contact(s) of patient with chlamydia, gonorrhoea, trichomonas
       ○ people with a positive pathology test for chlamydia, gonorrhoea or trichomonas
     - check for allergies and treat as per the following table
     - observe the patient taking the medication
   • Perform timely (immediate) contact tracing and treatment of sex partners which is essential to avoid reinfection See Contact tracing / partner notification
     - get sexual contact(s) from previous 6 months [14]
     - if trichomonas only on pathology result, treat current partner only
   • Provide education and prevention and condoms See How to do an STI check
     - advise to abstain from sex until course of treatment is finished and 3 days after partner has been treated
Sexually transmitted infections (STIs)

<table>
<thead>
<tr>
<th>Presents with</th>
<th>Treat for</th>
<th>If not allergic treat with</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal discharge or penile discharge and / or dysuria in men</td>
<td>Chlamydia, gonorrhoea and trichomonas</td>
<td>azithromycin and ceftriaxone and metronidazole (or tinidazole) (only if absolutely refuses injection, replace ceftriaxone with ciprofloxacin)</td>
</tr>
<tr>
<td></td>
<td>(if pregnant discuss need for treatment of trichomonas with MO)</td>
<td></td>
</tr>
<tr>
<td>Chlamydia and gonorrhoea are detected on a pathology test or</td>
<td>Chlamydia and gonorrhoea</td>
<td>azithromycin and ceftriaxone</td>
</tr>
<tr>
<td>Gonorrhoea alone detected, or</td>
<td></td>
<td>(only if absolutely refuses injection, replace ceftriaxone with ciprofloxacin)</td>
</tr>
<tr>
<td>Named as a sexual contact of someone with gonorrhoea, chlamydia, cervicitis, PID or epididymo-orchitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chlamydia alone detected on pathology test</td>
<td>Chlamydia</td>
<td>azithromycin</td>
</tr>
<tr>
<td>Trichomonas detected on pathology test or</td>
<td>Trichomonas</td>
<td>metronidazole (or tinidazole)</td>
</tr>
<tr>
<td>Named as a sexual contact of someone with trichomonas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Treatment for chlamydia - give azithromycin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Azithromycin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: may be taken with or without food
Management of associated emergency: consult MO

[1]
Sexually transmitted infections (STIs)

- Treatment for gonorrhoea - give ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ceftriaxone</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vial</td>
<td>1 g (dilute in 3.5 mL 1% lignocaine) = 4 mL solution</td>
<td>IM deep intragluteal injection</td>
<td>500 mg (2 mL)</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information:
Management of associated emergency: See Anaphylaxis and severe allergic reaction [1]

- Ciprofloxacin is not recommended as a first line treatment. Do not offer unless injection is refused / contraindicated (contraindicated in pregnancy B3). MSM and people who have either had sex overseas or with an overseas partner should always be treated with ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ciprofloxacin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>250 mg 500 mg</td>
<td>Oral</td>
<td>500 mg</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take on an empty stomach. Consumption of dairy products, iron or calcium will reduce absorption of ciprofloxacin
Management of associated emergency: consult MO [3]

- Treatment for trichomonas give metronidazole. If pregnant, discuss need for treatment of trichomonas with MO (category B2)

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Metronidazole</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicine Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>200 mg 400 mg</td>
<td>Oral</td>
<td>2 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: avoid alcohol while taking and for 24 hours after taking this medicine. Take with or immediately after food
Management of associated emergency: consult MO [4]
Sexually transmitted infections (STIs)

- Or tinidazole (contraindicated in pregnancy B3)

### Schedule 4 Tinidazole DTP

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>2 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Schedule Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

Provision Consumer Medicine Information: take with food. Avoid alcohol while taking and for 72 hours

Management of associated emergency: consult MO

5. **Follow up**
   - Follow up at 1 week and 2 - 3 months See How to do an STI check

6. **Referral / consultation**
   - Consult MO as above if allergic, pregnant or if symptoms have not resolved following treatment

### Bacterial vaginosis adult

**Background**

- Bacterial vaginitis is not sexually transmitted. It is caused by an overgrowth of bacteria e.g. *gardnerella*

**Related topics**

- Chlamydia / gonorrhoea / trichomonas

1. **May present with**
   - Laboratory report from the high vaginal swab notes the presence of ‘clue cells’ (asymptomatic infection)
   - Vaginal discharge that is typically thin, white or grey and has a ‘fishy’ odour (similar to trichomonas but not frothy and vaginal walls are not inflamed)

2. **Immediate management** Not applicable

3. **Clinical assessment**
   - Obtain relevant patient history and offer an examination See How to do an STI check
   - Perform standard clinical observations

4. **Management**
   - Consult MO if symptoms are recurrent or severe
   - If presents with a symptom of vaginal discharge, treat as an STI (the cause of vaginal discharge is difficult to diagnose on clinical examination alone) See Chlamydia / gonorrhoea / trichomonas
Sexually transmitted infections (STIs)

- Medication management - if high vaginal swab is suggestive of bacterial vaginosis treat with metronidazole or clindamycin 2% vaginal cream
- Contact tracing is not required
- Provide education on bacterial vaginosis
- Treatment of bacterial vaginosis give metronidazole. If pregnant discuss need for treatment with MO (category B2)

### Metronidazole

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Metronidazole</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP
Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>200 mg</td>
<td>Oral</td>
<td>400 mg bd</td>
<td>7 days</td>
</tr>
<tr>
<td></td>
<td>400 mg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: avoid alcohol while taking and for 24 hours after taking this medicine. Take with or immediately after food. Take until course completed
Management of associated emergency: consult MO

- Or clindamycin vaginal cream. Is safe in pregnancy

### Clindamycin 2% vaginal cream

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Clindamycin 2% vaginal cream</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP
Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vaginal cream</td>
<td>2%</td>
<td>Vaginal</td>
<td>1 full applicator nocte</td>
<td>7 nights</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: store below 25°C, cream may damage condoms during treatment period and for up to 72 hours after course has finished. Complete course
Management of associated emergency: consult MO

5. **Follow up**
   - Not required

6. **Referral / consultation**
   - Consult MO if recurrent or severe
Sexually transmitted infections (STIs)

Candidiasis (thrush) adult

Background
- Candidiasis (thrush) is caused by an overgrowth of yeast. It is common in healthy women, but can also be as a result of high oestrogen (pregnancy), high sugar (uncontrolled diabetes), immune suppression (HIV) or after taking some antibiotics. Candidiasis is not sexually transmitted.

1. May present with
- Inflammation (redness, swelling) of the vulva or vagina causing itch or soreness
- Vaginal discharge is typically white and sticks to the vaginal walls (curd like)
- Cracks or fissures in the skin folds (genital herpes must be excluded)
  See Genital sores / ulcers

2. Immediate management  Not applicable

3. Clinical assessment
- Obtain patient history and offer a relevant examination
- Perform standard clinical observations
- If the patient presents with repeated episodes of vaginal thrush, do a BGL and assess for risk of HIV

4. Management
- Consult MO if symptoms are recurrent or severe
- Medication management. If inflammation or discharge is typical of candida, or candida is detected on a vaginal swab and symptoms are present, treat with clotrimazole vaginal cream (ask about allergy to anti-yeast / anti-fungal preparations). If allergy present discuss with MO / NP
- Contact tracing is not required
- Provide education on candidiasis (thrush)

- Treatment for candidiasis give clotrimazole vaginal cream

<table>
<thead>
<tr>
<th>Schedule</th>
<th>3</th>
<th>Clotrimazole vaginal cream</th>
<th>DTP IHW / IPAP / SRH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pessary</td>
<td>100 mg</td>
<td>Vaginal</td>
<td>1 pessary / applicator nocte</td>
<td>6 nights</td>
</tr>
<tr>
<td>Cream</td>
<td>1%</td>
<td>Vaginal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: use once daily, preferably in the evening for 6 successive days. 1 applicator should be filled with cream and inserted as deeply as possible into the vagina with the patient lying on her back. Complete course

Management of associated emergency: consult MO
Sexually transmitted infections (STIs)

5. **Follow up**
   - Not required

6. **Referral / consultation**
   - Consult MO if symptoms are recurrent or severe

### Epididymo-orchitis adult

**Recommend**
- Torsion of the testes is a medical emergency and must be excluded
  
  See Testicular / scrotal pain

- Ciprofloxacin is not recommended as a first line treatment and should only be used if injection is refused. Ciprofloxacin should not be used in MSM or gonorrhoea acquired overseas

**Background**
- Epididymo-orchitis may occur as a result of infection with STI (gonorrhoea or chlamydia) or urinary tract infections
- If due to STI, treatment of sexual contacts is essential to prevent reinfection

**Related topics**
- Urinary tract infection - adult
- Testicular / scrotal pain
- Chlamydia / gonorrhoea / trichomonas
- How to do an STI check
- STI specimen collection - blood test, male
- Contact tracing / partner notification

#### 1. May present with

- Pain and swelling in the testes / scrotum with or without fever
- STI (gonorrhoea, chlamydia) will be the likely cause in men who:
  - are aged < 40 or are at increased risk for acquiring STI
  - have a recent history of discharge or dysuria
  - whose partner has an STI
- UTI will be more likely in men who:
  - are aged > 40 years
  - have had recent catheterisation of the urethra
  - have an underlying renal tract or prostate problem

  See Urinary tract infection - adult

#### 2. Immediate management
Not applicable

#### 3. Clinical assessment
- Obtain patient history and offer relevant examination
  
  See How to do an STI check

- Perform standard clinical observations

- Test for:
  - MSU for MC/S
  - chlamydia, gonorrhoea, trichomonas
  - also offer testing for syphilis, HIV, hepatitis B, hepatitis C

#### 4. Management
- Consult MO on all occasions to exclude torsion of the testes
- Medication management
  - if not allergic and STI is the likely cause treat with:
Sexually transmitted infections (STIs)

- an initial stat dose of azithromycin and ceftriaxone followed by 14 days of doxycycline
- where adherence to 14 days of doxycycline is likely to be suboptimal, doxycycline may be replaced by a repeat dose of azithromycin on day 8
- **Ciprofloxacin is not recommended as a first line treatment. Do not offer unless injection is refused / contraindicated.** Ciprofloxacin should not be used in MSM or gonorrhoea acquired overseas
- observe the patient taking the medication

- Give analgesia as required

  See **Simple analgesia** front fold out

- Bed rest
- Perform timely (immediate) contact tracing and treatment of sex partners. This is essential to avoid reinfection
  See **Contact tracing / partner notification**
- Provide education and prevention and condoms See **How to do an STI check**

- Treat with azithromycin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th><strong>Azithromycin</strong></th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: may be taken with or without food
Management of associated emergency: consult MO

- And (if sexually acquired) ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th><strong>Ceftriaxone</strong></th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vial</td>
<td>1 g (dilute in 3.5 mL 1% lignocaine) = 4 mL solution</td>
<td>IM deep intragluteal injection</td>
<td>500 mg (2 mL)</td>
<td>3 days</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information
Management of associated emergency: See **Anaphylaxis and severe allergic reaction**
Ciprofloxacin is not recommended as a first line treatment. Do not offer unless injection is refused / contraindicated (contraindicated in pregnancy B3). MSM and people who have either had sex overseas or with an overseas partner should always be treated with ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ciprofloxacin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>250 mg</td>
<td>Oral</td>
<td>500 mg</td>
<td>Stat</td>
</tr>
<tr>
<td></td>
<td>500 mg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take on an empty stomach. Consumption of dairy products, iron and calcium will reduce absorption of ciprofloxacin

Management of associated emergency: consult MO [3]

Followed by doxycycline for 14 days. If adherence to doxycycline likely to be suboptimal, replace with a repeat dose of azithromycin on day 8

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Doxycycline</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scheduled Medicine Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet / capsule</td>
<td>50 mg</td>
<td>Oral</td>
<td>100 mg bd</td>
<td>14 days</td>
</tr>
<tr>
<td></td>
<td>100 mg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take with food. Do not take at same time as iron, calcium or antacids. Avoid excess exposure to sunlight - can cause photosensitivity. Take until course completed

Management of associated emergency: consult MO [2]
• If adherence to doxycycline likely to be suboptimal, replace with a repeat dose of azithromycin on **day 8**

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Azithromycin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: may be taken with or without food
Management of associated emergency: consult MO

5. **Follow up**
   - Early follow up is important if MO decides to treat as acute epididymo-orchitis and not to evacuate. Review next day
   - If the patient is not significantly improved, consult MO
   - Follow up at 1 week and 2 - 3 months [See How to do an STI check](#)

6. **Referral / consultation**
   - Consult MO on all occasions epididymo-orchitis is suspected
Low abdominal pain in female adult
Probable pelvic inflammatory disease (PID)

Recommend
- Consult MO urgently if patient is ill with board-like rigidity of abdomen - severe case
- Consider ectopic (tubal) pregnancy in all women who present with abdominal pain and / or vaginal bleeding whether or not the woman suspects she is pregnant
- Diagnosis of PID is clinical. Do not wait for pathology results. Response to treatment confirms the diagnosis
- PID must be considered in the presence of low abdominal pain in sexually active women in whom other causes have been excluded
- Ciprofloxacin is not recommended as a first line treatment and should only be used if injection is refused. Ciprofloxacin should not be used in gonorrhoea acquired overseas

Background
- Low abdominal pain due to PID may range from mild (with no other symptoms) to severe (acute abdomen)
- PID in early pregnancy may present as a threatened miscarriage (pain +/- bleeding)
- While laboratory tests may help, negative results do not exclude PID

1. May present with
   - Low abdominal pain which may be mild or severe
   - Positive chlamydia or gonorrhoea test with low abdominal pain or tenderness on bi-manual examination
   - Following instrumentation of the genital tract (termination of pregnancy, dilatation and curettage, IUCD insertion or birth)
   - Other symptoms include pain with sexual intercourse (dyspareunia), abnormal vaginal bleeding or discharge

2. Immediate management
   - In severe cases See Acute abdominal pain
     - assess HR, temperature, BP
     - if ill, with board-like rigidity of abdomen, insert largest bore IV cannula possible (14 G or 16 G)
     - consult MO urgently. MO will advise further management and arrange evacuation / hospitalisation
     - keep patient nil by mouth
     - when and if appropriate, history, examination and testing as follows will be required

3. Clinical assessment
   - Obtain patient history See How to do an STI check
   - Perform standard clinical observations
   - Perform examination See How to do an STI check
     - examine the abdomen See Acute abdominal pain
Sexually transmitted infections (STIs)

- if possible (and practitioner experienced) perform a speculum and bi-manual pelvic examination looking for discharge, bleeding, tenderness or masses
  - Test for: See STI specimen collection - blood test, female
    - urine pregnancy test on all women of child bearing age (12 - 52 years)
    - urinalysis and MSU for MC/S
    - chlamydia, gonorrhoea, trichomonas
    - also offer - syphilis, HIV, hepatitis B, hepatitis C
    - Pap smear if due See Pap smear collection
- Using the following table as a guide to the differential diagnosis of low abdominal pain in female

<table>
<thead>
<tr>
<th>Possible causes of low abdominal pain (may be multiple)</th>
<th>Clues to diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pregnancy test positive ± PV bleeding</td>
<td>If pregnant, an ultrasound will confirm or exclude a viable intrauterine pregnancy</td>
</tr>
<tr>
<td>Ectopic (tubal) pregnancy</td>
<td>PID may be the cause of threatened miscarriage in early pregnancy</td>
</tr>
<tr>
<td>Threatened / incomplete / septic (PID) miscarriage</td>
<td>See Urinary tract infection in pregnancy and See Vaginal bleeding in early pregnancy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pregnancy test negative</th>
<th>PID is likely if:</th>
</tr>
</thead>
<tbody>
<tr>
<td>PID</td>
<td>- low abdominal pain alone is present</td>
</tr>
<tr>
<td>Ovarian or pelvic abscess (PID)</td>
<td>- the woman is sexually active, of reproductive age and living in an area where gonorrhoea and chlamydia are common</td>
</tr>
<tr>
<td>Ovarian cyst or tumour</td>
<td>- pain responds quickly to appropriate antibiotic treatment</td>
</tr>
<tr>
<td>Pelvic adhesions</td>
<td>UTI is likely if:</td>
</tr>
<tr>
<td>Endometriosis</td>
<td>- urinary frequency / dysuria are present or</td>
</tr>
<tr>
<td>Uterine fibroids</td>
<td>- nitrites are positive</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>See Urinary tract infection - adult</td>
</tr>
<tr>
<td>Appendicitis</td>
<td>Appendicitis usually presents with a typical history (pain moves from umbilicus to RIF, associated low grade fever, anorexia, nausea)</td>
</tr>
<tr>
<td>Diverticulitis</td>
<td>Pelvic adhesions and endometriosis can only be diagnosed by laparoscopy</td>
</tr>
<tr>
<td></td>
<td>Uterine fibroids and diverticulitis are uncommon in women aged &lt; 40</td>
</tr>
<tr>
<td></td>
<td>See Acute abdominal pain</td>
</tr>
</tbody>
</table>

4. Management
- Consult MO on all occasions of acute abdominal pain, abnormal vaginal bleeding and / or pregnancy test is positive (consider ectopic pregnancy) or an IUCD is present
- PID must be considered in the presence of low abdominal pain in sexually active women in whom other causes have been excluded. Diagnosis of PID is clinical. Do not wait for pathology results. Response to treatment confirms the diagnosis
- Medication management
  - medicine for PID should be given to women < 25 years or at any age if at risk of STI if:
    - the woman complains of low abdominal pain and / or
    - pain is present on moving the cervix or adnexae during bimanual examination and
    - no other cause can be identified
  - an initial stat dose of azithromycin and ceftriaxone should be given followed by 14 days of doxycycline and metronidazole
Sexually transmitted infections (STIs)

- if pregnant, breastfeeding or if adherence to 2 weeks of doxycycline is likely to be suboptimal, replace doxycycline with another single dose of azithromycin 1 g on **day 8**
- ciprofloxacin and doxycycline cannot be used if pregnant or breastfeeding
- consult MO if allergic or is pregnant

- Give analgesia if required

**See Simple analgesia front fold out**

- Perform timely (immediate) contact tracing and treatment of sex partners which is essential to avoid reinfection **See Contact tracing / partner notification**
- Provide education and prevention and condoms **See How to do an STI check**
  - at first presentation, explain the diagnosis, the importance of adherence to medicines and the need for early follow up for patient and partner(s)
  - advise to abstain from sex until course of treatment is finished and 3 days after partner has been treated

- Treat with azithromycin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Azithromycin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: Tablet</td>
<td>Strength: 500 mg</td>
<td>Route of administration: Oral</td>
</tr>
</tbody>
</table>

**Schedule 4 Azithromycin DTP**

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: may be taken with or without food

Management of associated emergency: consult MO

[7]

- And ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ceftriaxone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form: Vial</td>
<td>Strength: 1 g (dilute in 3.5 mL 1% lignocaine) = 4 mL solution</td>
<td>Route of administration: IM deep intragluteal injection</td>
</tr>
</tbody>
</table>

**Schedule 4 Ceftriaxone DTP**

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vial</td>
<td>1 g (dilute in 3.5 mL 1% lignocaine) = 4 mL solution</td>
<td>IM deep intragluteal injection</td>
<td>500 mg (2mL)</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: See Anaphylaxis and severe allergic reaction

[7]
• Ciprofloxacin is not recommended as a first line treatment. Do not offer unless injection is refused / contraindicated (contraindicated in pregnancy B3). People who have either had sex overseas or with an overseas partner should always be treated with ceftriaxone

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Ciprofloxacin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>250 mg 500 mg</td>
<td>Oral</td>
<td>500 mg</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take on an empty stomach. Consumption of dairy products, iron or calcium will reduce absorption of ciprofloxacin.

Management of associated emergency: consult MO

• The following day commence treatment with metronidazole. If pregnant discuss need for treatment with MO

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Metronidazole</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicine Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>200 mg 400 mg</td>
<td>Oral</td>
<td>400 mg bd</td>
<td>14 days</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: avoid alcohol while taking and for 24 hours after taking this medicine. Take with or immediately after food. Take until course completed.

Management of associated emergency: consult MO

• And doxycycline (contraindicated in pregnancy B3). If pregnant, breastfeeding or adherence to 14 days of doxycycline is likely to be suboptimal replace doxycycline with a repeat dose of azithromycin on day 8

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Doxycycline</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet / capsule</td>
<td>50 mg 100 mg</td>
<td>Oral</td>
<td>100 mg bd</td>
<td>14 days</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: take with food. Do not take at same time as iron, calcium or antacids. Avoid excess exposure to sunlight - can cause photosensitivity. Take until course completed.

Management of associated emergency: consult MO
Sexually transmitted infections (STIs)

- If adherence to doxycycline likely to be suboptimal replace with a repeat dose of azithromycin on **day 8**

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Azithromycin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP

Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: may be taken with or without food

Management of associated emergency: consult MO

5. **Follow up**
   - Follow up at 1 - 2 days
     - provide education and counselling:
       - explain pelvic infection and its complications
       - give general information on the transmission and prevention of STI and HIV
       - discuss safe sex practises and provide condoms
       - encourage compliance with medication to guard against risk of complications
       - complete contact tracing / partner notification
       - stress the importance of follow up
     - clinical assessment:
       - if medication compliant, should be significant improvement within 48 hours
       - if no improvement or if worse, consult MO (IV antibiotics may be required, alternatively PID may not be the cause)
       - if not already done, offer blood tests for syphilis, HIV, hepatitis B, hepatitis C See How to do an STI check
       - advise to abstain from sex until course of treatment is finished and 3 days after partner has been treated
   - Follow up within 2 weeks - check:
     - treatment adherence and symptom resolution. If pain not resolved consult MO
     - contacts have been tested and treated
     - test results have been given
     - if treatment completed and symptoms resolved a test of cure is not needed
   - Follow up at 2 - 3 months
     - a repeat self collected swab or urine PCR test for chlamydia, gonorrhoea, trichomonas should be collected to check if the patient has been reinfected
     - a follow up test for HIV should be offered to cover the ‘window period’ See HIV infection

6. **Referral / consultation**
   - Consult MO on all occasions of acute abdominal pain, abnormal vaginal bleeding and / or pregnancy test is positive (consider ectopic pregnancy) or an IUCD is present
   - If pain recurs, reassess for PID. If reinfection is unlikely, referral may be needed for pelvic ultrasound and laparoscopy to assess for ovarian masses, adhesions and endometriosis
Sexually transmitted infections (STIs)

**Genital sores / ulcers adult**
Herpes, syphilis, donovanosis

**Recommend**
- Always consult the Public Health Nurse, Syphilis Register on ☎️ 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- If syphilis or donovanosis are likely or cannot be excluded, give treatment to cover both infections

**Background**
- The diagnosis of genital sores can be difficult and is based on a combination of clinical symptoms and signs, laboratory tests and response to treatment
- Herpes is the most common cause of genital ulcers
- Scabies and candidiasis may cause genital sores but other signs of these infections should be present
- There is currently a resurgence of syphilis in remote populations and a significant epidemic is continuing among non-Aboriginal and Torres Strait Islander men who have sex with men

**Related topics**
- Genital warts
- Syphilis

---

### 1. May present with
- Lumps in the genital skin / mucosa, genital warts, molluscum, syphilis
- Ulceration (where the skin is broken or inflamed), herpes, syphilis, donovanosis

<table>
<thead>
<tr>
<th>Typical sores</th>
<th>Genital warts</th>
<th>Genital herpes</th>
<th>Syphilis</th>
<th>Donovanosis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Solid lumps, may be smooth or warty, asymmetrical, no ulceration and no inflammation of surrounding skin</td>
<td>Painful skin splits or cluster of blisters, which break down to form small shallow ulcers, with irregular borders</td>
<td><strong>Primary</strong> (chancre) one or few sores, 1 - 2 cm with well defined edges</td>
<td>Commences as one or more sores or nodules and may join to form large destructive ulcers which are beefy red and bleed easily</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Secondary</strong> (condylomata lata) multiple, often peri-anal skin, symmetrical and flat</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Painful?</th>
<th>No</th>
<th>Painful or itchy</th>
<th>Usually painless</th>
<th>Usually painless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enlarged lymph nodes?</td>
<td>No</td>
<td>Yes / No</td>
<td>Yes / No</td>
<td>No</td>
</tr>
<tr>
<td>Heals without treatment?</td>
<td>No</td>
<td>Yes within 1 - 2 weeks but usually recurs</td>
<td>Yes primary sores within 2 - 3 weeks, secondary sores may come and go over 12 months</td>
<td>No, continues to become larger over time</td>
</tr>
<tr>
<td>Treatment</td>
<td>Genital warts</td>
<td>Genital herpes</td>
<td>Syphilis</td>
<td>Donovanosis</td>
</tr>
<tr>
<td></td>
<td>Podophyllotoxin</td>
<td>Excluding syphilis before treating</td>
<td>Valaciclovir</td>
<td>Always commence treatment for both on clinical presentation with</td>
</tr>
<tr>
<td></td>
<td>See Genital warts</td>
<td></td>
<td></td>
<td>Bicillin LA® for syphilis and azithromycin for donovanosis</td>
</tr>
</tbody>
</table>
2. **Immediate management**  Not applicable

3. **Clinical assessment**
   - **Obtain patient history** [See How to do an STI check]
     - obtain a full history including previous episodes of genital sores and whether the current partner has symptoms or signs of an STI
     - ask about other symptoms: fever, headache, muscle aches and pains, rashes
   - **Perform standard clinical observations**
   - **Perform examination** [See How to do an STI check]
     - examine the mouth and skin (including palms of hands, soles of feet) for sores, ulcers, rashes and hair loss
     - examine the genital area for discharge, nodules, sores and ulcers, and the armpits, neck and groin for enlarged nodes
   - **Test for:** [See STI specimen collection - blood test, male, female]
     - urine pregnancy test in all women of childbearing age (12 - 52 years)
     - chlamydia, gonorrhoea, trichomonas. For women - if sores are multiple or painful do not do a speculum examination but obtain low vaginal swabs or first catch urine
     - blood for syphilis serology
     - also offer HIV, hepatitis B, hepatitis C
     - swab of any discharge for MC/S
     - dry swab syphilis, donovanosis and herpes PCR

Note: Herpes serology is not useful in this context and should not be taken

4. **Management**
   - [See Management guidelines for genital ulcer disease (GUD) flowchart]
   - The diagnosis of genital ulcers is based on a combination of clinical findings, laboratory tests and response to treatment. Test results for herpes and donovanosis may be negative
Sexually transmitted infections (STIs)

Possible diagnosis

• Painless ulcers or beefy red / crusty sores, smelly discharge, bleeds easily: consider donovanosis
• Raised, firm, painless, punched out: consider syphilitic chancre
• Painful or itchy multiple blisters or shallow ulcers: consider herpes especially if recurrent

Note: Remember these infections may coexist

Offer a full STI check
See How to do an STI check

Additional testing for genital ulcer disease

• take swab for syphilis, donovanosis and herpes PCR

GUD Syndromic Management (treat immediately do not wait for results)

• Benzathine penicillin IM (LA Bicillin® 1.8 gm) and azithromycin 1 gm orally
• If clinically suggestive of herpes discuss with Syphilis Register or Sexual Health Unit and treat

Write on pathology form
Syphilis, donovanosis and herpes PCR

Clean the lesion with water or sodium chloride 0.9% (not antiseptic) then using a sterile cotton tipped dry swab (e.g. PCR swab), roll the swab firmly around the edge and across the lesion, place in a dry sterile container

Contact trace sexual partners
Notify Syphilis Register 1800 032 238

Review patient in one week - check lesion, all laboratory results and that contacts have been traced and treated
Sexually transmitted infections (STIs)

- Complete the genital ulcer notification report and fax / scan / email immediately to the Syphilis Register 07 4031 1440 or North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- Consult Syphilis Register or specialist MO regarding the likely diagnosis and ongoing management
- Medication management at time of presentation
  - check allergies and observe the patient taking oral medicine

### Treatment

<table>
<thead>
<tr>
<th>Lesions not typical of herpes and syphilis or donovanosis is likely or if unsure</th>
<th>Treat for both syphilis and donovanosis</th>
<th>Benzatine penicillin (LA Bicillin®) Azithromycin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesions typical of genital herpes</td>
<td>Consult MO before starting treatment if pregnant Keep lesions dry with salt baths and topical Betadine® solution</td>
<td>Always treat with valaciclovir if a primary (first) or moderately severe episode</td>
</tr>
<tr>
<td>Donovanosis</td>
<td>Treat for donovanosis</td>
<td>Azithromycin</td>
</tr>
</tbody>
</table>

- Perform timely (immediate) contact tracing and treatment of sex partners which is essential to avoid reinfection See Contact tracing / partner notification
  - syphilis - trace, treat and investigate sexual contacts (usually up to 12 months) according to the advice of the Syphilis Register
  - herpes - contact tracing is not necessary, however partner(s) may need to be counselled regarding the infection
  - donovanosis - contacts should be examined and have a complete STI check
- Provide education and prevention and condoms See How to do an STI check
- For genital herpes treat with valaciclovir. If pregnant discuss need for treatment with MO (category B3)

### Schedule

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4 Valaciclovir</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>Adult 500 mg bd Dose should be reduced to 500 mg once daily if GFR &lt; 15 mL / min</td>
<td>5 days</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: drink plenty of water during treatment. Take until course completed Management of associated emergency: consult MO
For syphilis: If allergic to penicillin consult the Syphilis Register 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au

**Sexually transmitted infections (STIs)**

- For syphilis: If allergic to penicillin consult the Syphilis Register 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au

### Schedule 4

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Benzathine penicillin (Bicillin LA®)</th>
<th>DTP IHW / SM R&amp;IP / IPAP / SRH</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Schedule 4 Benzathine penicillin (Bicillin LA®)</td>
<td>DTP IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

**Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP**

**Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed**

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable syringe</td>
<td>900 mg</td>
<td>IM</td>
<td>Adult 1.8 g (give in 2 separate injections)</td>
<td>Stat</td>
</tr>
</tbody>
</table>

**Provide Consumer Medicine Information**

**Management of associated emergency:** See Anaphylaxis and severe allergic reaction

**Administration tips - as per patient preference:**
- apply EMLA® cream to the injection site 30 - 60 minutes prior to injection and allow medicine to warm up to room temperature or
- allow medicine to warm up to room temperature, apply pressure with thumb (to the exact injection site) 30 seconds prior to the injection, use 21 G needle and deliver injection very slowly (2 minutes)

**Note:** Talk to patient about Jarisch-herxheimer reaction which is common and may occur with treatment of early syphilis. Symptoms may occur 4 to 6 hours after treatment and include fever, chills, headache, hypotension and flare up of lesions lasting 12-14 hours [12]. Can normally be managed with paracetamol for 24 hours. May cause preterm labour, but this should not prevent or delay treatment [15] because syphilis can result in miscarriage, stillbirth and congenital syphilis

- And for donovanosis give azithromycin

### Schedule 4

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Azithromycin</th>
<th>DTP IHW / SM R&amp;IP / IPAP / SRH</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Azithromycin</td>
<td>DTP IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

**Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP**

**Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed**

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

If a diagnosis of donovanosis is made continue azithromycin treatment weekly for 3 more doses (total 4 doses) or until completely healed

**Provide Consumer Medicine Information:** may be taken with or without food

**Management of associated emergency:** consult MO

---

**Note:** Talk to patient about Jarisch-herxheimer reaction which is common and may occur with treatment of early syphilis. Symptoms may occur 4 to 6 hours after treatment and include fever, chills, headache, hypotension and flare up of lesions lasting 12-14 hours [12]. Can normally be managed with paracetamol for 24 hours. May cause preterm labour, but this should not prevent or delay treatment [15] because syphilis can result in miscarriage, stillbirth and congenital syphilis

- And for donovanosis give azithromycin

---

**Note:** Talk to patient about Jarisch-herxheimer reaction which is common and may occur with treatment of early syphilis. Symptoms may occur 4 to 6 hours after treatment and include fever, chills, headache, hypotension and flare up of lesions lasting 12-14 hours [12]. Can normally be managed with paracetamol for 24 hours. May cause preterm labour, but this should not prevent or delay treatment [15] because syphilis can result in miscarriage, stillbirth and congenital syphilis

- And for donovanosis give azithromycin
5. Follow up

**Follow up guidelines for genital ulcer disease (GUD) flowchart**
(including donovanosis)

Review patient in one week - check lesion and all laboratory results

- Clinically suggestive of syphilis and/or syphilis test returns positive
  - Seek advice re further management from Syphilis Register or local Sexual Health Unit

- Clinically suggestive of donovanosis and/or donovanosis test returns positive
  - Azithromycin 1 gm once a week for 3 more weeks (total 4 weeks) or azithromycin 500 mg daily for 7 days only
  - Review ulcer each week
  - Examination at 4 weeks to determine further management
  - If no response at 4 weeks MO review is required
  - A biopsy to investigate other causes may be needed

- Clinically suggestive of herpes and/or HSV test returns positive
  - Treat primary episode and significant re-current episodes with anti-viral medications
  - Refer to MO - consider suppressive treatment if multiple recurrences

- Review at 3 to 6 and at 12 months - include syphilis serology and PCR for chlamydia, gonorrhoea

**Note:** STIs in children, women who are pregnant or breastfeeding and in patients with a history of allergy to the antibiotic, require specialist management. Please contact your local Sexual Health Unit if you have any questions

- Check:
  - patient was compliant with treatment and symptoms and signs have resolved
  - contacts have been tested and treated as appropriate
  - test results have been given
  - if an STI check including an HIV test is offered (if not done at initial visit)

- Genital herpes:
  - follow up within 1 week to check symptoms have resolved
  - partners should have an STI check and counselling, but do not need to be treated
  - refer to MO if symptoms have not resolved within 1 week or the patient has recurrent episodes. Further medicine may be indicated

- Primary, secondary or early latent syphilis (syphilis of less than 2 years duration):
  - follow up at 2 weeks to ensure symptoms have resolved and contacts have been tested and treated
  - follow up syphilis serology should be taken between 3 and 6 months and again at 12 months
  - a 2 titre or four fold fall in syphilis serology (e.g. 1 in 64 to 1 in 16) by 6 months indicates adequate response to treatment
  - if the syphilis serology has not fallen by 2 titres within 6 months call the Public Health Nurse, Syphilis Register ② 1800 032 238
  - consult MO if symptoms have not resolved or if patient is pregnant
Sexually transmitted infections (STIs)

Donovanosis:
- follow up weekly for 4 to 6 weeks to continue treatment and ensure lesions are responding to treatment
- check contacts have been examined and treated
- consult MO if sores have not significantly responded to treatment within 4 weeks (a snip or punch biopsy should be taken to exclude other causes)
- consult MO if sores have not healed by 6 weeks

Follow up at 2 - 3 months:
- offer a full STI check including syphilis serology and HIV test

6. Referral / consultation
Consult MO as above if allergic, if pregnant or if symptoms do not respond to treatment

Syphilis adult
Reactive syphilis

Recommend
- Contact the Public Health Nurse for advice on diagnosis and management. Syphilis Register ☎ 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- Treatment of syphilis in pregnancy or newborn, contact Syphilis Register for immediate management
- If the time between treatments exceeds 10 days contact the Syphilis Register. Patient may need to re-commence treatment

Background
- Untreated syphilis can be transmitted to sexual partners up to two years after infection and to babies during pregnancy (by blood), up to nine years after infection in mother
- Infection of babies in pregnancy can lead to miscarriage, neonatal death or congenital syphilis
- To interpret syphilis serology the current RPR result and previous RPR / syphilis serology results and the treatment history is needed

Related topics
- Genital sores / ulcers STI specimen collection - blood test, male, female
- Genital warts How to do an STI check

1. May present with
- No symptoms:
  - no symptoms but with reactive syphilis serology - latent syphilis defined by 2 specific tests being reactive (EIA / TPPA / TPHA / FTA). The nonspecific test (RPR / VDRL) may be reactive or non-reactive. Latent syphilis is further defined as early latent (< 2 years) or late latent (> 2 years)
- Symptomatic:
  - primary syphilis may present with:
    - one or a few sores (chancre), which are usually painless, 1 - 2 cm in diameter and have a well defined edge
    - lymph nodes in the groin may be enlarged
    - if untreated, sores will heal by themselves within 3 to 4 weeks
- secondary syphilis may present with any of the following:
  - genital sores (condylomata lata) that are typically multiple, painless, on genital and / or perianal skin and are often symmetrical
  - rashes on the palms of the hands or soles of the feet or may be generalised
  - fever, headache, muscle aches and pains, hair loss and swollen glands
  - if untreated, symptoms may come and go over a period of 12 months and sometimes up to 2 years
- late (tertiary) syphilis:
  - is rare but should be excluded in anyone presenting with neurological signs who has positive syphilis serology and no history of treatment
  - management should always be in consultation with a specialist MO

Syphilis
There are 2 types of tests, specific and non-specific:
• Specific tests (EIA, TPPA, TPHA, FTA)
  - are either reactive or non reactive
  - if 2 specific tests are reactive, this indicates the patient has acquired syphilis but does not indicate when or whether the patient has been treated
  - specific tests will remain reactive for life irrespective of treatment
• Non specific tests (RPR, VDRL)
  - can be assessed quantitatively - non reactive or reactive at a serial dilution (titre e.g. 1:1, 1:2, 1:4, 1:8, 1:16 etc.)
• The RPR usually rises in early infection and falls, with or without treatment, over a period of 2 years
• In order to interpret an RPR result you need to know:
  - the current RPR result and
  - the previous RPR / syphilis serology results and
  - the treatment history
• Adequate response to treatment is usually indicated by a 2 titre or four fold fall within 3 to 6 months (e.g. 1:128 to 1:32), however this will depend on the stage of syphilis and the RPR titre at the time of treatment
• Re-infection with syphilis:
  - a rise in the RPR titre - at least a 2 titre or four fold rise (e.g. 1:4 to 1:16) is likely to indicate a new infection requiring treatment

2. Immediate management
   Not applicable

3. Clinical assessment
• Obtain patient history See How to do an STI check
  - obtain a full history including whether the current partner has symptoms of an STI
  - check patient’s clinical records (and the Syphilis Register) for previous syphilis serology results and treatment
  - ask about other symptoms: fever, headache, muscle aches and pains, rashes
• Perform standard clinical observations
• Perform examination See How to do an STI check
  - examine the genital area for discharge, nodules, sores and ulcers as well as the armpits, neck and groin for enlarged nodes
  - examine for rash on face, palms, soles of feet and for patches of hair loss
  - examine mouth for mucous patches
• Test for: See STI specimen collection - blood test, male, female
  - urine pregnancy test on all women of childbearing age (12 - 52 years)
  - syphilis serology if not done
Sexually transmitted infections (STIs)

- chlamydia, gonorrhoea and trichomonas
- HIV, hepatitis B, hepatitis C
- if genital sores are present also collect a swab for syphilis, donovanosis and herpes PCR See Genital sores / ulcers

4. Management

- Always contact the Syphilis Register for advice 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- Medication management
  - if allergic to penicillin consult the Syphilis Register
  - primary and secondary syphilis
    - if genital sores are present and lesions are not typical of herpes and syphilis or donovanosis are likely, treat for both syphilis and donovanosis as it is difficult to distinguish syphilis from early donovanosis on clinical examination. If donovanosis is suspected do appropriate investigation prior to 4 week treatment
    - if treatment is commenced more than 2 weeks after testing, the serology may have risen. Repeat the syphilis serology on the first day of treatment (baseline RPR)
  - latent syphilis
    - latent syphilis (early latent or late latent) if no symptoms but syphilis serology is reactive and there is no previous history of adequate treatment (check medical record and the Syphilis Register)

Note: Reactive syphilis serology is defined by 2 specific tests being reactive (EIA / TPPA / TPHA / FTA), the RPR may be reactive or non reactive

- early latent syphilis (less than 2 years duration) treat with LA Bicillin® 1.8 g (first line) as a single treatment
- late latent syphilis (more than 2 years or unknown duration) treat with LA Bicillin® 1.8 g once weekly for 3 weeks

- Perform timely (immediate) contact tracing and treatment of sex partners which is essential to avoid reinfection See Contact tracing / partner notification
  - contacts of primary, secondary and early latent syphilis (syphilis of less than 2 years duration)
    - ensure confidentiality. Obtain a list of the names of sexual contacts up to 12 months (if practical)
    - contacts should have an STI check, including blood for syphilis serology
    - treat on the spot with Bicillin LA® 1.8 g and azithromycin
  - contacts of late latent syphilis (syphilis of more than 2 years duration)
    - should have an STI check, including blood for syphilis serology
    - may or may not need treatment. Discuss with Syphilis Register

- Provide education and prevention and condoms See How to do an STI check
  - advise not to have sex until lesions have healed and sexual contacts have been treated (as appropriate)
Sexually transmitted infections (STIs)

- Early latent syphilis (less than 2 years duration) treat with LA Bicillin® 1.8 g (first line) as a single treatment

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Benzathine penicillin (Bicillin LA®)</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable syringe</td>
<td>900 mg</td>
<td>IM</td>
<td>Adult 1.8 g (give in 2 separate injections)</td>
<td>Stat</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information

Management of associated emergency: See Anaphylaxis and severe allergic reaction

Administration tips - as per patient preference:
- apply EMLA® cream to the injection site 30 - 60 minutes prior to injection and allow medicine to warm up to room temperature or
- allow medicine to warm up to room temperature, apply pressure with thumb (to the exact injection site) 30 seconds prior to the injection, use 21 G needle and deliver injection very slowly (2 minutes)

Note: Talk to patient about Jarisch-herxheimer reaction which is common and may occur with treatment of early syphilis. Symptoms may occur 4 to 6 hours after treatment and include fever, chills, headache, hypotension and flare up of lesions lasting 12 - 14 hours [12] Can normally be managed with paracetamol for 24 hours. May cause preterm labour, but this should not prevent or delay treatment [15] because syphilis can result in miscarriage, stillbirth and congenital syphilis

- And if treating for donovanosis give azithromycin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Azithromycin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>500 mg</td>
<td>Oral</td>
<td>1 g</td>
<td>Stat</td>
</tr>
</tbody>
</table>

If a diagnosis of donovanosis is made continue azithromycin treatment weekly for 3 more doses (total 4 doses) or until completely healed

Provide Consumer Medicine Information: may be taken with or without food

Management of associated emergency: consult MO
- Late latent syphilis (more than 2 years or unknown duration) treat with LA Bicillin® 1.8 g once weekly for 3 weeks

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Benzathine penicillin (Bicillin LA®)</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
</tr>
</tbody>
</table>

Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP
Scheduled Medicines Rural & Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disposable syringe</td>
<td>900 mg</td>
<td>IM</td>
<td>Adult 1.8 g (give in 2 separate injections)</td>
<td>Once weekly for 3 weeks</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: complete course
Management of associated emergency: See Anaphylaxis and severe allergic reaction

Administration tips - as per patient preference:
- apply EMLA® cream to the injection site 30 - 60 minutes prior to injection and allow medicine to warm up to room temperature or
- allow medicine to warm up to room temperature, apply pressure with thumb (to the exact injection site) 30 seconds prior to the injection, use 21 G needle and deliver injection very slowly (2 minutes)

5. Follow up

Follow up 1 - 2 weeks to check:
- patient was compliant with treatment and symptoms have resolved
- contacts have been tested and treated
- test results have been given
- an STI check and HIV test are offered (if not done at initial visit)
- consult MO if symptoms have not resolved

Follow up at 3 - 6 months of syphilis of less than 2 years duration (primary, secondary, early latent):
- repeat RPR
- a 2 titre or fourfold fall in RPR by 6 months indicates adequate response to treatment
- if the RPR has not fallen by 2 titres within 6 months consult for advice, Public Health Nurse, Syphilis Register ☏ 1800 032 238 or email North-Qld-Syphilis-Surveillance-Centre@health.qld.gov.au
- offer STI check including testing for chlamydia, gonorrhoea and HIV See How to do an STI check and See STI specimen collection - blood test, male, female

Follow up at 12 months:
- repeat RPR
- offer STI check

Treatment of syphilis in pregnancy:
- syphilis in pregnancy can result in miscarriage, neonatal death and congenital syphilis
- congenital syphilis can be prevented through appropriate testing and management
- testing for syphilis should occur at first antenatal visit, 28, 34 weeks and at birth
- treatment of pregnant women and their contacts should be carried out urgently and in consultation with a specialist MO and the Syphilis Register
Sexually transmitted infections (STIs)

- diagnosis and treatment is the same as for non pregnant women, although more frequent follow up may be needed
- treatment is adequate if completed at least 30 days prior to delivery and there is a documented 2 titre or fourfold fall in RPR by the time of delivery

6. Referral / consultation

 Always consult an MO
 Management of the babies of women needing treatment in pregnancy should be done in consultation with a specialist MO

Genital warts adult
Human papilloma virus (HPV)

Recommend
❖ The diagnosis of genital warts is clinical. Syphilis must be excluded

Background
❖ Some strains of HPV cause genital warts while others are associated with abnormal Pap smears
❖ HPV vaccination in Australia has resulted in a massive decrease in the incidence of genital warts and should also lead to a reduction in high grade squamous intrepid epithelial lesions and ultimately of cervical cancer

Related topics
 Genital sores / ulcers
Health check - women
How to do an STI check
STI specimen collection - blood test, male, female
Contact tracing / partner notification

1. May present with
• Painless, solid lumps on genital skin. Warts may be papillomatous, pedunculated or sessile growths, with either a smooth or rough surface, are usually the same colour as surrounding skin and do not cause ulceration or inflammation of the skin
• HPV changes detected on Pap smear

2. Immediate management Not applicable

3. Clinical assessment
• Obtain patient history including whether partner has genital warts or other symptoms of an STI
• Perform standard clinical observations
• Perform an examination See How to do an STI check
  - examine the genital area for discharge, nodules, sores and ulcers and the groin for enlarged nodes
  - exclude normal anatomical variants and other causes of lumps before treating
• Test for: See STI specimen collection
  - urine pregnancy test for all women of childbearing age (12 - 52 years)
  - chlamydia, gonorrhoea, trichomona
  - also offer test for syphilis, HIV, hepatitis C, hepatitis B
  - a Pap smear should be taken, if due, in accordance with the NHMRC guidelines (more frequent screening is not necessary because of genital warts)
4. Management

- The diagnosis of genital warts is clinical. Syphilis must be excluded
  See Genital sores / ulcers
- Medication management
  - the following treatment should not be used in pregnancy or breastfeeding
  - treat with local application of podophyllotoxin cream. Offer to apply for patient if does not have privacy or flexibility to self apply
  - if the warts are extensive or the patient is pregnant, consult MO
  - a nurse or MO trained in the use of cryotherapy may apply liquid nitrogen or nitrous oxide at weekly intervals until wart resolution
- Perform timely (immediate) contact tracing to avoid reinfection
  See Contact tracing / partner notification
  - it is not necessary to contact trace casual partners
  - female partners of males with genital warts should have a Pap smear if due
- Provide education on genital warts and prevention See How to do an STI check
  - assure the patient that his / her confidentiality will be protected
  - give information about transmission, symptoms and complications
  - discuss safe sex practises and provide condoms
- Treat with podophyllotoxin

<table>
<thead>
<tr>
<th>Schedule</th>
<th>4</th>
<th>Podophyllotoxin</th>
<th>DTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHW / SM R&amp;IP / IPAP / SRH</td>
<td>Authorised Indigenous Health Worker and Isolated Practice Area Paramedic must consult MO / NP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduled Medicines Rural &amp; Isolated Practice Registered Nurse and Sexual and Reproductive Health Program Authorised Registered Nurse may proceed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Form</th>
<th>Strength</th>
<th>Route of administration</th>
<th>Recommended dosage</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cream</td>
<td>0.15%</td>
<td>Topical</td>
<td>Applied to each wart bd</td>
<td>3 days Followed by 4 days with no treatment Repeat the cycle 4 - 6 times until the warts disappear 4 - 6 week treatment period</td>
</tr>
</tbody>
</table>

Provide Consumer Medicine Information: contraindicated in pregnancy and breastfeeding. During treatment, women should use birth control. Avoid contact with surrounding skin - can cause burns and ulcerations. Complete course

Management of associated emergency: consult MO

5. Follow up

- For application of podophyllotoxin if required
- All women with genital warts or partners of men with genital warts should have regular Pap smears in accordance with NHMRC guidelines
- Women with HPV detected on Pap smear should be followed up according to NHMRC guidelines See Health check - women
- Follow up is important to check:
  - warts respond to treatment
  - Pap smear is taken if due
  - test results have been given
  - an STI check and HIV test are offered (if not done at initial visit)
  - regular partner(s) have had an STI check
6. **Referral / consultation**

Consult MO or specialist if lesions are atypical or do not respond to treatment.

**HIV infection** adult

**Human immunodeficiency virus**

---

**Recommend**

- **Any positive result** on a pathology test must be discussed with a specialist MO before discussing with a patient.

**Background**

- HIV positive Aboriginal and Torres Strait Islanders more frequently report heterosexual transmission and include a higher proportion of women than non-Indigenous HIV positive Australians.
- The presence of other STI significantly increases the risk of both acquiring and passing on HIV, if exposed.
- HIV can be transmitted by: exchange of body fluids through unprotected anal, vaginal (and very rarely through oral) sex, sharing blood through unsafe injecting practices (injecting drug use, tattooing, body piercing) and from mother to baby during pregnancy, at delivery or through breastfeeding.
- HIV post exposure prophylaxis (PEP) is available in selected cases in the event of occupational and non-occupational exposure to HIV. **See under Management**
- Antiviral medicine can improve the quality and length of life, as well as significantly reducing transmission to babies during pregnancy (from 30% to < 1%). Antiviral medicine also reduces the risk of sexual transmission.

---

**Related topics**

- Epididymo-orchitis
- Low abdominal pain in female - adult
- Genital sores / ulcers
- Syphilis
- STI specimen collection - blood test, male, female
- Antenatal care
- Health check - women

---

1. **May present with**

- Asymptomatic infection
- Seroconversion illness - flu like illness can occur 2 - 6 weeks after infection and may present with any of the following: fever, headache, rashes, sore throat, mouth ulcers, muscle aches and pains, enlarged lymph nodes.
- Any infection which looks unusual, is worse or lasts longer than usual, does not get better with usual treatment or keeps coming back e.g.:
  - shingles
  - severe or unusual herpes or other skin infections
  - chronic diarrhoea, chronic weight loss
  - generalised enlarged lymph nodes
  - severe recurrent candidiasis in women, oral candidiasis in adults
- AIDS defining illness e.g. tuberculosis, opportunistic infections, some malignancies

2. **Immediate management**

- Consult MO
3. **Clinical assessment**
   - Obtain patient history [See How to do an STI check](#).
   - Perform standard clinical observations.
   - Perform an examination - STI check should be done when testing for HIV.
   - Test for: [See STI specimen collection](#). An HIV test should be offered to anyone who:
     - has an STI or is a partner of someone with an STI
     - is pregnant
     - requests an STI check or HIV test
     - is at risk e.g. history of unsafe injecting practices, of unprotected male to male sex or unprotected heterosexual sex particularly with someone from an area where HIV is common e.g. PNG, SE Asia, or identifies as a "sister girl", or has been identified on contact tracing
     - presents with an illness that is typical of HIV, AIDS or of a suppressed immune system e.g. tuberculosis
   - Support is available to the patient if the test is positive
     - HIV testing is voluntary and only done after gaining the patient's informed verbal consent. It is important that the patient understands:
       - the test is specifically for HIV infection
       - what a negative and a positive result means [See HIV test results](#).
       - privacy and confidentiality is assured - coding may help protect confidentiality (first two letters of surname followed by first two letters of first name, the date of birth and gender)
       - they will be given the result in person
       - when they should return to the clinic for their result
   - The following information in varying degrees of detail is also important:
     - what HIV is, how it is transmitted and prevented (discuss condom use)
     - the HIV test result can take up to 2 weeks
     - the HIV window period is 6 weeks as the HIV test is now a fourth generation test which tests for HIV antibody and HIV antigen. The window period may be longer if infection has occurred but seroconversion is delayed, which sometimes occurs after post exposure prophylaxis treatment or if hepatitis C seroconversion is also taking place
     - anti retroviral treatment is recommended to keep patients well, to reduce transmission to babies during pregnancy and to reduce transmission to sexual partners
   - HIV test results:
     - privacy and confidentiality must be maintained at all times. See coding example above to help protect patient confidentiality
     - a negative HIV result means
       - the patient has not been infected with HIV
       - if they have put themselves at risk in the previous 6 weeks, the test should be repeated to cover the window period
       - a negative test result does not prevent someone coming into contact with HIV in the future
     - false positive test (or indeterminate) results can occur
     - any positive (reactive) result needs to be discussed with a specialist MO to assist interpretation before discussing the result with the patient
     - a positive HIV result means
       - the patient has been infected with HIV
       - always consult a specialist MO **before** giving an HIV positive result to a patient
Sexually transmitted infections (STIs)

• In far north Queensland:
  - if the HIV test result is positive, the pathology service will notify the Director of Sexual Health and / or the Infectious Disease Physician (HIV specialist). The specialist will contact the MO whose name appears on the pathology form. The MO will make contact with the primary health care centre staff member who saw the patient for further information and to discuss the result
  
• The following issues need discussion with the specialist prior to seeing the patient
  How to:
  - give the result to the patient
  - provide initial and ongoing management and support to the patient
  - carry out contact tracing

Note: very little information is likely to be taken in by the patient after first hearing of their positive HIV result. Early follow up visits and medical review will be important

• When giving someone a positive result:
  - ensure privacy and confidentiality
  - make sure the patient wishes to get the result at that time
  - explain the result simply - it means they have the HIV virus in their blood
  - discuss the patient's understanding of the result and correct any misinformation
  - give them time to ask questions
  - be positive - the outlook for HIV infection has improved vastly with new treatments
  - discuss who knows their result and whom they wish to tell
  - reassure them about the confidentiality of the result
  - explain what will happen next - further testing and early medical review
  - arrange follow up in the next day or two to see how they are
  - discuss sexual practises and stress the importance of safe sex practises to ensure that the patient does not pass HIV to his / her sexual partners

See Resources - HIV Transmission and the Law

- if an injecting drug user, discuss safe injecting (including not sharing equipment) and how to access clean injecting equipment
- at the next consultation, discuss prevention further and the need for contact tracing

4. Management - HIV post exposure prophylaxis (PEP)

• Contact the Director of Sexual Health or Infectious Diseases Physician, the local sexual health team or an MO, to discuss HIV PEP if a patient presents with:
  - needle stick injury from a known HIV positive source or a PNG national patient who is ill
  - sexual exposure, in particular sexual assault by multiple assailants of unknown HIV status or in the event of a sexual assault by a PNG national person, or receptive anal intercourse by MSM without a condom

• Very good treatments for HIV are now available that have minimal side effects. A course of medicine is given in the event of a likely exposure to HIV
• Seek expert advice early as PEP is most effective immediately following possible exposure. See Queensland Health Infection Control Guideline policy for further details www.health.qld.gov.au/chrisp/default.asp

5. Follow up
  As outlined

6. Referral / consultation
  HIV positive people should be managed in consultation with a specialist MO
  For more information go to: www.health.qld.gov.au/sexhealth/default.asp
Resources

- HIV Transmission and the Law

References

Rape and sexual assault

Rape and sexual assault adult / child

Recommend
- It is critical to document the precise history the patient gives and the physical findings accurately, with objectivity, specificity and clarity [1]. Include a visual record on a body diagram and / or photograph if possible (with consent)
- Always perform thorough examination even if legal action is not pending as the patient may change their decision at a later date
- In order for a health professional to examine a victim / survivor following sexual assault, it is preferable:
  - to be the same gender as the complainant where possible
  - to have a chaperone who is not a relative or support person of the complainant where possible
  - be trained and experienced in normal genital examination including internal vaginal and anal examination
  - be familiar with injury documentation and forensic specimen collection
- If evacuation is required for medical / surgical treatment, forensic examination will be done after patient has been stabilised in the referring facility
- For complainants under 14 years of age seek phone advice from a specialist Paediatrician before proceeding
- If there is no appropriate health professional to provide the service the patient should be evacuated
- The patient may prefer to remain in the community to gain support from family or may wish to leave for safety

Background
- Forensic Nurse Examiner may be accepted by the court as an expert witness. This is decided on a case by case basis
- Any person in Queensland, who participates in a sexual act with a person under 16 years of age (the age of consent) or 18 years for anal intercourse, commits a crime under the *Criminal Code Act 1899*. This includes young people who themselves may be under these ages. See Queensland Health Child Safety Unit Fact Sheets at [http://qheps.health.qld.gov.au/csufactsheets.htm](http://qheps.health.qld.gov.au/csufactsheets.htm)
- Section 191 of the *Public Health Act 2005* stipulates that all MO and RN (both public and private sector) are mandated to report concerns to the Department of Child Safety regarding children about whom they hold a reasonable suspicion have been harmed or who are at risk of harm [www.health.qld.gov.au/publichealthact/default.asp](http://www.health.qld.gov.au/publichealthact/default.asp)
- Queensland Police Service (QPS) have sexual assault investigation kits for adults and children
- Wherever possible examination should be done after the involvement of QPS as secure storage for forensic specimens is required and these cannot be destroyed. If no QPS service in the community the following storage procedures are recommended after collection of forensic specimens. An esky / envelope sealed with tape that has been signed and dated held in the pathology fridge or in a locked room e.g. pharmacy - according to the local circumstances. It is a requirement that the chain of custody of the forensic specimens is documented and that the specimens are hand delivered to QPS. QPS may travel to the community to collect specimens
1. **May present with**
   
   **Adult**
   - Reported sexual assault, domestic violence, physical assault
   - Loss of consciousness / episode of amnesia / alcohol blackout
   - Other minor complaint which does not correspond to patient’s psychological state (distressed or reclusive)
   - Self mutilation / attempted suicide / eating disorders
   - Report from within community that an adult is being sexually assaulted. These need to be followed up with extreme care to ensure discretion and confidentiality
   - Request for forensic evidence collection by Queensland Police Service
   
   **Child**
   - PV bleeding, abdominal pain, behavioural change
   - Sleep disturbance, bed wetting
   - Other non accidental injury
   - Report from within community that a child is being sexually assaulted. These need to be followed up with extreme care to ensure discretion and confidentiality
   - Sibling abused
   - Sexually transmitted infection in child needs to be followed up with extreme care

   See Management: child victim / survivor

2. **Immediate management**
   
   - Assess and attend to life threatening conditions
   - See the patient in a private area to ensure confidentiality, dignity and safety
   - Ensure patient has an opportunity to arrange a support person such as relative, friend or appropriate Police Officer
   - **Child victim / survivor**
     - consult MO who will arrange evacuation for examination by experienced MO or Paediatrician
   - **Adult victim / survivor**
     - consult MO / NP / Forensic Nurse Examiner (FNE) if available
   - If drink spiking is suspected collect unpreserved urine and blood in fluoride / oxalate tubes as soon as possible (at least 50 mL of urine is necessary for drug analysis)

3. **Clinical assessment**
   
   - Consult MO before proceeding to collect forensic evidence (using sexual assault investigation kit) or pathology specimens for STI and pregnancy tests
   - To minimise any loss of evidence it is preferable for the patient not to change clothes, shower, bathe or douche. They are also asked not to urinate, defecate, or to eat, drink or clean teeth. However, some restrictions only apply to anal or oral penetration, be advised by MO / FNE. The patient should not be made to experience extended discomfort whilst waiting for specimen collection
   - Sexual assault kits are unisex. Adult and child kits are available. If no kit is available it may be possible to improvise. MO will advise on specimens to collect
   - Obtain complete patient history including [1]:
     - sexual history one week before assault, time of last consensual intercourse, and with whom
     - ask specific questions relating to the assault including:
Rape and sexual assault

- date, time and location of the alleged assault
- circumstances of the assault? Number of assailants?
- details of alleged sexual act, such as penile, digital or object penetration and route, such as vaginal, oral or anal intercourse, any ejaculation or urination by the offender
- was a condom used? If so, where is it now?
- was there any area on body which may have been licked or kissed e.g. breasts area can be swabbed for offender DNA
- any physical restraints used, such as weapon, drugs or alcohol
- activities patient performed after the assault that may be relevant to evidence collection, such as change of clothing, bathing, douching, dental hygiene, urination or defecation, subsequent sexual activity and insertion of tampon. If clothes have been changed, find out the location of the original clothes and notify police

- Perform standard clinical observations
- Perform physical examination
  - perform head to toe physical examination
  - document and / or record on body diagram or photograph (with consent) any physical injuries that have occurred as a result of being held, pushed, punched etc.
- If drink spiking is suspected collect unpreserved 50 mL urine and blood in fluoride / oxalate tubes as soon as possible
- Perform forensic examination and evidence collection (with consent. Patient may withdraw consent at any time through examination). Pubic combing and nail clippings are rarely required, seek advice if unsure
- Perform STI screening and blood tests for:
  - syphilis (as baseline)
  - hepatitis B to check immune status (this is urgent if offender is known IV drug user, or possible hep B carrier or is tattooed [higher risk profile for HBV])
  - HIV test (as baseline) with appropriate pre-test information and consent
    See HIV infection
  - urine pregnancy test on all women of childbearing age (12 - 52 years) who are not currently using adequate contraception

4. Management
   Adult victim / survivor
   - Consult MO
   - Provide information on options and encourage the patient to make their own decision regarding legal action, giving them space and time. They may change their mind at a later date. Consider the role of telephone counselling (Sexual Assault Helpline 1800 010 120) to assist the victim in making these decisions
   - Ensure patient and staff are safe
   - Be supportive - proceed at their pace. It is important that the patient is able to retain control of the process and to make the decisions about what is best for them at this point in time

Post rape / sexual assault prophylaxis
   - Offer medicine for:
     - chlamydia, gonorrhoea See Chlamydia / gonorrhoea / trichomonas
     - syphilis See Syphilis
     - HIV post exposure prophylaxis (PEP) if indicated, MO will advise
     - hepatitis B - if no demonstrated immunity then give hepatitis B immunoglobulin within 72 hours and commence vaccination within 7 days post assault
     - tetanus vaccination if indicated
   - Offer emergency contraception if at risk of pregnancy
Child victim / survivor

- The finding of a positive STI result by PCR in children is not straightforward and may indicate a false positive test.
- In children < 12 years proven STI can usually be assumed to be as a result of abuse. However, this cannot always be assumed for 13 - 16 year olds, as many of these teenagers will be having consensual sex. See fact sheet at: [http://qheps.health.qld.gov.au/csu/Factsheets.htm](http://qheps.health.qld.gov.au/csu/Factsheets.htm).
- When there are reasonable grounds for suspecting abuse has occurred, an assessment should be made by practitioners experienced in this area (e.g. Paediatrician, Psychologist) and would include medical, social, behavioural and psychological assessments.
- If a medical examination is required it should be conducted by an experienced MO (or in consultation with one).

5. Follow up

- Ensure the patient, if not evacuated, has a safe place to go after clinical examination and / or police contact.
- Continue to provide comfort and support.
- Contact your local / regional Sexual Assault Centre to arrange counselling and ongoing support if required. It is not uncommon that some people do not wish to access counselling immediately following sexual assault. The information can be used in the future.
- Review next day if not evacuated.
- See next MO clinic.
- Review at: 2 weeks post assault - with results of pathology tests taken or if no tests done, perform STI screening and pregnancy test (if indicated)
  - 1 month post assault - hepatitis B vaccination, pregnancy test (if indicated)
  - 3 months post assault - HbsAg, HIV, syphilis
  - 6 months post assault - hepatitis B vaccination
- Ensure staff member receives counselling and de-briefing.

6. Referral / consultation

- Consult MO on all occasions of rape / sexual assault.
- Paediatrician through MO or Child Safety Officer.
- Forensic Nurse for assistance and advice (at nearest district / regional facility).
- Queensland Police Service if indicated or requested.
- Sexual assault service / counselling service / Social Worker as per availability.
- Sexual Assault Helpline (free and anonymous) ☎ 1800 200 526
- Men’s Sexual Assault Service ☎ 1300 114 397
- Crisis Care (child sexual abuse service) ☎ 1800 177 135

Forensic Medical Examination

- The forensic medical examination is best performed as soon as possible for both patient comfort and for preservation of evidence.
- Semen may be found in the high vagina for up to 5 - 7 days but the viability of any specimen depends on lack of menstruation and not douching. A cervical swab may be better at a later stage.
- Forensic examination for injury documentation can take place at any time.
- A clear explanation of what a forensic medical examination entails is given to the patient.
- Consent must be obtained prior to beginning a forensic examination. The patient can consent to all, parts of, or none of the examination offered. Make sure their choice is documented.
Rape and sexual assault

- Consent must be obtained for release of the forensic information and the patient should be informed that the evidence may be used in court
- The patient has the choice to have an appropriate support person present during the forensic examination. Although an appropriate police officer may act as a chaperone or support person during the examination it is not mandatory for a police officer to be present during the examination

Procedure

- Head to toe external examination carefully documenting and photographing any marks and injuries and noting patient’s comments about their origin (when and how the marks and injuries were caused)
- Pay particular attention where the history suggests there may be an injury and note its presence or its absence and any indicators of age
- Take swabs as dictated by the history and your examination findings. Many things can assist in identifying an assailant or confirming sexual activity including ejaculate, blood, saliva and lubricant. If unsure ask for assistance from local or Brisbane Forensic MO through police communications
- If the patient is still in clothes worn at time of the assault they are requested to undress on the drop sheet provided in the sexual assault kit, discuss with police what articles of clothing they want collected and bag each of these separately in brown paper bags
- Provide hospital gown or sheet for patient modesty
- If the patient has reported penile penetration of the mouth, oral washings and swabs should be undertaken ASAP for patient comfort
- If the patient has reported possible skin contact with bodily fluids of the alleged offender (e.g. saliva or ejaculate) then those areas of skin should be appropriately swabbed and documented
- Any blood stains or skin stains should be swabbed
- If the patient reported scratching the alleged offender fingernail scrapings may be indicated

- For female
  - genital examination is then conducted. External genitalia is examined for signs of injuries, swabs are collected from the vulva and low vagina, speculum is introduced to collect swabs from high vagina and cervix if indicated, vagina and cervix are examined at this time for signs of injury or abnormality. The use of a speculum may not be appropriate in all cases. This needs to be considered on an individual basis

- For male
  - inspect penis and scrotum for signs of injury. Consider whether collection of swabs is indicated depending on history given. The use of a proctoscope may be indicated if rectal swabs are required or if history of severe pain, bleeding or possible foreign body
  - Anal examination and collection of two perianal and two rectal swabs as indicated by history given
  - Blood can be collected for patient’s DNA or police may collect buccal swab at later time
  - Forensic specimens are handed directly to the police as per the sexual assault investigation kit. If this is not possible refrigerate the samples in a secure place to ensure the chain of custody for samples is intact
  - Ensure swabs are appropriately labeled and swabs have been air dried
  - Ensure bags of patient’s clothes collected are appropriately labelled, and if wet, advise police that drying may be required
  - Blood specimens are not to be enclosed in the brown sexual assault kit, hand these separately to the police (blood for DNA or toxicology to be sent to John Tonge Centre by QPS)

References