

Obstetrics and neonatal

Antenatal

Termination of pregnancy (ToP)

Recommend¹

- Facilitate women in rural and remote areas to access ToP services as would occur for any specialist procedure. Ensure referral and transfer systems are in place with other service level facilities
- If you have a conscientious objection to involvement with decision making around ToP you must ensure appropriate and timely transfer of care to another health professional
- For Qld legal issues, consent + other information regarding ToP see Qld Clinical Guideline *Termination of pregnancy* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with

- Missed period(s)
- +ve pregnancy test
- Request for abortion/ToP

2. Immediate management Not applicable

3. Clinical assessment¹

- Ensure a confidential and non-judgemental approach
- Do:
 - urine pregnancy test to confirm
 - vital signs
 - ask about usual menstrual cycle - regular/irregular, date of last menstrual period (LMP)
 - calculate gestational age:
 - count weeks and days from first day of LMP *eg 4 weeks + 3 days*
- Arrange dating USS promptly:
 - can be done on-site by midwife/MO if have specific training
 - intrauterine pregnancy to be confirmed (ectopic pregnancy contraindicated in medical ToP)¹
- Do:
 - [STI/BBV tests, p. 448](#)
 - ‘1st visit’ antenatal bloods. See [Antenatal care, p. 364](#)
- Ask about this pregnancy - expectations, experiences
- Consider social and emotional issues/concerns eg:
 - sexual assault, mental health, safety and privacy issues
 - screen for domestic and family violence - use local assessment tools
- Current (if any) contraception and discuss future [Contraception options, p. 438](#)
- Get medical, gynaecological, obstetric and sexual health history:
 - see [Antenatal care, p. 364](#) and [STI/BBV assessment, p. 445](#) for prompts

4. Management¹

If woman is considering a ToP or is unsure¹

- **Time sensitive decision** - depending on how far along pregnancy is and where woman lives, may need to refer quickly
- Provide accurate and unbiased information. For advice/help with decision making:
 - Marie Stopes <https://www.mariestopes.org.au/> ☎ 1300 207 382 (national)
 - Children by Choice <https://www.childrenbychoice.org.au/> ☎ 1800 177 725 (Qld)
 - **note:** Children by Choice also list public and private providers of ToP + costs
- **Options** - medical ToP (MToP), surgical ToP (SToP) or a combination:¹
 - MToP may be done in some areas as an outpatient if gestation \leq 9 weeks (\leq 63 days)
 - SToP can be done up to 12 weeks gestation, sometimes later
- Choice is influenced by woman's preference, age, gestation, local clinician expertise/service capabilities and availability of pharmacological agents

If woman decides to have a ToP

- Assist woman to access ToP services as early as possible
- **Check local procedures and policies** on who to contact to coordinate this eg dedicated women's or sexual health RN/NP
- If woman needs to travel away from her community:
 - assist access to patient travel subsidy scheme (Qld)
 - ensure emotional support is provided

If woman decides to continue with the pregnancy

- Refer to midwife/antenatal clinic

5. Follow up

- Advise woman to have follow up within 1–2 days:
 - further support woman in her decision making, or as appropriate to individual circumstances
 - check pathology results and treat as appropriate

6. Referral/consultation

- Offer mental health referral as needed

Antenatal care

Recommend

- Use Qld *Pregnancy health record* (PHR) <https://qheps.health.qld.gov.au/caru/clinical-pathways/maternity> or local clinical pathway
- Woman centred care - based on her needs, preferences + empowerment in decision making¹
- See Qld Clinical Guidelines if risks/complications eg ↑ BMI, diabetes, ↑ BP, syphilis, RHD <https://www.health.qld.gov.au/qcg/publications#maternity>
- Where possible use PoCT or do urine PCR. Dipstick testing has high false +ve for proteinuria²

Background

- In Qld several babies have died from congenital syphilis, which is preventable with adequate testing + management³
- See *National midwifery guidelines for consultation and referral* <https://www.health.qld.gov.au/qcg>

1. May present with

- Pregnant

2. Immediate management Not applicable

3. Clinical assessment¹

- Confirm pregnancy by urine/blood test (β-hCG)
- Ask the woman how she is feeling about the pregnancy, consider:
 - planned/unplanned/wishes to proceed with pregnancy²
- Plan care with woman:
 - refer for first visit with midwife/MO, however still take 1st visit bloods/pathology today
 - consider/plan transfer at 36–38 weeks to await the birth, including social, cultural, financial, clinical issues + local policy. Aim to optimise outcomes + ↓ impact on the family

First visit² (long visit)

- Ideally at < 10 weeks pregnant:
 - for later presentations, do all first visit care + **Additional tests/activities** not yet done

Estimate date of birth/gestational age²

- Ask about usual menstrual cycle
- Calculate due date from first day of last normal menstrual period - if known
- Offer dating USS at **8–13+6 weeks** (most accurate 8–10 weeks).^{2,4} Can be done locally by trained midwife/MO or arrange appointment/transfer
- Offer to book First trimester screening/**Nuchal screening**, p. 365 done between 11–13+6 weeks (can get both tests in single USS)

Get past history²

- **Obstetric** - previous pregnancies, gestation, place of birth, labour - duration + induced/spontaneous, type of birth, weight of baby, infant feeding, any complications eg APH, preeclampsia, diabetes, baby with early onset GBS disease, preterm labour, perineal trauma, PPH
- **Gynaecological** - last CST, fertility problems, STIs, syphilis, surgery
- **Medical/surgical** - hypertension, RHD, blood conditions, thyroid problems, asthma, mental health, diabetes, oral health

- **Medications** - review for safety in pregnancy
- **Social/family** - support available, financial issues, social environment
- **Smoking, alcohol, other drugs** - use screening tools and initiate brief intervention eg as per PHR⁵
- **Physical activity, nutrition**
- **Zika risk** - women or partner travelled to Zika area while pregnant or 1 month prior to conception.⁶ See <https://www1.health.gov.au/internet/main/publishing.nsf/Content/ohp-zikavirus>

Physical examination¹

- BMI - if > 30 ↑ risk of complications. See Qld Clinical Guideline *Obesity in pregnancy*
- Vital signs. If BP elevated see [Hypertension in pregnancy, p. 383](#)
- Auscultate heart (if skilled) for murmurs in areas with high prevalence of RHD²
- If ≥ 12 weeks assess - fundal height + FHR

Take pathology²

- **Bloods:**
 - FBC, ferritin,⁷ blood group and antibodies, rubella antibodies, BGL
 - hep B, hep C
 - syphilis serology, HIV
 - HbA_{1c}, iron studies - for Aboriginal and Torres Strait Islander/other high risk women
 - **consider:**⁸
 - vitamin D - if risk factors eg darker skin, increasing BMI, winter
 - LFT, UE - if BMI > 30
 - TFT - if age > 30 or ≥ 2 previous pregnancies or risk factors for thyroid dysfunction²
 - cytomegalovirus (CMV) - if frequent contact with large numbers of young children eg teachers, childcare workers
- **Urine:**
 - dipstick and MSU for MCS
 - PCR for baseline proteinuria²
 - chlamydia PCR. If Aboriginal and Torres Strait Islander or ↑ risk for STIs, also do gonorrhoea PCR (+ trichomonas PCR if symptoms). See [STI/BBV tests, p. 448](#)
- **Offer:**
 - CST if due - use cyto-broom, not endocervical brush⁹
 - HVS for [BV, p. 457](#) if prior preterm birth²

Discuss chromosomal anomalies tests regardless of woman's age

- Support rural and remote women to access tests²
- **First trimester screening/Nuchal screening USS + bloods** for free Beta-hCG + Papp-A:
 - take bloods after 10 completed weeks (preferably 3–5 days prior to USS). Include EDD and current weight on pathology form
 - USS between 11–13+6 weeks
- **± NIPT blood test** if > 10 weeks gestation (optional/if available, not covered by Medicare)⁵
- **± diagnostic tests** as appropriate:
 - chorionic villus sampling < 14 weeks/amniocentesis ≥ 16 weeks

Do risk assessments^{2,5}

- VTE prophylaxis eg as per PHR
- EPDS <https://www.blackdoginstitute.org.au/wp-content/uploads/2020/04/edinburgh-postnatal-depression-scale.pdf>
- SAFE Start https://qheps.health.qld.gov.au/__data/assets/pdf_file/0031/417748/mr63ak.pdf (Qld Health intranet)

- **Also assess risk factors** (as per Qld Clinical Guidelines) for:
 - preeclampsia - advise if moderate/high risk, it may be prevented with low-dose aspirin started preferably < 16 weeks + calcium supplement if dietary intake low¹⁰
 - [Diabetes in pregnancy, p. 378](#) may need OGTT in first trimester
 - preterm birth
 - obesity in pregnancy

Supplements/vaccines/advice²

- **Supplements** - if available, give pregnancy multivitamin eg containing folic acid, iodine and iron (note, iron not routinely recommended in pregnancy):
 - folic acid at least 400 microg daily - 1 month before conception until 12 weeks²
 - iodine 150 microg daily - if pre-existing thyroid condition seek MO/NP advice first²
 - vitamin D - if levels < 50 nmol/L²
 - if low in omega-3 - daily omega-3 long-chain polyunsaturated fatty acids²
- **Vaccines:**¹¹
 - influenza + COVID-19 - given any time during pregnancy¹²
 - pertussis (dTpa) given 20–32 weeks
- **Discuss measures to avoid** cytomegalovirus infection or toxoplasmosis (offer screening if at risk)²
- Offer [General pregnancy advice, p. 368](#) eg pregnancy symptoms, nutrition, physical activity, dental visits,² risks of syphilis in pregnancy

Ongoing antenatal care

- Use table below to guide visits, aiming for around 10 visits if 1st pregnancy and 7 in next pregnancies. If complications, extra visits may be needed

At every visit²

- Ask about wellbeing, any concerns/issues²
- BP + vital signs
- If > 12 weeks - fundal height + FHR
- Urinalysis - MSU for MCS if indicated. Also see [UTI in pregnancy, p. 375](#):
 - **note:** if 1 + of protein, confirm by urine PCR
- Weight - offer to be weighed, encourage self-monitoring of weight gain/diet/exercise
- Discuss test results and reassess plan/if referral needed
- Tobacco/drug/alcohol screening as appropriate^{5,15}
- Check and do [Additional tests/activities, p. 367](#) depending on gestation
- Check for symptoms of [Syphilis, p. 468](#) and reassess if [Increased/high risk of syphilis, p. 368](#)
- Offer [General pregnancy advice, p. 368](#) about healthy diet, physical activity etc
- If Rh D –ve blood group - Anti-D, why/when needed as per [Rh D immunoglobulin, p. 369](#)
- **20 weeks onwards:**
 - check for signs of preeclampsia - proteinuria/BP
 - **discuss baby's movements:**
 - importance of getting to know baby's pattern of movements¹⁵
 - usually start feeling between 16–24 weeks
 - if pattern changes it may be a sign baby is unwell, if concerned, contact midwife/clinic immediately. **Do not wait till next day**

Additional tests/activities²18–20 weeks^{2,5}

- USS for morphology. Note BMI on request form (if BMI \geq 30, consider morphology at 22 weeks)

20–27 weeks

- Syphilis serology - if [High risk of syphilis, p. 368](#) around 20 weeks (take between 16–24 weeks)³

28 weeks

Take bloods/pathology:

- OGTT. If post bariatric surgery may not be suitable, see [Diabetes in pregnancy, p. 378](#)
- FBC, ferritin⁷
- Rh D antibody screen - before giving Anti-D
- Syphilis serology (take between 26–28 weeks)
- If Aboriginal and Torres Strait Islander or ↑ risk for STIs, also do **urine PCR** for:
 - gonorrhoea, chlamydia

Discuss:

- Sleeping on side from now till birth - may reduce risk of stillbirth¹⁵
- Repeat SAFE start and EPDS^{2,5}

Give:^{2,5}

- Anti-D if Rh D –ve blood group. See [Rh D immunoglobulin, p. 369](#) (take bloods first as above)
- Iron supplements if needed - based on Hb results. Advise weekly supplement is as effective as daily supplement in preventing iron-deficiency anaemia, with fewer side effects¹

29–34 weeks²

- **32 weeks** - repeat USS if placenta over cervical os or low lying on morphology USS
- **34 weeks** - 2nd dose of anti-D if Rh D –ve. [Rh D immunoglobulin, p. 369](#)
- **34–36 weeks** - syphilis serology if [High risk of syphilis, p. 368](#)
- Check dTpa given + recommend for close contacts if last dose $>$ 10 years ago, at least 2 weeks before contact with baby¹¹
- Discuss - signs of early labour and when to seek advice; labour and birth planning, what to expect, breastfeeding.^{2,5} See [General pregnancy advice, p. 368](#)

35–38 weeks²**36 weeks - take pathology**

- FBC + ferritin to check response to iron supplement if given⁷
- Syphilis serology (regardless of risk)
- If Aboriginal and Torres Strait Islander or ↑ risk for STIs, also take:
 - HIV and urine PCR for gonorrhoea, chlamydia (+ trichomonas if symptoms). See [STI/BBV tests, p. 448](#)

Check:

- Fetal presentation, do palpation - if unsure, confirm with USS in collaboration with MO. If breech, discuss options in collaboration with MO eg external cephalic version
- VTE risk⁵
- Risk factors for early onset [Group B Strep, p. 395](#)
- BMI. If ↑ also see Qld Clinical Guideline *Obesity in pregnancy*

Offer advice/discuss:

- Care of new baby, reducing risk of SIDS, newborn screening tests, vitamin K and hep B, labour, birth, support in postnatal period²
- Transfer for birth, ensure PHR goes with woman + copy for medical record

Increased/high risk of syphilis³**Increased risk**

- Woman or partner identify as Aboriginal and Torres Strait Islander
- Adolescent
- STI in current pregnancy or in last 12 months
- Ongoing sexual links in areas of high prevalence of syphilis (woman or partner)
- Other risk factors. See [STI/BBV assessment, p. 445](#)

High risk

- Sexual contact of someone with syphilis
- Woman or partner identify as Aboriginal and Torres Strait Islander AND live in an outbreak area
- Substance use eg ice
- Woman's partner is a man who has sex with men
- Late, limited or no antenatal care
- Engages in high risk sexual activity

Also see Qld Clinical Guideline *Syphilis in pregnancy* <https://www.health.qld.gov.au/qcg/publications#maternity>

General pregnancy advice¹

Nutrition and physical activity	<ul style="list-style-type: none"> • See Australian dietary guidelines for healthy eating https://www.health.gov.au/resources/publications/the-australian-dietary-guidelines • Foods to avoid eg alcohol, sources of listeria and fish high in mercury • Usual physical activity is beneficial and safe
Medicines	<ul style="list-style-type: none"> • Limit use to where the benefits outweigh the risks • The effectiveness and safety of herbal preparations varies according to the herbal preparation and the condition being treated • Supplements of vitamin A, C and E are of no benefit and may cause harm
Common pregnancy symptoms	<ul style="list-style-type: none"> • See https://www.thewomens.org.au/health-information/pregnancy-and-birth/a-healthy-pregnancy/common-concerns-in-early-pregnancy/
Breastfeeding (BF)	<ul style="list-style-type: none"> • See PHR and https://www.breastfeeding.asn.au/ <ul style="list-style-type: none"> – skin to skin contact at birth, initiation of BF, demand feeding, safe formula feeding if chosen – positioning + attachment, signs baby is getting enough milk – why teats/dummies discouraged early on – benefits of exclusive BF for around 6 months
Travel	<ul style="list-style-type: none"> • Correct use of 3 point seatbelts eg above and below the bump, not over it • Long-distance air travel can ↑ risk of venous thrombosis¹ • Discuss travel vaccinations with midwife/MO
Oral health	<ul style="list-style-type: none"> • Advise to have check-up. Treatment is safe during pregnancy
Sexual intercourse	<ul style="list-style-type: none"> • Safe during pregnancy

4. Management

- Discuss with MO/NP/obstetrician risks/concerns
- Send booking in referral as per local policy

5. Follow up

- As above

6. Referral/consultation

- Consider referral(s) eg diabetes educator, dietitian, mental health clinician²

HMP Rh D immunoglobulin

Recommend¹

- Rh D immunoglobulin (anti-D) is recommended for pregnant women with Rh D –ve blood group

Background¹

- If the mother is Rh D –ve blood group and the baby's blood group is +ve, the baby's blood may stimulate an immune response in the mother's blood (sensitisation). This can result in maternal antibodies crossing the placenta causing haemolytic disease of the fetus and the newborn (HDFN)
- See National Blood Authority. *Prophylactic use of Rh D immunoglobulin in pregnancy care 2021* <https://www.blood.gov.au/anti-d-o>

1. May present with¹

- Rh D negative blood group at 28 or 34 weeks, or with a sensitising event
- + does not have 'preformed' anti-D antibodies

2. Immediate management Not applicable

3. Clinical assessment^{1,2}

- Use table below to identify **Sensitising events**

Sensitising events		
1st trimester 0–12 weeks	2nd and 3rd trimester after 12+6 weeks	Birth
<ul style="list-style-type: none"> • Miscarriage (not threatened miscarriage < 12 weeks) • ToP - medical or surgical • Ectopic pregnancy • Hydatidiform mole • Chorionic villi sampling 	<ul style="list-style-type: none"> • Antepartum haemorrhage - revealed or concealed (each occasion) • Abdominal trauma • Miscarriage, ToP • Amniocentesis/other invasive intervention • External cephalic version • Any other suspected intrauterine bleeding 	<ul style="list-style-type: none"> • Rh D positive baby

4. Management^{1,2}

Routine Rh D immunoglobulin at 28 and 34 weeks

- Re-take bloods for antibody screen PRIOR to giving at 28 weeks (no need to wait for results). If results positive, consult MO/NP
- If 28 week dose missed, give as soon as recognised, then give the 2nd dose 6 weeks later

Rh D immunoglobulin for a sensitising event

- Give as soon as able (within 72 hours). If delayed, give up to 10 days after the event (lower efficiency)
- **If > 20 weeks** of pregnancy, take bloods first (no need to wait for results):
 - group and antibodies, and Kleihauer - to assess the magnitude of fetomaternal haemorrhage (FMH). **If birth**, also collect cord blood for group and Coombs' test
 - if large FMH, follow laboratory/obstetric advice for additional dose(s). Give within 72 hours
- If ongoing uterine bleeding, repeat dose(s) may be needed at 6 weekly intervals¹
- Still give 28 and 34 week Rh D immunoglobulin if extra dose(s) are given for sensitising event(s)

S ₄	Rh D Immunoglobulin			Extended authority MID
RIPRN and RN must consult MO/NP				
MID may proceed				
Form	Strength	Route	Dose	Duration
Injection	250 units	IM	Antenatal - 28 and 34 weeks 625 units	stat
	625 units		Sensitising event in the 1st trimester 250 units	Inject deep and slowly If more than 5 mL is required give in divided doses in different sites
			Sensitising event > the 1st trimester + birth 625 units	
Offer CMI: See <i>Red blood cell alloimmunisation</i> https://rancog.edu.au/womens-health/patient-information-guides/patient-information-pamphlets				
Note: Bring to room temperature. Give via deep IM injection - if high BMI give in deltoid				
Contraindication: A baby, an Rh D positive woman				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				

1-4

5. Follow up²

- If antibodies are already present in antenatal bloods, consult MO/NP as ongoing monitoring may be required

6. Referral/consultation

- As above

Pregnancy complications

HMP Ectopic pregnancy

Recommend^{1,2}

- Consider in all females of reproductive age with abdominal pain ± vaginal bleeding, even if the woman does not think she is pregnant. Always do a pregnancy test
- The woman's psychological needs should be acknowledged + considered at all times

Background^{1,2}

- Rupture of an ectopic pregnancy can result in life-threatening haemorrhage
- Ectopic pregnancy occurs outside of the uterus, usually in the fallopian tube
- Symptoms typically appear 6–8 weeks after the LNMP, but may occur later eg if somewhere other than the fallopian tube. Diagnosis is based on a combination of transvaginal USS + serum β -hCG
- Also see Qld Clinical Guideline *Early pregnancy loss* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with^{1,2}

- Woman may not know she is pregnant
- Abdominal pain ± irregular bleeding, spotting
- If ruptured, may haemorrhage in abdominal cavity:
 - shoulder tip or diaphragmatic pain
 - signs of shock:³
 - ↑ HR, ↓ BP, ↑ RR
 - restlessness
 - sweating
 - cool, clammy skin
 - ↓ urine output
- May mimic UTI, PID, miscarriage, appendicitis⁴

2. Immediate management¹

- **If signs of shock:**
 - call for help + urgently contact MO/NP for advice/arrange evacuation
 - insert IVC x 2 eg 16 G
 - give bolus IV sodium chloride 0.9% or Hartmann's 10–20 mL/kg:
 - ongoing IV fluids as per MO/NP
 - insert IDC
 - take blood for urgent FBC, group and hold, β -hCG
 - if ruptured ectopic pregnancy, woman will require urgent surgery²
 - get rapid history

3. Clinical assessment^{1,2,5}

- **Ask about:**
 - bleeding/spotting - amount, when did it start, any clots
 - pain or cramping - where, how severe, diffuse or to one side
 - shoulder tip pain
 - feeling faint when standing

- recent abdominal trauma
- date of first day of LNMP
- dysuria/frequency of urine
- other symptoms/concerns
- **Antenatal history** if pregnancy known:
 - has pregnancy location been confirmed by transvaginal USS - is the pregnancy in the uterus
 - estimate gestation based on dating scan or LNMP
 - check blood group and antibody status
- **Obstetric history** - prior pregnancies, miscarriages, previous ectopic pregnancy, tubal surgery, infertility, contraceptives, intrauterine device use
- **Past history:**
 - bleeding disorders, diabetes, thyroid disease, polycystic ovary syndrome, celiac disease
 - abnormalities of reproductive tract
 - STIs, when, treatment, last tested
 - PID - when, treatment
- **Do:**
 - vital signs
 - pregnancy test even if the woman does not think she is pregnant
 - check loss on pad as applicable:
 - amount, rate of loss, colour of blood - bright, dark, presence of clots, size
 - urinalysis + MSU if indicated
 - gently palpate abdomen - any tenderness, rigidity, guarding, distension
 - avoid bimanual examination - bleeding risk⁴
- Take blood for FBC, group and hold, β -hCG
- Consider [STI/BBV tests, p. 448](#)

4. Management¹

- If location of pregnancy is not known treat as ectopic pregnancy until proven otherwise
- Evacuation for USS confirmation of location of pregnancy
- Consult MO/NP urgently
- Insert IVC x 2 eg 16 G
- Keep nil by mouth
- Offer analgesia. See [Acute pain, p. 32](#)
- If Rh D –ve and managed locally, may need [Anti D, p. 369](#)

5. Follow up

- Consider grief counselling if appropriate

6. Referral/consultation

- As above

HMP Vaginal bleeding in early pregnancy

Up to 20 weeks gestation

Recommend¹

- If pregnancy location unknown ie woman has not had an USS to confirm pregnancy is in the uterus, always suspect ectopic pregnancy regardless of amount of bleeding/pain
- The woman's psychological needs should be acknowledged and considered at all times
- Also see Qld Clinical Guideline *Early pregnancy loss* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with^{1,2}

- Pregnancy \leq 20 weeks gestation with:
 - vaginal spotting or bleeding
 - abdominal \pm shoulder tip pain
 - backache
 - passage of products of conception (POC)
 - **note:** if bleeding $>$ 20 weeks, see [APH, p. 390](#)
- If bleeding very heavy, may have signs of shock:³
 - \uparrow HR, \downarrow BP, \uparrow RR
 - restlessness
 - sweating
 - cool, clammy skin
 - \downarrow urine output

2. Immediate management^{1,2}

If pregnancy location unknown ie woman has not had an USS to confirm pregnancy is in the uterus, **always** suspect ectopic pregnancy regardless of amount of bleeding/pain.

See [Ectopic pregnancy, p. 371](#)

- **If signs of shock:**¹
 - call for help
 - consult MO/NP urgently
 - insert IVC x 2 eg 16 G
 - give bolus IV sodium chloride 0.9% or Hartmann's 10–20 mL/kg:
 - ongoing IV fluids as per MO/NP
 - if skilled, perform urgent speculum examination to remove POC from cervix/vagina - this may stop bleeding and restore BP
 - insert IDC
 - take blood for urgent FBC, group and hold
- If POC collected or passed spontaneously send for histopathology¹
- For persistent bleeding **where ectopic pregnancy has been excluded** MO/NP may consider/order:¹
 - IV/IM ergometrine 250 microg \pm PR misoprostol 800–1000 microg:
 - see [Primary PPH, p. 417](#) for doses
 - \pm activation of massive transfusion protocol

3. Clinical assessment^{1,2}

- **Ask about:**
 - bleeding/spotting - amount, when did it start, any clots
 - lower abdominal pain or cramping - where, how severe
 - shoulder tip pain - may indicate intra-abdominal bleeding
 - feeling faint when standing
 - recent abdominal trauma
 - date of first day of LNMP
 - other symptoms/concerns
- **Antenatal history:**
 - check records
 - has pregnancy location been confirmed:
 - is fetus in the uterus confirmed by transvaginal USS
 - if not confirmed always consider [Ectopic pregnancy, p. 371](#) until proven otherwise
 - estimate gestation based on dating scan or LNMP
 - confirm placenta site, if possible, to exclude placenta praevia
 - check blood group and antibody status
- **Obstetric history:**
 - prior pregnancies, miscarriages, previous ectopic pregnancy, tubal surgery, infertility, contraceptives, intrauterine device use
 - bleeding disorders
 - medicines and allergies
 - chronic diseases - diabetes, thyroid disease, polycystic ovary syndrome, coeliac disease, RHD
 - any abnormalities of the reproductive tract
 - STIs/PID - when, treatment, last tested
- **Do:**¹
 - vital signs
 - confirm pregnancy by urgent serum quantitative β -hCG:
 - do urine pregnancy test if serum result is likely to be delayed
 - check loss on pad - amount, rate of loss, colour of blood - bright, dark, presence of clots, size
 - urinalysis + MSU if indicated
 - gently palpate abdomen - any tenderness, rigidity, guarding, distension

4. Management¹

- For women with unconfirmed/uncertain pregnancy location (not known if in the uterus) consider [Ectopic pregnancy, p. 371](#) until proven otherwise
- Keep nil by mouth
- Consult MO/NP who may advise:
 - bloods - FBC + blood group, serial β -hCG levels
 - evacuation/hospitalisation for USS, further investigations/treatment
 - IV antibiotics - if fever or offensive cervical discharge
 - [STI/BBV tests, p. 448](#)
- MO/NP may advise speculum examination if clinician skilled, check for:
 - blood coming through os
 - os closed or open/POC protruding - gently remove with sponge forceps
 - offensive cervical discharge

- If Rh D –ve blood group with no pre-formed anti-D antibodies and > 12 weeks gestation,⁴ offer [Rh D immunoglobulin, p. 369](#)
- Offer analgesia. See [Acute pain, p. 32](#)

5. Follow up

- Consider counselling for parents who have experienced pregnancy loss
- If not evacuated/hospitalised advise patient to be reviewed according to MO/NP instructions
- If applicable follow up STI test results and treat

6. Referral/consultation

- Consult MO/NP on all occasions of vaginal bleeding in pregnancy

HMP Urinary tract infection (UTI) in pregnancy

Recommend

- Consider [Ectopic pregnancy, p. 371](#) + [PID, p. 462](#) if presenting with low abdominal pain¹
- MSU culture is the standard for diagnosing asymptomatic bacteriuria (ASB)
- In rural + remote areas, dipstick tests for nitrites may be used to exclude ASB, with +ve results confirmed by urine culture
- Appropriate storage of dipsticks is essential for accuracy²

Background

- ASB has been associated with preterm birth + ↑ risk of pyelonephritis¹
- Antibiotics significantly ↓ risk of developing pyelonephritis²

1. May present with³⁻⁷

- Nitrites ± leucocytes on urinalysis

Asymptomatic bacteriuria (ASB)

- Detected on antenatal screening MSU (no symptoms)

Cystitis - infection of the bladder

- Dysuria, urgency, frequency
- Haematuria
- Lower abdominal pain
- Sometimes mild low back pain

Pyelonephritis - infection of the kidney

- Fever, rigors
- Nausea, vomiting
- Flank pain

2. Immediate management

- Do vital signs
- Screen for [Sepsis, p. 64](#)

3. Clinical assessment^{1,3,5}

- **Ask about:**
 - urinary symptoms - dysuria, frequency, urgency, haematuria
 - pain - abdominal, suprapubic
 - vaginal discharge
 - fever, rigors, flank tenderness
 - nausea, vomiting, intake/appetite
 - if > 20 weeks ask about fetal movements - normal, decreased or any concerns
 - other symptoms/concerns
- **Check:**
 - antenatal history
 - calculate gestation based on dating scan or LNMP
 - previous UTIs - when, treatment:
 - check previous urine pathology results to ensure no resistance to antibiotics recommended
 - medical history eg diabetes, anatomical abnormalities with urinary tract
 - STIs - when, treatment, last tested
- **Do:**
 - palpate abdomen. Any:
 - tenderness - loin, groin or suprapubic area. May indicate calculi or upper UTI
 - contractions, tightening
 - if > 12 weeks listen to FHR if skilled - infection can ↑ FHR
 - MSU for MCS prior to giving antibiotics⁶
 - **STI/BBV tests, p. 448** for:
 - gonorrhoea, chlamydia and trichomonas PCR + bacterial vaginosis
 - syphilis serology if not already done, or due

4. Management^{1,2}

- If symptomatic also consider differential diagnoses eg STI, PID
- Consult MO/NP if uncertain
- **If pyelonephritis:**⁶
 - consult MO/NP urgently + arrange evacuation/hospitalisation
 - insert IVC x 2
 - MO/NP will order IV gentamicin + ampicillin
- **If ASB:**
 - treat based on results of urine MCS
 - if dipstick suggests ASB + treatment might be delayed waiting for results:²
 - give antibiotics without waiting
 - treat as per acute cystitis⁶
- **If acute cystitis** - start antibiotics based on symptoms, give:⁶
 - nitrofurantoin - except if near delivery or > 37 weeks **OR**
 - cefalexin
- Offer analgesia. See [Acute pain, p. 32](#)
- Encourage increasing fluid intake + complete bladder emptying to avoid retention

If Group B Strep (GBS) on culture, antibiotic cover in labour is needed even if previously treated. Make a note in antenatal record and advise woman.⁶ See [Group B Strep, p. 395](#)

S ₄	Nitrofurantoin			Extended authority ATSIHP/IHW/IPAP/MID/RIPRN	
ATSIHP, IHW, IPAP and RN must consult MO/NP					
MID and RIPRN may proceed					
Form	Strength	Route	Dose	Duration	
Capsule	50 mg, 100 mg	Oral	100 mg qid	5 days	
Offer CMI: Take with food or milk to reduce nausea + improve absorption. May cause nausea, vomiting, headache, drowsiness or dizziness. Report if develop difficulty breathing, cough, numbness or tingling. May turn urine a brownish colour. Do not use with urinary alkalisers (eg Ural®, Citravescent®) as they reduce the antimicrobial effect					
Contraindication: Renal impairment. Do not give if near delivery or > 37 weeks due to risk of neonatal haemolytic anaemia					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					6,8

S ₄	Cefalexin			Extended authority ATSIHP/IHW/IPAP/MID/RIPRN	
ATSIHP, IHW, IPAP and RN must consult MO/NP					
MID and RIPRN may proceed					
Form	Strength	Route	Dose	Duration	
Capsule	250 mg, 500 mg	Oral	500 mg bd	5 days	
Offer CMI: May cause rash, diarrhoea, nausea, vomiting, dizziness, headache or thrush					
Note: If renal impairment seek MO/NP advice					
Contraindication: Severe or immediate allergic reaction to a cephalosporin or a penicillin. Be aware of cross-reactivity between penicillins, cephalosporins and carbapenems					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					6,9

S ₄	Amoxicillin + clavulanic acid			Extended authority ATSIHP/IHW/IPAP/MID/RIPRN	
ATSIHP, IHW, IPAP and RN must consult MO/NP					
MID and RIPRN may proceed					
Form	Strength	Route	Dose	Duration	
Tablet	500 mg + 125 mg	Oral	500 mg + 125 mg bd	5 days	
Offer CMI: Take with food. May cause rash, diarrhoea, nausea or thrush. Can cause severe diarrhoea (colitis) due to <i>C. difficile</i>					
Contraindication: Severe or immediate allergic reaction to a penicillin. Be aware of cross-reactivity between penicillins, cephalosporins and carbapenems. Avoid in women with premature rupture of membranes as there may be an increased risk of neonatal necrotising enterocolitis					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					6,10

5. Follow up¹⁰

- Check results of MSU + modify antibiotics based on culture and susceptibility testing:
 - amoxicillin + clavulanic acid may be a suitable alternative⁶
- Repeat urine MCS 1–2 weeks after treatment completed. If persistent bacteriuria, treat with a second course of antibiotics

- Following resolution, repeat MSU at antenatal visits to monitor:
 - **note:** dipstick for nitrites is useful to exclude ASB, but is not accurate for diagnosis. Use MSU wherever possible as it is the most accurate²
- If recurrent infections, or at risk of complications eg has diabetes, consider prophylaxis for remainder of pregnancy - discuss with MO/NP⁶
- Follow up STI test results + treat as required

6. Referral/consultation

- As above

Diabetes in pregnancy

Recommend¹

- If pre-existing diabetes:
 - care is provided by a multidisciplinary team before + during pregnancy
 - encourage women to obtain as near as non-diabetic glycaemic control as possible before pregnancy
 - high dose folate (5 mg/day) commencing 1 month pre-pregnancy
 - treat as a complicated pregnancy

Background¹⁻³

- Women with pre-existing diabetes (types 1 + 2) are more prone to complications of pregnancy eg preeclampsia, prematurity + caesarean section
- Principles of management:
 - monitor BGL - aiming for as close to the normal (non-diabetic) range as possible
 - ensure risks for maternal hypoglycaemia are minimised
 - adopting healthy eating pattern + physical activity
- Also see Qld Clinical Guideline *Gestational diabetes mellitus* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with¹

- Pregnant with:
 - pre-existing diabetes - type 1 or 2 diagnosed prior to pregnancy
 - risk factor(s) for gestational diabetes mellitus (GDM)
 - diagnosis of GDM

2. Immediate management Not applicable

3. Clinical assessment¹

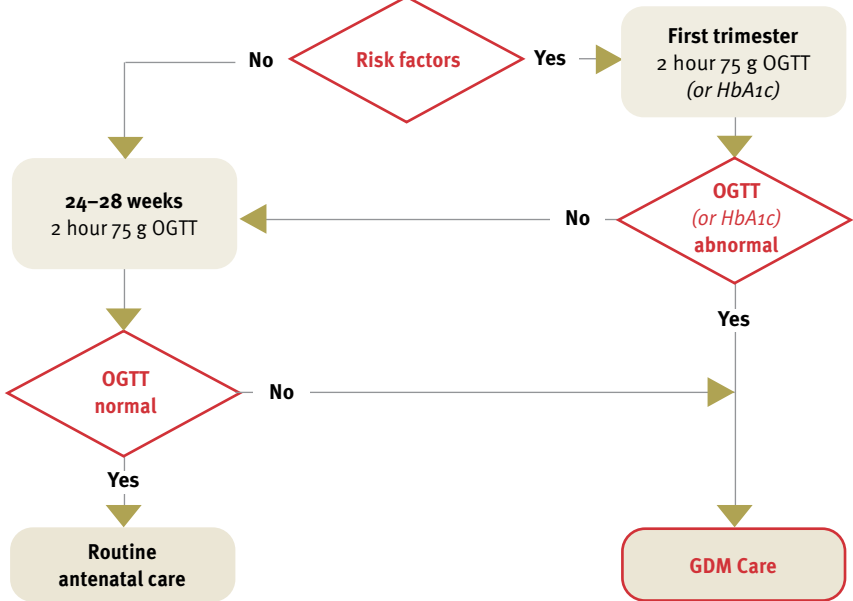
- **If pre-existing diabetes and +ve pregnancy test:**
 - get medication history
 - promptly discuss with MO/NP/pharmacist regarding the need for/safety of use of current medicines in pregnancy
 - oral hypoglycaemics may need to be substituted with insulin
 - refer to MO/NP/obstetrician for further assessment and pregnancy care planning
- **For GDM** - see following flowchart
- **If post bariatric surgery** eg gastric banding - OGTT may not be suitable, consult MO/NP

Screening and diagnosis of GDM¹

Assess all pregnant women for risk factors

- Risk factors for GDM**
- BMI > 30 pre-pregnancy or on entry to care
 - Ethnicity - Aboriginal and Torres Strait Islander, Pacific Islander, Maori, Asian, Indian subcontinent, Middle Eastern, Non-white African
 - Previous GDM
 - Previous elevated BGL
 - Maternal age ≥ 40 years
 - Family history DM - 1st degree relative or sister with GDM
 - Previous large for gestational age - birth weight > 4500 g or > 90th percentile
 - Previous perinatal loss
 - Polycystic ovary syndrome
 - Medications - corticosteroids, antipsychotics
 - Multiple pregnancies

- GDM diagnosis**
- **OGTT 1 or more of:**
 - fasting ≥ 5.1
 - 1 hour ≥ 10
 - 2 hour ≥ 8.5
 - **HbA_{1c} (if OGTT not suitable)**
 - 1st trimester only
 - Result ≥ 41 mmol/mol (or 5.9%)



Flowchart adapted from: Qld Clinical Guideline *Gestational diabetes mellitus* (2021)

4. Management¹

- In addition to standard [Antenatal care, p. 364](#)
- Multidisciplinary approach recommended:
 - include the woman, midwife, obstetrician, endocrinologist (or physician experienced in diabetes care during pregnancy), diabetes educator + dietitian
 - consider optometrist and dentist input
 - ensure early referral(s)
- Provide advice on the importance of:
 - monitoring + controlling BGL during pregnancy
 - breastfeeding for mother + baby
- Provide emotional support to the woman

Pre-existing diabetes in pregnancy¹⁻³

- First antenatal visit should occur as soon as possible once pregnancy confirmed
- Initial evaluation may include:
 - usual antenatal testing. See [Antenatal care, p. 364](#)
 - serum glucose, HbA_{1c}, lipid profile, TSH, thyroid peroxidase antibodies, urine albumin/creatinine ratio, creatinine clearance, Hb, serum ferritin
 - recommend + continue high dose folate (5 mg/day) until 12 weeks gestation
- A management plan will be developed to achieve near-normal glycaemia. This may include:
 - individualised dietary advice
 - encouraging daily physical activity
 - self-monitoring BGL - fasting and 1–2 hours postprandial (after meals)
 - insulin in place of oral hypoglycaemics, titrated as needed
- Additionally specialist may consider:
 - examination of retina during each trimester, more frequent if retinopathy is present
 - USS monitoring of fetal growth + amniotic fluid volume 4 weekly from 28–36 weeks
 - close surveillance for new diabetes complications and monitoring of existing complications

Gestational diabetes mellitus (GDM)¹

- See **Antenatal schedule of care for GDM** (table)
- Suggested BGLs for GDM are:
 - fasting ≤ 5.0
 - 1 hour after commencing meal ≤ 7.4
 - 2 hours after commencing meal ≤ 6.7
- Insulin may be required for optimal control:
 - must be calculated and ordered by clinician with expertise in diabetes in pregnancy
 - will need regular review and titration to achieve glycaemic goals

Antenatal schedule of care for GDM

At initial GDM diagnosis	
Discuss/review/refer	Considerations
<input type="checkbox"/> Review history	Previous GDM, medications
<input type="checkbox"/> Diabetes educator consult	For GDM education within 1 week of diagnosis
<input type="checkbox"/> Dietitian review	Within 1 week of diagnosis
<input type="checkbox"/> Psychosocial assessment/support	Refer as required
<input type="checkbox"/> BGL self-monitoring	Commence self-monitoring
<input type="checkbox"/> BMI (pre-pregnancy)	Discuss healthy weight gain targets
<input type="checkbox"/> Physical activity, lifestyle advice	Include smoking cessation
<input type="checkbox"/> Baseline ultrasound scan (USS)	At 28–30 weeks
<input type="checkbox"/> Initial laboratory investigations	<input type="checkbox"/> Serum creatinine
<input type="checkbox"/> If diabetes in pregnancy (pre existing/ undiagnosed diabetes mellitus suspected)	<input type="checkbox"/> Optometrist/ophthalmologist review for diabetic retinopathy
	<input type="checkbox"/> Microalbuminuria for diabetic nephropathy
Each visit	
Discuss/review/refer	Considerations
<input type="checkbox"/> Clinical surveillance	Review for complications (eg pre-eclampsia)
<input type="checkbox"/> Weigh	Review weight gain trends, diet, exercise
<input type="checkbox"/> Test urine	Investigate ketonuria, proteinuria
<input type="checkbox"/> Review BGL self-monitoring record	Review patterns, trends and mean BGL
<input type="checkbox"/> Psychosocial assessment/support	Refer as required
<input type="checkbox"/> Fetal growth and wellbeing (abdominal circumference; USS 2–4 weekly as indicated)	
<input type="checkbox"/> If pharmacological therapy commenced	<input type="checkbox"/> Follow up contact within 3 days
	<input type="checkbox"/> Weekly diabetes educator review
	<input type="checkbox"/> Dietitian review
<input type="checkbox"/> Review suitability of model of care (Low risk not suitable if insulin or metformin required)	<input type="checkbox"/> Low risk GDM
	<input type="checkbox"/> Diabetic Clinic
	<input type="checkbox"/> Obstetric
	<input type="checkbox"/> Other
<input type="checkbox"/> Review next contact requirements (increase frequency if: suboptimal BGL, early diagnosis, diabetes in pregnancy, pharmacological therapy commenced)	<input type="checkbox"/> Fortnightly until 38 weeks
	<input type="checkbox"/> Fortnightly until 36 weeks
	<input type="checkbox"/> Weekly until birth
	<input type="checkbox"/> Other

Hypoglycaemia in pregnancy¹

- Fasting BGLs tend to decrease in pregnancy
- Levels of 3.5 may be physiologically normal and asymptomatic
- Hypoglycaemia is uncommon in women with GDM:
 - if asymptomatic confirm the accuracy of results prior to treatment
 - for symptoms. See [Hypoglycaemia, p. 91](#)
- Mild hypoglycaemia:
 - BGL < 4.0 ± symptoms of low BGL
- Severe hypoglycaemia:
 - BGL very low, generally < 3.0
 - confusion, potential loss of consciousness

Treating hypoglycaemia in women on glucose lowering medication¹

- Give 15 g serve of fast acting carbohydrates eg:
 - 5–7 glucose jelly beans
 - glass of soft drink - not diet
 - Lucozade® 100mL
 - 3 heaped teaspoons of sugar or honey dissolved in water
- If after 15 minutes symptoms persist or BGL < 4.0:
 - repeat one serve of above
 - do not over treat with fast acting carbohydrates, as may lead to rebound hyperglycaemia
 - when BGL is ≥ 4.0 give sandwich, crackers, a glass of milk (longer lasting carbohydrate) or usual meal if within 30 minutes

5. Follow up

- As per individualised plan of care
- If GDM advise woman to be screened for:¹
 - persistent diabetes at 6–12 weeks postpartum using the OGTT and non-pregnancy diagnostic criteria
 - diabetes at least every 3 years and early glucose testing in future pregnancy

6. Referral/consultation

- Early referral for a multidisciplinary approach to care as per local protocols/individualised plan of care

HMP Hypertension in pregnancy

Recommend¹

- Severe hypertension in pregnancy is a life-threatening medical emergency
- Hypertension in pregnancy, 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/obstetrician
- Correct BP cuff and measurement technique is critical for correct diagnosis

Background^{1,2}

- Pre-existing hypertension is a strong risk factor for preeclampsia
- **Transient gestational hypertension** - arises in 2nd and 3rd trimester. Settles after repeated BP readings (over several hours)
- **Gestational hypertension** - arises > 20 weeks, resolves within 3 months postpartum
- **Chronic hypertension** - confirmed preconception or < 20 weeks without a known cause (essential, secondary, white coat)
- **Preeclampsia, p. 386** - a multi-system disorder characterised by hypertension arising > 20 weeks. It involves 1 or more other organ systems ± the fetus
- **Preeclampsia superimposed on chronic hypertension** - woman with pre-existing hypertension develops systemic features of preeclampsia > 20 weeks
- Dipstick testing is the least accurate method to check for proteinuria (high false +ve):
 - where possible use PoCT and confirm proteinuria of $\geq 2+$ or repeated $1+$ with urine PCR²
- Also see Qld Clinical Guideline *Hypertension and pregnancy* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with²

- Pregnant woman with:
 - new onset of hypertension arising > 20 weeks
 - rise in sBP ≥ 30 and/or rise in dBP ≥ 15 from their booking in or preconception BP¹
 - pre-natal diagnosis of chronic hypertension with increase in BP

Hypertension in pregnancy ¹	
Mild to moderate hypertension	BP measured at least 4 hours apart, with elevation occurring at least twice: <ul style="list-style-type: none"> • Systolic BP (sBP) ≥ 140 (but < 160) and/or • Diastolic BP (dBP) ≥ 90 (but < 110)
Severe hypertension	<ul style="list-style-type: none"> • sBP ≥ 160 and/or dBP ≥ 110
Medical emergency	<ul style="list-style-type: none"> • sBP ≥ 170 with or without dBP ≥ 110

2. Immediate management¹

- Consult MO/NP urgently if:
 - severe hypertension
 - ± signs of [Preeclampsia, p. 386](#)
 - ± concerns about fetal wellbeing eg decreased fetal movements
- **If severe hypertension:**
 - **note:** woman may not appear ill. Do not delay treatment
 - insert IVC x 2 eg 16 G
 - **urgently consult MO/NP, who may advise** nifedipine ± hydralazine
 - **target BP:**
 - SBP 130–150 and dBP 80–90
 - aim for gradual and sustained ↓ BP so blood flow to the baby is not compromised
 - monitor BP 15–30 minutely until stable, then minimum 4 hourly
 - listen to FHR frequently + continuous CTG if > 24 weeks, if available
 - urgent evacuation required for obstetric care

S4	Nifedipine			Extended authority ATSHP/IHW/IPAP/MID/RIPRN
ATSHP, IHW, IPAP and RN must consult MO/NP				
RIPRN must consult MO/NP unless circumstances do not allow, in which case notify the MO/NP as soon as circumstances do allow				
MID may proceed to a max. of 2 doses				
Form	Strength	Route	Dose	Duration
Tablet (immediate release)	10 mg 20 mg	Oral	10–20 mg	stat May be repeated after 45 minutes on MO/NP orders (max. 80 mg)
Offer CMI: May cause nausea, headache, flushing, dizziness, hypotension or peripheral oedema				
Note: May increase effects of magnesium sulfate and risk of hypotension; use cautiously				
Contraindication: Cardiac disease				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				2,3

S4	Hydralazine			Prescribing guide
MID, RIPRN and RN only. Must be ordered by an MO/NP				
Form	Strength	Route	Dose	Duration
Injection	20 mg	IV	*Intermittent bolus dose 5–10 mg injected over 3–10 minutes Repeat doses of 5 mg, 20 minutes apart if required (max. 30 mg)	stat Cease if maternal HR > 125
			Infusion (via controlled infusion device) Commence at 10–20 mg/hour and titrate to BP	
Offer CMI: May cause tachycardia, headache, flushing or palpitations				
Note: *5 mg if fetal compromise. Monitor BP and HR continuously ⁴ during administration and until stable. For detailed administration advice see Appendix C of Qld Clinical Guideline <i>Hypertension and pregnancy</i> https://www.health.qld.gov.au/qcg/publications				
Contraindication: Severe or immediate allergic reaction to hydralazine. SLE, severe tachycardia, myocardial insufficiency and right ventricular heart failure				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				1,4

3. Clinical assessment^{1,2}

- Refer to midwife/MO/NP for clinical assessment. If midwife not available, complete what you can within your scope of practice and always consult MO/NP
- **Ask about:**
 - any symptoms of [Preeclampsia, p. 386](#)
 - fetal movements - normal, decreased, any concerns
 - any other symptoms
 - obstetric history:
 - current gestation, BP during this pregnancy
 - pre-existing proteinuria - if so, has this increased
 - past history. Ask about:
 - diabetes, kidney disease, endocrine disorders - Cushing's syndrome, SLE
 - known pre-natal hypertension
 - medicines
- **Do:**
 - vital signs
 - listen to FHR + every 30 minutes, or continuous CTG if > 24 weeks, if available
 - weight
 - urinalysis dipstick for protein - use point of care automated analyser if possible:
 - if $\geq 2+$ or repeated $1+$ proteinuria, or preeclampsia is suspected, obtain urine PCR
 - check for signs of [Preeclampsia, p. 386](#)
 - bloods - FBC, UEC, urate, LFT including LDH

4. Management^{1,2}

- Consult MO/NP in all cases of hypertension in pregnancy
- **If mild–moderate hypertension:**¹
 - MO/NP may consider oral antihypertensives if:
 - sBP persistently > 140 **and/or** dBP persistently > 90 on subsequent checks
 - and no signs/symptoms of preeclampsia
 - suggested targets sBP 110–140, dBP 85
- Further management as per MO/NP advice

5. Follow up^{1,2}

- MO/NP may refer for USS for fetal growth, amniotic fluid volume and umbilical artery doppler assessment
- Continued review/antenatal appointments according to the woman's clinical needs or MO/NP advice
- Advise woman to present immediately if any symptoms of preeclampsia

6. Referral/consultation

- As above

HMP Preeclampsia/eclampsia

Recommend¹

- Women with preeclampsia must be evacuated/hospitalised for obstetric care
- Magnesium sulfate is the preferred anticonvulsant for prevention + treatment of eclampsia

Background^{2,3}

- ↑ BP is commonly (but not always) the first manifestation. Correct BP cuff + measurement technique is critical for correct diagnosis
- **Preeclampsia** is a multi-system disorder characterised by hypertension arising > 20 weeks. It involves 1 or more other organ systems ± the fetus. Clinical progression is unpredictable¹
- **Eclampsia** is the development of 1 or more convulsions superimposed on preeclampsia in the absence of other neurological conditions that could account for the seizure¹
- Proteinuria is common but is not mandatory to make the clinical diagnosis¹
- Dipstick testing is the least accurate method to ascertain proteinuria (high false +ve). Where possible use PoCT + confirm proteinuria of ≥ 2+ or repeated 1+ with urine PCR
- Also see Qld Clinical Guideline *Hypertension and pregnancy* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with²

- Pregnant woman with hypertension arising > 20 weeks (confirmed on 2 or more occasions) AND with 1 or more **Features of preeclampsia**

Features of preeclampsia - in addition to hypertension ^{1,3}	
Features	<ul style="list-style-type: none"> • Proteinuria on dipstick - ≥ 2+ or repeated 1+ • Fetal growth restriction
Severe features	<p>May include any of:</p> <ul style="list-style-type: none"> • sBP ≥ 160 or dBP ≥ 110 (confirmation within 15–30 minutes is sufficient) • Persistent new ± severe headache • Visual disturbances eg blurred vision, flashing lights/sparks, dark areas/gaps in visual field, double vision, blindness in 1 eye • Altered mental state/confusion • Severe epigastric pain ± right upper quadrant pain • Hyper-reflexia and ankle clonus • Dyspnoea, pulmonary oedema • Oliguria, nausea ± vomiting • Reduced fetal movements • Stroke, biochemical changes of blood tests - HELLP syndrome
Imminent eclampsia	<p>At least 2 of:</p> <ul style="list-style-type: none"> • Frontal headache • Visual disturbance • Altered level of consciousness • Hyper-reflexia • Epigastric tenderness
Eclampsia	<ul style="list-style-type: none"> • Fitting

2. Immediate management^{1,2}

If fitting

- Send for help
- Urgently consult MO/NP
- Start resuscitative measures + give O₂ by mask
- Insert IVC x 2 eg 16 G
- Magnesium sulfate will be ordered by the MO/NP
- Give midazolam if:
 - seizures occur/ongoing while preparing magnesium sulfate OR
 - if seizures reoccur during giving of magnesium sulfate
 - **note:** most seizures are 1–3 minutes + may not require drug treatment
- Further management as per MO/NP, including:
 - urgent evacuation
 - vital signs every 5 minutes
 - insert IDC - measure urine output hourly, maintain strict fluid balance
 - RR + patella reflexes hourly
 - listen to FHR frequently - continuous CTG if > 24 weeks, if available

If features of severe preeclampsia or imminent eclampsia¹

- Urgently consult MO/NP, who may order:
 - nifedipine or hydralazine.¹ See [Hypertension in pregnancy, p. 383](#)
 - ± magnesium sulfate to prevent eclampsia¹
- Insert IVC x 2 eg 16 G
- Urgent evacuation
- Do vital signs every 5 minutes

S4	Midazolam		Extended authority ATSIHP/IHW/MID/RIPRN	
ATSIHP, IHW and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Injection	5 mg/5 mL	IV/IM (ATSIHP and IHW may NOT administer IV)	5–10 mg	stat If IV, inject slowly over at least 2–5 minutes Further doses on MO order
	5 mg/1 mL			
	5 mg/1 mL	Buccal Intranasal		
Administration advice: Buccal: slowly drip into mouth between gums and cheek using a syringe or squeeze directly from the <i>plastic ampoule</i> . Intranasal: use mucosal atomisation device (MAD) or 1–3 drops (<i>plastic ampoule</i>), 1 at a time into alternative nostrils until full dose is given (over 15 seconds)				
Note: Monitor for sedation and respiratory depression				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				1,4,5

Unscheduled	Magnesium sulfate			Prescribing guide
MID, RIPRN and RN only. Must be ordered by an MO/NP				
Use local protocols for administration of magnesium sulfate if available				
Form	Strength	Route	Dose	Duration
Injection	2.5 g/5 mL	IV	Loading dose 4 g Draw up 8 mL (4 g) and dilute to 20 mL with sodium chloride 0.9%	Infuse over 20 minutes using syringe pump*
			Maintenance dose 1 g/hour (10 g) Draw up 20 mL (10 g) and dilute to a total of 50 mL with sodium chloride 0.9%	Infuse at 5 mL/hour for 24 hours using syringe pump
			New onset or persistent seizures while on magnesium sulfate Give a further 4 mL (2 g) diluted in 10 mL of sodium chloride 0.9%	Infuse over 5 minutes Repeat in 2 minutes if seizures persist
OR if using prefilled syringe - no dilution required				
Prefilled syringe (Baxter®)	4 g/20 mL	IV	Loading dose 4 g	Infuse over 20 minutes using syringe pump*
	10 g/50 mL		Maintenance dose 1 g/hour (10 g)	Infuse at 5 mL/hour for 24 hours using syringe pump
			New onset or persistent seizures while on magnesium sulfate Give a further 10 mL (2 g)	Infuse over 5 minutes Repeat in 2 minutes if seizures persist
Offer CMI: May cause nausea, vomiting or transient hot flushing				
Note: If impaired renal function, reduce maintenance dose to 0.5 g/hour. Observe for signs of toxicity.				
*If no syringe pump, push loading dose slowly over 20 minutes				
Management of associated emergency: Contact MO/NP. Cease infusion. Calcium gluconate should be readily available in case of respiratory depression/overdose. Hypotension alone will generally respond to IV fluids and parenteral calcium is rarely necessary. Also see Anaphylaxis, p. 82 1,2,7-9				

Unscheduled	Calcium gluconate			Prescribing guide
MID, RIPRN and RN only. Must be ordered by an MO/NP				
Form	Strength	Route	Dose	Duration
Injection	2.2 mmol/10 mL	IV	10 mL	stat Inject slowly over 5–10 minutes into a large peripheral vein
Offer CMI: Given for overdose of magnesium sulfate				
Note: High-risk medicine and is rapidly fatal in overdose. Extravasation can cause tissue necrosis				
Contraindication: Subcut and IM route				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 6,10				

If magnesium sulfate ordered¹

- See Qld Clinical Guideline *Hypertension and pregnancy* for detailed administration advice <https://www.health.qld.gov.au/qcg/publications#maternity> - or local policy
- **Before starting** have:
 - calcium gluconate drawn up in case of respiratory depression/overdose
 - resuscitation/ventilator support immediately available
 - dedicated IV line
 - do base line vital signs, patella reflex, abdominal palpation, FHR
- **During loading dose:**
 - vital signs 5 minutely until stable - for 20 minutes
 - SpO₂ continuously
 - listen to FHR 15–30 minutely - continuous CTG if > 24 weeks, if available
 - **monitor for signs of magnesium toxicity:** nausea, vomiting, flushing, hypotension, muscle weakness, muscle paralysis, blurred or double vision, CNS depression + loss of reflexes
- **After loading dose** - check patella reflex
- **Maintenance dose** - start after loading dose
- **Stop the infusion** + consult MO/NP immediately if:
 - RR < 12 or > 4 below baseline OR
 - absent patella reflex OR
 - dBP decreases > 15 below baseline

3. Clinical assessment^{2,3}

- Refer to midwife/MO/NP for clinical assessment. If no midwife available, complete what you can within your scope of practice + always consult MO/NP
- **Ask about:**
 - associated symptoms
 - signs of preeclampsia
 - fetal movements - normal, decreased, any concerns
 - current + previous pregnancy, any problems
- **Past history**, any:
 - renal disease, hypertension
 - risk factors for preeclampsia eg diabetes, first pregnancy, BMI > 30, past/family history of preeclampsia
- **Do:**
 - vital signs + listen to FHR
 - work out current gestation
 - patella reflex
 - dipstick for proteinuria, **note:** confirm proteinuria ≥ 2+ or repeated 1+ by urine PCR
 - check for signs of preeclampsia
- Take bloods - FBC, UEC, LFT including LDH, coagulation studies, group and hold

4. Management²

- Promptly contact MO/NP if hypertension in pregnancy with symptoms of preeclampsia
- Will likely require evacuation/hospitalisation for further investigations

5. Follow up⁶

- If not evacuated/hospitalised review according to MO/NP instructions
- Once a diagnosis of preeclampsia is established, testing for proteinuria is no longer useful
- Consult MO/NP promptly if BP raised again

6. Referral/consultation

- Consult MO/NP on all occasions of BP > 140/90 in pregnancy

HMP Antepartum haemorrhage (APH) Vaginal bleeding after 20 weeks pregnant

Recommend^{1,2}

- APH associated with maternal or fetal compromise should be treated as an obstetric emergency
- Suspect placenta praevia in any woman > 20 weeks who presents with vaginal bleeding

Background

- Also see Qld Clinical Guidelines *Early pregnancy loss + Primary postpartum haemorrhage* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with^{1,2}

- Pain without bleeding may be only symptom eg placental abruption
- Vaginal bleeding > 20 weeks pregnant - spotting to massive haemorrhage
- Signs of shock, **note:** shock may be late sign:^{1,4}
 - ↑ HR, ↓ BP, ↑ RR
 - restlessness
 - sweating
 - cool, clammy skin
 - ↓ urine output

2. Immediate management^{1,2,5}

- If bleeding very heavy or signs of shock:
 - call for help
 - consult MO/NP urgently
 - insert IVC x 2 eg 16 G
 - start sodium chloride 0.9% or Hartmann's 1000 mL - then as ordered by MO/NP
 - vital signs - continuously monitor or at least every 15 minutes
 - do rapid history/examination - **do not perform digital vaginal examination**
 - take blood for FBC, coagulation studies, group and x-match, LFT, UE
 - lie woman in left lateral position - not supine

3. Clinical assessment¹⁻³

- **Ask about:**
 - bleeding - amount, when did it start, any clots, gradual or sudden onset
 - did bleeding start after sex
 - pain - where, how severe, continuous/intermittent:
 - consider placental abruption if continuous, or labour if intermittent
 - recent trauma to abdomen - accidental or [Domestic and family violence, p. 241](#)

- fetal movements - normal, decreased or any concerns
- other symptoms/concerns
- **Check antenatal history:**
 - USS results if available - check location of placenta
 - estimate gestation based on dating scan or LNMP
 - blood group and antibody status
 - obstetric history - prior pregnancies/vaginal birth or caesarean, previous placenta praevia or placental abruption, miscarriages/ToP
- **Do:**
 - vital signs
 - check loss on pad - amount and rate of blood loss, weigh loss if possible
 - consider possibility of concealed bleeding - in uterine cavity
 - listen to FHR, needs confirming with USS if not heard
 - palpate abdomen - is uterus soft/hard, tender/non-tender, contracting
 - check fundal height
 - bloods - FBC, group and hold

4. Management^{1,3}

- Any bleeding heavier than spotting ± ongoing bleeding requires evacuation/hospitalisation
- Consult MO/NP who may advise:
 - insert IDC
 - corticosteroids if risk of preterm birth. See [Preterm labour, p. 397](#)
- Keep nil by mouth
- Offer analgesia. See [Acute pain, p. 32](#)
- Continue to monitor blood loss, pain + vital signs
- Listen to FHR every 30 minutes OR continuous CTG if > 24 weeks, if available
- If Rh D –ve with no pre-formed anti-D antibodies,⁶ offer [Rh D immunoglobulin, p. 369](#)
- Further management as per MO/NP

5. Follow up

- Offer grief counselling for parents who have experienced pregnancy loss

6. Referral/consultation

- As above

HMP Prelabour rupture of membranes (PROM)

Recommend

- If preterm, antibiotics are given to reduce the risk of infection to mother and baby + delay the onset of labour¹

Background

- Also see Qld Clinical Guidelines *Term prelabour rupture of membranes, Preterm prelabour rupture of membranes + Early onset Group B Streptococcal Disease* <https://www.health.qld.gov.au/qcg/publications>

1. May present with^{1,2}

- Gush of fluid from vagina
- Intermittent or constant leaking of small amounts of fluid
- Sensation of wetness
- Seeing or feeling umbilical cord protruding from vagina

2. Immediate management⁵

- If umbilical cord is protruding treat as an obstetric emergency. See [Cord prolapse, p. 415](#)
- Listen to FHR - normal is 110–160:
 - if tachycardia or bradycardia:
 - reposition woman + recheck
 - check for cord prolapse
 - contact MO/NP urgently

3. Clinical assessment¹⁻³

- Wherever possible a woman who is thought to have ruptured membranes should be assessed by a midwife or MO/NP
- **Ask about:**
 - when did she first notice the fluid - date/time
 - how much - gush, small leak, just wetness
 - still leaking
 - colour of fluid - clear, yellow, green, bloody
 - any odour
 - fetal movements - normal, decreased or any concerns
 - abdominal or pelvic pain, contractions
 - fever, nausea/vomiting
 - other symptoms/concerns eg UTI + STI⁵
- **Ask about** this pregnancy:
 - antenatal history - check records/pathology results eg GBS status
 - gravida/para
 - estimated gestation based on dating scan or LNMP
 - USS reports
 - concerns or problems - diabetes, hypertension
 - STI tests - when, results, treatment
- **Get past history:**
 - medicines, allergies

- reproductive, sexual history
- **Do:**
 - vital signs
 - listen to FHR OR continuous CTG if > 24 weeks, if available
 - check vaginal loss on pad - amount, colour, consistency, odour, bleeding, meconium stained
 - abdominal palpation - tenderness, fundal height, fetal lie + presentation, contractions (strength/length/frequency)
- Avoid digital vaginal examination - may increase risk of infection^{1,2}
- Sterile speculum examination **if skilled to:**
 - exclude cord prolapse
 - observe the cervix for dilation/length
 - check for pooling of amniotic fluid or leakage from the cervical os with coughing:
 - if not obvious, AmniSure® or pH indicator eg Nitrazine® can be used^{1,2}
 - take:
 - LVS-anal swab for GBS
 - HVS for chlamydia, gonorrhoea and trichomonas PCR
 - additional HVS for MCS if indicated
- **Take pathology:**
 - urinalysis and MSU for MCS
 - FBC, CRP + antenatal bloods if not already collected
 - if no speculum examination, get self or clinician collected swabs:
 - LVS for chlamydia, gonorrhoea and trichomonas PCR¹
 - LVS-anal swab for GBS⁶
 - **note:** if unable to collect swab do FCU for chlamydia, gonorrhoea + trichomonas PCR

How to take a swab for culture for GBS⁶

- Either vaginal-rectal swab OR vaginal-perianal swab. **Woman may self collect**
- Use one single dry swab stick - insert 2–4 cm into vaginal opening + then:
 - for vaginal-anorectal - insert into anus
 - for vaginal-perianal - swab the surface outside of the anus
 - place into standard bacterial transport medium
 - label 'GBS screening in pregnancy'

4. Management^{1,2}

- Consult MO/NP on all occasions
- MO/NP may advise:
 - evacuation/hospitalisation
 - if < 37+0 weeks, antibiotics:⁶
 - IV ampicillin PLUS oral erythromycin
 - + ongoing antibiotics as per MO/NP
 - if < 35 weeks give betamethasone to accelerate fetal lung maturation.¹ See [Preterm labour, p. 397](#) for doses
 - **note:** if > 35 weeks betamethasone may still be indicated - check with MO/NP⁸
 - magnesium sulfate if < 30 weeks + birth likely in 24 hours.¹ This is done in consultation with tertiary centre. If ordered see [Magnesium sulfate drug box, p. 388](#) for guidance
- Monitor woman + listen to FHR/CTG until evacuation as per MO/NP instructions

S ₄	Ampicillin			Extended authority ATSIHP/IHW/IPAP
ATSIHP, IHW, IPAP, MID, RIPRN and RN must consult MO				
Form	Strength	Route	Dose	Duration
Injection	500 mg 1 g	IV	2 g	stat Inject over 10–15 minutes <i>More rapid injection may cause seizures</i>
Offer CMI: May cause rash, diarrhoea, nausea and pain at injection site				
Contraindication: Severe hypersensitivity to penicillins, carbapenems and cephalosporins. Do not mix with aminoglycosides eg gentamicin				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 6,10,11				

S ₄	Erythromycin			Extended authority ATSIHP/IHW/IPAP
ATSIHP, IHW, IPAP, MID, RIPRN and RN must consult MO				
Form	Strength	Route	Dose	Duration
Capsule	250 mg	Oral	250 mg	stat
Offer CMI: Take on an empty stomach 1 hour before or 2 hours after food. May cause nausea, vomiting, diarrhoea, abdominal pain/cramps or thrush. Can be taken with food if causes stomach upset				
Contraindication: Use with some statins. Severe or immediate allergic reaction to macrolides. Severe hepatic impairment. Use with caution in patients with myasthenia gravis				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 6,9				

5. Follow up

- Evacuation/hospitalisation for ongoing management

6. Referral/consultation

- As above

Labour and birth

HMP Group B Streptococcus prophylaxis

Background^{1,2}

- Group B *Streptococcus* (GBS) in the pregnant woman's vagina increases the risk of the newborn baby getting sepsis. Antibiotics are given to the woman during labour to reduce this risk
- Also see Qld Clinical Guideline *Early onset group B streptococcal disease* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with

- Pregnant woman during antenatal visit, or in labour

2. Immediate management Not applicable

3. Clinical assessment¹

- Assess for **Group B Strep (GBS) risk factors**

Group B Strep (GBS) risk factors - any of	
Antenatal	
<input type="checkbox"/>	Previous baby with early onset Group B Strep disease
	Group B Strep detected in this pregnancy eg:
<input type="checkbox"/>	<ul style="list-style-type: none"> • urine pathology test • vaginal swab - note routine swabs for GBS are not done in Qld
During labour	
<input type="checkbox"/>	Any of the above risk factors
<input type="checkbox"/>	Preterm labour < 37+0 weeks: <ul style="list-style-type: none"> • Intact OR ruptured membranes
<input type="checkbox"/>	Mother has T ≥ 38*
<input type="checkbox"/>	Membranes have ruptured: <ul style="list-style-type: none"> • > 14 hours and birth unlikely by 18 hours OR • > 18 hours
*Or signs of chorioamnionitis: febrile; offensive smelling vaginal discharge; tender abdomen without contractions	

- Document in medical record
- Advise woman **antibiotics are recommended during labour** + to alert staff to this
- Give information about GBS + antibiotics. See *Consumer information* <https://www.health.qld.gov.au/qcg/publications#maternity>

- Give **Antibiotics during labour**
- Aim to give at least 4 hours before birth

4. Management¹

If antibiotics indicated during labour

- **If maternal T ≥ 38** consult MO/NP, who will:
 - order broad spectrum antibiotics that include an agent active against GBS (instead of antibiotics below), and
 - seek urgent advice from neonatologist/paediatrician
- **In all other cases**, if not allergic, give:
 - IV benzylpenicillin 3 g at the onset of labour
 - followed by IV benzylpenicillin 1.8 g every 4 hours until birth

- If allergic to penicillin:
 - IV lincomycin 600 mg 8 hourly
- A baby born to a woman at risk of GBS should be evacuated for neonatal/paediatric review as soon as possible

If antibiotics are given < 2 hours before birth ie birth too quick:¹

- Urgent paediatric/neonatal advice needed - baby is at ↑ risk of infection/sepsis
- **If baby < 37+0 weeks OR has signs of sepsis** eg respiratory distress, unstable temperature, they need:
 - antibiotics within 30 minutes of birth
 - FBC + blood cultures
- **If baby ≥ 37+0 weeks** they need:
 - FBC + observation for signs of infection for 48 hours

S4	Benzylpenicillin			Extended authority ATSIHP/IHW/IPAP/MID	
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP					
MID may proceed					
Form	Strength	Route	Dose	Duration	
Injection	600 mg 1.2 g 3 g	IV Reconstitute with 10 mL water for injections, then dilute in 100 mL sodium chloride 0.9%	First dose 3 g	At onset of labour	
			Ongoing doses 1.8 g	4 hourly after first dose until birth	
Offer CMI: May cause diarrhoea or nausea					
Note: Rapid IV injection of large doses may cause seizures. Infuse over 30 minutes to 1 hour					
Contraindication: Severe or immediate allergic reaction to a penicillin. Be aware of cross-reactivity between penicillins, cephalosporins and carbapenems					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					1,3,4

S4	Lincomycin			Extended authority ATSIHP/IHW/IPAP/MID	
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP					
MID may proceed					
Form	Strength	Route	Dose	Duration	
Injection	600 mg/ 2 mL	IV Dilute in 100 mL sodium chloride 0.9%	600 mg	8 hourly until birth	
				Infuse over at least 1 hour	
Offer CMI: May cause nausea, vomiting, diarrhoea, abdominal pain or cramps					
Note: If renal or hepatic impairment seek MO/NP advice. Must only be given by slow IV infusion - IV injection can cause severe cardiopulmonary reactions					
Contraindication: Severe or immediate allergic reaction to clindamycin or lincomycin					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					1,5,6

5. Follow up

- As per MO/NP

6. Referral/consultation

- Consult MO/NP as above

HMP Preterm labour

< 37+0 weeks gestation

Recommend

- Aim for in utero transfer wherever possible. If < 28 weeks, accept a high level of risk for birth occurring en route, unless it puts mother's life at risk¹

Background

- Also see Qld Clinical Guidelines *Preterm labour and birth ± Perinatal care of the extremely preterm baby* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with¹

- Contractions - abdominal pain + tightening that comes and goes ±
 - rupture of membranes (ROM)
 - a show - passage of bloody mucous
 - lower back pain

2. Immediate management

- If birth is imminent. See [Imminent birth, p. 403](#) + [Neonatal resuscitation, p. 408](#)
 - send for help + contact MO/NP urgently

3. Clinical assessment¹

- Assess by a midwife or MO/NP wherever possible
- Use prompts in [Labour 1st stage, p. 400](#) to ask about:
 - this presentation
 - pregnancy
 - past history
- Do physical examination, including:¹
 - vital signs
 - palpate abdomen, if skilled, check:
 - uterine tone, uterine activity/contractions, fundal height, presentation
- Listen to FHR + CTG if available
- Do sterile speculum examination, if skilled:¹
 - fetal fibronectin test (see table), before any examination of the cervix/vagina¹
 - check if ROM ± liquor - clear, meconium stained, bloody, pink
 - visualise cervix and membranes¹
 - HVS + MCS
- LVS-anorectal swab for Group B Strep. See [PROM, p. 392](#) for technique
- MSU + MCS¹
- MO/NP may advise to check cervical dilatation by sterile digital vaginal examination. Do not do if membranes ruptured or suspected placenta praevia¹

Fetal fibronectin (fFN) testing - measures the likelihood of preterm birth¹

Indications	<ul style="list-style-type: none"> Symptomatic preterm labour between 22+0 to 36+0 weeks AND intact membranes AND cervical dilatation \leq 3 cm
How to do	<ul style="list-style-type: none"> Follow test kit instructions Take the sample from posterior fornix of vagina Only use sterile water as lubricant
<p>Contraindications: Cervical dilatation $>$ 3 cm, ROM, cervical stitch in situ, presence of soaps, gels, lubricants or disinfectants. Relative contraindications: Visual evidence of moderate or gross bleeding, within 24 hours of sexual intercourse</p> <p>Results:</p> <ul style="list-style-type: none"> fFN $<$ 50 ng/mL (negative) suggests low risk of birth within 7–14 days fFN \geq 50 ng/mL (positive) suggests increased risk of preterm birth <p>Note: be aware of false negative/positive results. Contact MO/NP regardless of result</p>	

4. Management

- Insert IVC x 2
- Consult MO/NP early, who will:¹
 - arrange evacuation to an obstetrics facility with neonatal capability
 - \pm order transvaginal USS to assess cervical length
 - advise medication as per **Management guide** below
 - advise on [Observations during labour, p. 402](#)/other monitoring until evacuation

Management guide¹

< 34 weeks	<ul style="list-style-type: none"> Nifedipine to delay birth. If given, monitor: <ul style="list-style-type: none"> – FHR after contractions or CTG until contractions cease – BP, HR + RR every 30 minutes for 1 hour, then hourly
< 35+0 weeks	<ul style="list-style-type: none"> Betamethasone to accelerate fetal lung maturation: <ul style="list-style-type: none"> – monitor BGL after giving if diabetes
< 30+0 weeks	<ul style="list-style-type: none"> Magnesium sulfate if birth likely in 24 hours on MO/NP order, for fetal neuroprotection. Same doses as for Preeclampsia, p. 386
In all cases	<ul style="list-style-type: none"> If labour continues OR there is risk of birth within 24 hours: <ul style="list-style-type: none"> – give IV antibiotics for Group B Strep, p. 395 If signs of chorioamnionitis eg T $>$ 38, HR $>$ 100, FHR $>$ 160, uterine tenderness, offensive vaginal discharge: <ul style="list-style-type: none"> – labour should not be stopped. MO/NP will order IV antibiotics

S4	Betamethasone			Extended authority ATSIHP/IHW/IPAP/MID
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP				
MID may proceed				
Form	Strength	Route	Dose	Duration
Injection	5.7 mg/mL	IM	11.4 mg	stat Further doses on MO/NP order
Offer CMI: Given to prevent neonatal respiratory distress syndrome				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				

1,3

S ₄	Nifedipine			Extended authority ATSIHP/IHW/IPAP/MID
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP				
MID may proceed to a max. of 2 doses				
Form	Strength	Route	Dose	Duration
Tablet (immediate release)	10 mg 20 mg	Oral Crush or chew first 2 doses to increase rate of absorption	20 mg	stat Repeat dose after 30 minutes if contractions persist MO/NP may order another dose if contractions persist for a further 30 minutes
Offer CMI: May cause nausea, headache, flushing, dizziness, hypotension or peripheral oedema				
Note: May increase effects of magnesium sulfate and risk of hypotension; use cautiously				
Contraindication: Maternal hypotension, cardiac disease; any condition that would make prolongation of pregnancy hazardous				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				

1,2

5. Follow up

- Evacuation/hospitalisation for ongoing management

6. Referral /consultation

- As above

HMP Labour 1st stage

Recommend

- Birth during transport should be avoided unless there is significant risk to mothers life

Background¹

- This topic is intended for facilities that do not have planned births
- First stage of labour:
 - latent phase - irregular painful contractions, some cervical effacement
 - active phase (established labour) - regular painful contractions AND cervical effacement + dilatation of at least 4–6 cm. During this stage dilatation of 0.5 cm per hour is accepted progress
- Qld Intrapartum Record Form <https://clinicalexcellence.qld.gov.au/resources/clinical-pathways/maternity-clinical-pathways> (ordered through local health service)

1. May present with¹

- Contractions - abdominal pain and tightening that comes and goes ±
 - rupture of membranes
 - a show - passage of bloody mucous
 - lower back pain

2. Immediate management

- **Check for signs of Imminent birth, p. 403** ie:
 - urge to push/need to open bowels
 - vulval gaping/bulging, anal dilation, baby visible
 - shakiness, irritability, nausea and vomiting - could be transitioning to birth

3. Clinical assessment¹

- Wherever possible a woman who is thought to be in labour should be assessed by a midwife/MO
- **Ask about:**
 - contractions - when started, frequency, duration, strength/pain, regular/irregular
 - if membranes ruptured - when, colour, amount, odour
 - vaginal loss - discharge, blood
 - fetal movements - normal or decreased
- **Ask about the pregnancy** ± check *Pregnancy health record*:
 - weeks pregnant (dating scan most accurate):
 - preterm < 37 + 0 weeks. **If preterm, go to Preterm labour, p. 397**
 - term ≥ 37 weeks
 - antenatal care; where
 - one baby/more
 - complications during pregnancy eg hypertension, gestational diabetes, syphilis
 - how many pregnancies and births (gravida/para); vaginal births or caesareans, birth complications eg PPH, shoulder dystocia
 - medicines, allergies
 - relevant medical, gynaecological, surgical, social history
- **Check results:**
 - USS for placental position
 - Hb, syphilis, blood group (check if negative)

- **Assess Group B Strep risk.** See [GBS prophylaxis, p. 395](#)
 - if at risk, will need antibiotics during labour, as baby at risk of sepsis

Do physical examination¹

- Vital signs + urinalysis
- Vaginal loss - discharge, blood, liquor. Note colour, odour, amount, consistency
- **Feel contractions** - rest hand on abdomen and feel tightening:
 - note strength, frequency and length of each contraction over 10 minutes
 - regular/irregular
- **Listen to baby's heart rate (FHR)** if skilled:
 - normal is 110–160/minute:
 - differentiate between the baby's and mothers HR by taking radial pulse of mother at same time
 - if bradycardia or tachycardia, ask woman to change position and recheck - urgently contact MO/NP if still abnormal
 - consider CTG if available
- **Palpate abdomen** if skilled:
 - fundal height (cm) - measure suprapubic bone to top of uterus (fundus), may indicate gestation
 - fetal lie - longitudinal, transverse, oblique
 - presentation - cephalic (head), breech (buttocks/bottom)
 - position eg right occiput anterior (ROA)
 - descent into pelvic brim - 5ths of fetal head palpable above the symphysis pubis
- **Vaginal examination (VE)** (between contractions) **only if skilled:**
 - **do not do if** - antepartum haemorrhage, rupture of membranes and not in labour, placenta praevia, placental position unknown, suspected [Preterm labour, p. 397](#)
 - first, listen to FHR, ensure bladder empty, palpate abdomen
 - note - liquor, cervix dilatation + effacement, consistency (soft/firm), application of presenting part, membranes intact/not felt, level of presenting part to ischial spines (–3 to +3), fetal position
 - post VE listen to FHR
- If prelabour rupture of membranes (PROM) do speculum examination instead

4. Management¹

- Contact MO/NP early for advice:
 - **if woman is in labour** a decision will need to be made as to whether there is time to evacuate or if the woman will birth in the community
 - consider gestation, parity, stage of labour on presentation, labour progression, staff availability/skill level
 - if evacuation, ensure pregnancy health records/antenatal records go with woman
 - if birth in the community - prepare/check equipment; ensure assistance available
- Insert IVC x 2 eg 14–16 G
- **Support and reassure:**
 - ensure privacy, calmness; involve support person/partner
 - assist to comfortable position(s). Encourage upright positions
 - avoid lying flat on back, as can cause supine hypotension
 - encourage to drink to thirst, offer light food as desired
- **If membranes rupture:**¹
 - check FHR immediately. If abnormal do VE to check for [Cord prolapse, p. 415](#)
 - note time + colour of fluid (liquor)

Observations during labour ¹	
15–30 minutely	<ul style="list-style-type: none"> • Fetal heart rate - listen towards end of contraction + 30–60 seconds after contraction finished: <ul style="list-style-type: none"> – there should be no slowing of FHR after a contraction. If it slows, ask the woman to change her position and recheck. If still slow, consult MO/NP urgently
30 minutely	<ul style="list-style-type: none"> • Contractions - feel for 10 minutes. Expect 3–5 in 10 minutes, lasting for 60–90 seconds, with 60 seconds resting tone • HR, RR
Hourly	<ul style="list-style-type: none"> • Vaginal loss
2nd hourly	<ul style="list-style-type: none"> • Encourage to empty bladder. Monitor
4 hourly	<ul style="list-style-type: none"> • BP, T - if elevated urgently consult MO/NP: <ul style="list-style-type: none"> – if T \geq 38 MO/NP will order broad spectrum antibiotics that includes an active agent against GBS + seek urgent advice from neonatologist/paediatrician² – if BP elevated, see Preeclampsia, p. 386 • VE - more often if needed
As needed	<ul style="list-style-type: none"> • Abdominal palpation

- **Offer pain relief as needed:**¹
 - try non-pharmacological approaches as long as possible eg mobilisation, shower, massage, heat, breathing techniques. If needed, offer:
 - nitrous oxide + O₂ (Entonox®)
 - if still no relief and birth not imminent offer:
 - morphine (single dose). See [Acute pain, p. 32](#)
 - give lowest dose possible for adequate pain relief to minimise side effects
 - \pm antiemetic. See [Nausea and vomiting, p. 40](#)
- **A non-midwife must get an MO/NP order for analgesia**

S4	Nitrous oxide + oxygen (Entonox®)			Extended authority ATSIHP/IHW/IPAP/MID	
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP					
MID may proceed					
Form	Strength	Route	Dose	Duration	
Premix gas	Nitrous oxide 50% + oxygen 50%	Inhalation	Self administered as needed	As required	
Offer CMI: Woman to hold mouthpiece or mask herself. Start at onset of contraction/30 seconds prior, continue until contraction eases. Takes effect in 20–30 seconds. May cause dizziness, nausea and brief disinhibition					
Note: Monitor sedation score + RR. Use with caution if vitamin B12 deficiency or if opioid given					
Management of associated emergency: Consult MO/NP. Give oxygen if overdose					1,3

5. Follow up

- As per MO/NP

6. Referral/consultation

- As above

HMP Imminent birth

Recommend

- Avoid birth during transport if at all possible

Background^{1,2}

- This topic is intended for facilities that do not have planned births
- Episiotomy is generally only indicated if fetal compromise is evident. Not routine for preterm birth
- Intrapartum Record Form at <https://clinicalexcellence.qld.gov.au/resources/clinical-pathways/maternity-clinical-pathways> (ordered through local health service)
- Imminent Birth education program for rural + remote non-midwives at <https://www.health.qld.gov.au/employment/professional-development/online-education>

1. May present with¹

- Urge to push/bear down/open bowels
- Bulging perineum/anal dilation
- Baby is visible

2. Immediate management

- Stay with woman
- Send for help
- Get midwife/NP/MO to assess woman whenever possible
- Stay calm
- Ensure woman is in a safe, comfortable place; reassure and respect her privacy
- Prepare equipment eg emergency birth kit
- Use appropriate PPE
- **Ask assistant to:**
 - contact MO/NP for advice
 - insert IVC x 2 eg 14–16 G
 - draw up IM oxytocin 10 units¹ - kept in fridge
 - **prepare to care for baby.** See [Neonatal resuscitation, p. 408](#):
 - turn on/prepare incubator if available + warm towels/blanket(s) + hat
 - prepare [Neonatal resuscitation, p. 408](#) equipment ± warm room
 - will likely need resuscitation if preterm, especially if < 35 weeks

3. Clinical assessment^{1,3}

- Get rapid history as able ± check *Pregnancy health record*:
 - gestation - how many weeks pregnant; most accurate via dating scan:
 - term ≥ 37 weeks
 - preterm < 37+0 weeks - manage birth the same as term
 - gravida/para - how many pregnancies + births
 - have membranes ruptured - when/colour of fluid
 - fetal movements - normal or decreased
 - antenatal care - any problems
 - [Group B Strep, p. 395](#) risk, syphilis, diabetes, hypertension
 - allergies, medicines
 - any significant medical history

4. Management¹

- Encourage to adopt a comfortable position. Avoid lying flat
- If analgesia required offer nitrous oxide + O₂ (Entonox®). See [Labour 1st stage, p. 400](#)
- Support woman to use her own pushing instincts - do not tell her when/how hard to push

Monitor¹

- Fetal heart rate (FHR) - towards end of each contraction for at least 1 minute, or at least 5 minutely:^{1,7,8}
 - normal 110–160.⁸ **If abnormal, it could mean baby is distressed**
 - it is normal for FHR to drop during a contraction, but it should pick up again quickly
 - check mothers pulse simultaneously to differentiate between the two⁸
- Mothers HR + RR 15 minutely; BP + T 4 hourly
- Contractions - continually; frequency, strength, length
- Vaginal loss - continually

The birth^{1,3}

- If **feet or bottom presenting** instead of head, see [Breech birth, p. 426](#)
- **Perineum will stretch** as the head/presenting part comes down with contractions:
 - prevent faecal contamination from the anal area using a pad as needed
 - encourage woman to breathe gently/pant her baby's head out in a slow and controlled way
 - have 'hands on' head OR 'hands poised' on head and perineum²
 - no need to place firm pressure to maintain flexion of head
- If **fetal distress** and birth is being blocked by perineal tissue, consider [Episiotomy, p. 407](#) to expedite (if skilled + mother consents)²
- **Once head born** (note time):
 - no need to check for cord around neck¹
 - do not rush to birth the body
 - wait for next contraction and internal rotation - the head will turn sideways
 - with the next contraction, the shoulders should gently emerge:
 - usually the anterior shoulder slips out first (symphysis pubis side), followed by posterior
 - support the baby and lift onto the mother's abdomen
 - **note time of birth**
 - dry baby and remove wet towel(s)
 - cover with dry warm blanket + encourage skin to skin contact with mother
- If **shoulders do not birth** place a hand on either side of the baby's head and apply gentle axial traction in line with baby's spine. If still not releasing, see [Shoulder dystocia, p. 422](#)
- **Get assistant to check baby** within 15 seconds:
 - tone, breathing, HR

Immediately after birth³

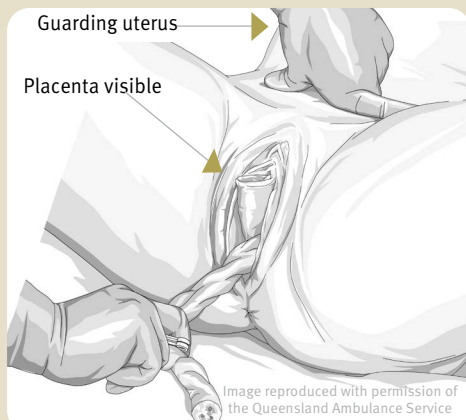
- Check for another baby - the top of the uterus should be no higher than the umbilicus and firm
- **THEN** give **IM oxytocin** to mother (before cord clamped)
- **Wait at least 1–3 minutes or for cord pulsation to cease - then clamp and cut the cord:**^{1,3}
 - do not clamp < 1 minute unless baby needs resuscitating away from mother
 - clamp 10 cm from baby's abdomen. Then place 2nd clamp 5 cm from the 1st (on placenta side)
 - cut cord between the clamps
- **Deliver placenta** using **Controlled cord traction**¹ (if skilled) - if not skilled get MO/NP advice

S ₄	Oxytocin	Extended authority ATSIHP/IHW/MID/RIPRN		
ATSIHP, IHW and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Injection	5 units/mL, 10 units/mL	IM	10 units	stat
Offer CMI: May cause nausea and vomiting				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				1,3,4

Controlled cord traction (CCT)^{1,3}

- Check oxytocin has been given to mother
- Reclamp cord closer to vaginal opening
- **WAIT for signs of separation** before CCT:
 - feel uterus rise in the abdomen + become firmer and globular (ballotable)
 - trickle or gush of blood from vagina
 - lengthening of the cord
 - cord does not retract with suprapubic pressure
 - woman may feel urge to bear down
 - placenta may be seen at vagina
- Avoid repeated palpation of uterus
- Use 1 hand to guard uterus with gentle pressure just above the symphysis pubis (counter traction)
- Then, with other hand gently apply downwards traction of cord
- As placenta delivers, hold in both hands and gently turn to twist/tease out the membranes
- **If the placenta does not descend during 20–30 seconds** of CCT or there is **resistance to CCT**:
 - stop pulling on cord - risk of breaking it or uterine inversion
 - hold cord loosely - without any pulling/traction, and wait
 - with next contraction, repeat CCT as above. If still not **coming > 30 minutes, consult MO/NP**

Be alert to uterine inversion - check fundus is felt in abdomen prior to CCT



Post birth of the placenta and membranes^{1,3}

- Immediately check top of uterus/**fundus is firm and central**:
 - massage the uterus if needed to ensure it remains contracted - may be uncomfortable
- Note the time
- **Estimate blood loss:**⁵
 - if heavy or persistent or ≥ 500 mL at any time, see [Primary PPH, p. 417](#)
 - if ≥ 350 mL, consider misoprostol 800 microg to help prevent PPH if in low resource area. See [Primary PPH, p. 417](#) for drug box
 - observe mother's vital signs for signs of haemorrhage eg \uparrow HR, \uparrow RR, colour
- **Check placenta and membranes** promptly (if skilled):
 - if not skilled, send with woman when evacuated
 - **if syphilis during pregnancy**, send placenta for histopathologic examination \pm cord PCR⁶
 - if needed, store/transport fresh or with sodium chloride 0.9%⁶ OR dispose as per mother's wishes (woman has right to take placenta home)

Placenta and membrane check¹

Placenta	<ul style="list-style-type: none"> • Complete or parts missing, general shape/appearance, any calcification, infarctions, evidence of abruption, succenturiate lobe
Membranes	<ul style="list-style-type: none"> • Complete or ragged, 1 amnion and 1 chorion, presence of vessels
Cord	<ul style="list-style-type: none"> • Insertion site; note if velamentous insertion (vessels in membranes) • 2 arteries and 1 vein • Collect cord blood if: <ul style="list-style-type: none"> – mother is Rh D –ve/unknown, for group and direct antiglobulin test (Coombs') (6 mL into EDTA tube + 5 mL into clotted blood tube) ± – preterm - FBC and blood cultures
Consult MO/NP if placenta looks incomplete; or offensive odour (+ get culture swab), or any other abnormality noticed	

Post-birth care¹

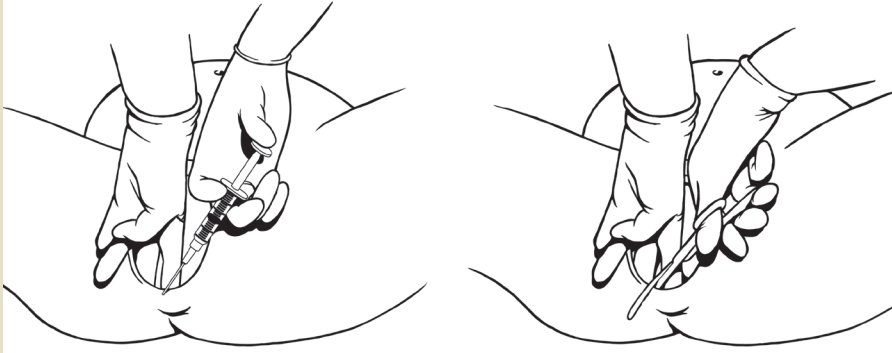
- First 1–2 hours post birth do not leave the mother and baby alone:
 - continue skin to skin contact; encourage breastfeeding
 - avoid unnecessary mother-baby separation
- Ensure comfort and personal hygiene needs, offer food; encourage drinking and mobilisation

Post birth observations and care^{1,3,9}

15–30 minutely for 1st 2 hours	<ul style="list-style-type: none"> • Vital signs (if T ↑ contact MO promptly) • Uterus (fundus) - should be firm and central (like a ball). If not, massage gently ± encourage to pass urine • Perineum + blood loss - be alert to a slow steady trickle
After first observations	<ul style="list-style-type: none"> • Inspect for perineal/vaginal trauma/tears: <ul style="list-style-type: none"> – offer pain relief eg nitrous oxide + O₂ (Entonox®). See Labour 1st stage, p. 400 – using good lighting, gently examine the vaginal walls and perineum using a piece of gauze wrapped around your gloved fingers – with consent, assess for anal sphincter injury (if skilled) – control bleeding from tears with direct pressure – do not attempt to repair unless trained. Can be left for receiving hospital
As needed	<ul style="list-style-type: none"> • Pain level
Within 2 hours	<ul style="list-style-type: none"> • Empty bladder
Within 6 hours	<ul style="list-style-type: none"> • Do venous thromboembolism (VTE) risk assessment: <ul style="list-style-type: none"> – eg see <i>VTE prophylaxis in pregnancy and the puerperium</i> https://www.health.qld.gov.au/qcg/publications
If Rh D –ve blood group or unknown	<ul style="list-style-type: none"> • Take bloods for Kleihauer • Rh D immunoglobulin, p. 369 needed within 72 hours if baby's blood group positive/unknown (receiving hospital can do this)
Syphilis bloods⁶	<ul style="list-style-type: none"> • Take bloods for syphilis serology if: syphilis during pregnancy, at High risk of syphilis, p. 368, no serology after 26–28 weeks AND woman at Increased risk of syphilis, p. 368, or preterm birth with most recent serology > 4 weeks before birth

Episiotomy²

- Only midwife/NP/MO should do episiotomy. Ensure consent from woman
- Infiltrate with lidocaine (lignocaine) 1%
- Place two fingers in the vagina, position blades of episiotomy scissors between fingers
- Make a 4–5 cm cut at **60° angle**, right side (generally) of perineum at the height of the contraction, with descent of the fetal head (presenting part) just prior to crowning
- Immediately control the birth of the head to prevent further tearing
- Apply pressure to the episiotomy between contractions if there is a delay in the birth
- Repair should ideally be done promptly, however only by a clinician skilled in perineal repair



5. Follow up

- MO/NP will consider evacuation after birth. If not evacuated, advise to return promptly if T elevated within 24 hours of birth

6. Referral/consultation

- Always consult MO/NP

Neonatal resuscitation

Recommend¹

- Ensure neonatal resuscitation equipment + medicines are checked/available for all births
- At least 1 person should be responsible for the care of the baby only
- **Ensure draft free environment of 23–25°** (at least **26° if < 28 weeks** gestation)
- Normothermia + positive pressure ventilation (PPV) are priorities in resuscitation

Background^{1,3}

- This topic is intended for facilities that do not have planned births
- Cyanosis is difficult to recognise in newborns. Colour is an unreliable indicator of oxygenation
- Also see Qld Clinical Guidelines *Neonatal resuscitation + Neonatal stabilisation for retrieval*
<https://www.health.qld.gov.au/qcg/publications#maternity>
- Neonatal resuscitation education programs available at <https://www.health.qld.gov.au/employment/professional-development/online-education>

1. May present with¹

- Newborn immediately after birth ±
 - unresponsive to drying/tactile stimulation
 - poor muscle tone/limp
 - gasping, absent, laboured or poor respiratory effort
 - HR < 100 or absent

2. Immediate management^{1,3}

- Call for help + urgently contact MO/NP
- **Keep warm:**
 - **if < 28–30 weeks/very small baby, put in clear zip lock plastic bag** (up to neck) - without drying¹
 - dry head + put on hat.¹ Put baby on resuscitation trolley with overhead heater if available - head towards clinician
 - **if > 30 weeks, place baby skin to skin on mothers chest:**
 - dry, replace wet towel with warm dry towel + hat on head
- Check:
 - **tone** (flexed/moving limbs)
 - **breathing** (RR 30–60)
 - **HR** 100–160, listen with stethoscope (if breathing, the HR should be > 100 within 1–2 minutes)
- If tone good and HR > 100, immediate intervention not needed³ - go to [Care of the newborn, p. 412](#)
- Suctioning not routine - gently suction mouth only if obvious thick meconium liquor, blood or secretions

If weak/absent responses or not breathing

- Try brisk gentle drying with warm towel to stimulate breathing (or through plastic bag)
- Ensure head and neck supported in neutral position/airway open
- **If HR < 100 AND still not breathing or ineffective respirations (gasps):**
 - place on back - head in neutral/sniffing position ± put 2 cm roll blanket/towel under shoulders
 - support lower jaw and open baby's mouth as needed⁴
 - **start bag/valve/mask ventilation within 1 minute** at 40–60 breaths/minute (room air)^{1,3,4}

- **If airway blocked** by meconium, blood or secretions, gently suction:⁴
 - eg respiratory efforts with no audible air entry to lungs
 - suction mouth/oropharynx first, then nostrils - no more than 5 cm from lips in term baby (measure from mouth to corner of jaw)
 - use size 10–12 F (8 for preterm) suction catheter - only for a few seconds
 - do not exceed 100 mmHg/13 kPa suction pressure
- **Put pulse oximeter sensor** on baby's **right hand or wrist** (pre-ductal) to monitor HR and SpO₂:^{1,3,4}
 - for targeted levels of SpO₂ for 1st 10 minutes after birth see **Newborn life support flowchart**
 - titrate supplemental O₂ accordingly
 - effective ventilation indicated by chest wall movement, improvement in HR and SpO₂

Effective ventilation will almost always be enough to resuscitate the baby

- **If little or no visible chest wall movement, improve ventilation technique:**⁴
 - check face mask fits well (over nose and open mouth), with minimal leak
 - check neck and jaw position
 - occasionally an oropharyngeal airway/LMA may be useful if ≥ 34 weeks or > 2000 g
- **After 30 seconds of ADEQUATE assisted ventilation - if HR < 60 start CHEST COMPRESSIONS:**⁴
 - 3 compressions: 1 breath (90 compressions/minute)
 - increase O₂ to 100% until responding
- **If HR > 60 but < 100 - cease compressions and continue ventilation 40–60 breaths/minute**
 - continue ventilation until infant spontaneously and effectively breathing
- **If HR remains < 60** - MO/NP may order adrenaline (epinephrine) ± glucose:
 - umbilical vein is preferred route if skilled, otherwise use **Intraosseous, p. 57**
- Record **Apgar score, p. 412** at 1 and 5 minutes after birth. Then every 5 minutes until HR and breathing are normal

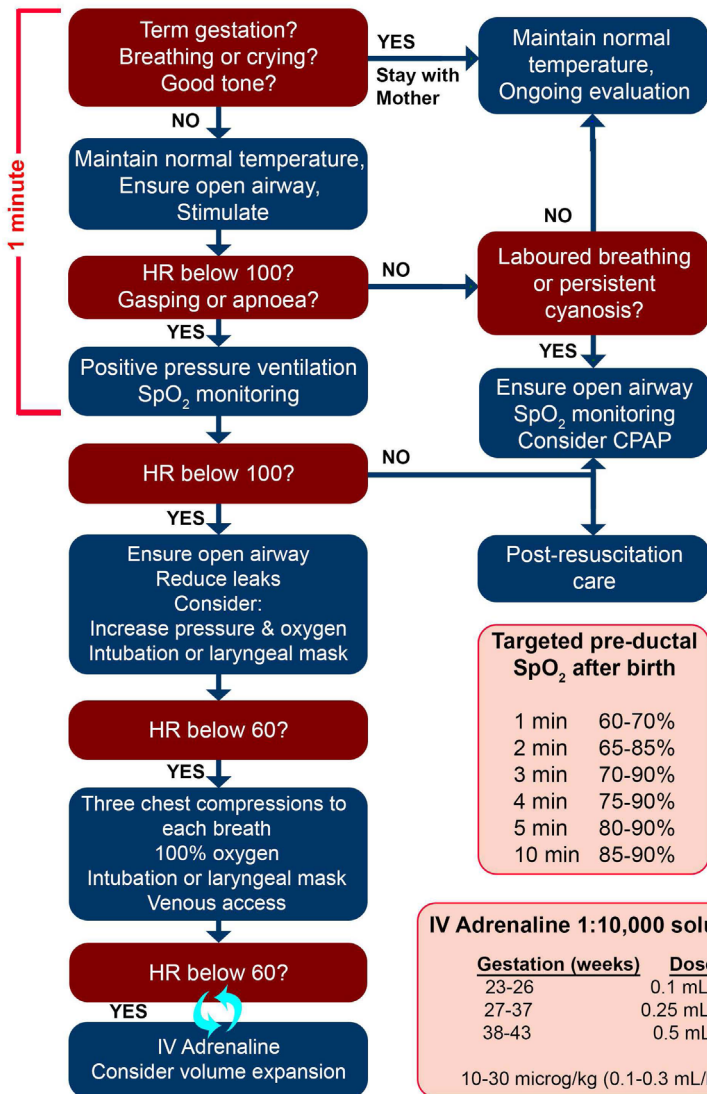
Preterm babies⁵

- Respiratory support will be required for most very preterm babies
- **Temperature** - very premature babies are at ↑ risk of hypothermia
- **If < 28–30 weeks - resuscitate baby in clear polyethylene (plastic) bag/sheet** up to the neck eg zip lock bag, oven bag, NeoWrap® - **not over head**
 - do not dry body, only head before placing in bag + apply pre warmed hat
 - provide tactile stimulation through bag
 - use a radiant warmer if available
 - do not remove the bag during resuscitation
 - keep in place until T checked + other measures in place eg pre warmed incubator
- **Handle gently/skin care**
 - preterms have ↑ risk of damage to skin and internal organs
 - ensure good infection control eg handwashing
 - if umbilical catheterisation required, use aqueous chlorhexidine. Use sparingly + avoid pooling



Newborn Life Support

At all stages ask: do you need help?



Targeted pre-ductal SpO₂ after birth

1 min	60-70%
2 min	65-85%
3 min	70-90%
4 min	75-90%
5 min	80-90%
10 min	85-90%

IV Adrenaline 1:10,000 solution

Gestation (weeks)	Dose
23-26	0.1 mL
27-37	0.25 mL
38-43	0.5 mL

10-30 microg/kg (0.1-0.3 mL/kg)



April 2021



3. Clinical assessment⁷

- Check BGL - is at risk of hypoglycaemia. See [Care of the newborn, p. 412](#) for further management

4. Management⁷

- Prepare for retrieval in consultation with MO/NP/retrieval team
- MO/NP may consider FBC, blood cultures + antibiotics as resuscitation may be a consequence of the onset of sepsis
- Post resuscitation:
 - **keep warm** and maintain T 36.5–37.5
 - closely monitor SpO₂, HR, RR and respiratory effort, tone
 - after 10 minutes of age target SpO₂ is:
 - term babies 92–98%
 - preterm babies 90–95%
- Continue routine [Care of the newborn, p. 412](#) including administration of vitamin K
- Provide support to the mother and family and keep informed - resuscitation of a baby will be distressing for parents

5. Follow up

- As per MO/NP

6. Referral/consultation

- Consult MO/NP on all occasions

HMP Care of the newborn

Recommend

- Skin to skin contact where possible for T, BGL + HR stability and early breastfeeding¹

Background

- It is normal to be cyanotic at birth - pink colouring begins soon after onset of breathing. Persistent blue discolouration in extremities is normal (acrocyanosis)²
- Also see Qld Clinical Guidelines (Neonatal) <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with

- Newborn after initial resuscitation

2. Immediate management

- For immediate care of the newborn, go to [Neonatal resuscitation, p. 408](#)

3. Clinical assessment

- **Keep with mother:**
 - continue skin to skin to help maintain T. **Note:** if mother unwell baby can be placed skin to skin on someone else's chest eg partner, family member
- **Do:**³
 - Apgar score at 1 + 5 minutes, then
 - RR, colour, positioning for patent airway - 15 minutely for 2 hours
 - T + HR < 1 hour of birth - aim to maintain T 36.5–37.5
 - brief head to toe examination if skilled³

Apgar score - 5 minute score of 7–10 is normal ⁴			
Component	0	1	2
Colour	Cyanotic or pale	Blue extremities	Completely pink
HR	None	1–99	≥ 100
Response to mild stimulus	No response	Grimace	Cry, cough, or sneeze
Muscle tone	Flaccid	Some movement	Active motion with good flexion
Respiratory effort	None	Weak cry or hypoventilation	Good cry

- Be alert to **Symptoms of unwell baby** could mean infection or hypoglycaemia (see table)^{2,5}
- **Check for problems that might impact baby** in antenatal record, including:^{2,3}
 - risk factors for [Group B Strep, p. 395](#). If present + antibiotics NOT given during labour or within 2 hours of birth **urgently consult MO/NP for antibiotics within 30 minutes**
 - **Risk factors for hypoglycaemia** (see table)
 - medications ± substance use
 - syphilis, HIV, hep B
 - Rh D –ve blood group

4. Management³

- Contact MO/NP early + aim to keep baby pink, warm + BGL normal ≥ 2.6
- **Do:**^{2,3}
 - encourage breastfeeding within 30–60 minutes (or mother's feeding choice)⁵
 - confirm the baby's identification arm AND leg bands with the mother + put them on the baby
 - note first urine and meconium (black stool)
 - bare weigh baby + length + head circumference, after > 1 hour skin to skin, 1st feed + normal T
 - routine care of the baby
- **Give** with parental consent:
 - vitamin K to all babies, including preterm³
 - hep B vaccination.⁶ See [Immunisations, p. 554](#)
 - **note:** if mother is HBsAg +ve, baby must have both HBIG and hep B vaccine on day of birth⁶
- **Monitor closely until evacuated:**⁷
 - assess for ↑ WOB eg ↑ RR, nasal flaring, chest recession, expiratory grunting
 - check colour, skin integrity ie bruises, rash; capillary refill, alert/lethargic, tone + movement
 - vital signs + airway
 - document observations at least hourly:²
 - if become abnormal or ↑ WOB, contact MO/NP urgently + go to [Neonatal resuscitation, p. 408](#)

Unscheduled	Phytomenadione (Vitamin K/Konakion®)			
ATSIHP, IHW and IPAP must consult MO/NP				
MID, RIPRN and RN may proceed				
Form	Strength	Route	Dose	Duration
Injection	2 mg/0.2 mL	IM	≥ 1.5 kg 1 mg < 1.5 kg 0.5 mg	stat As soon as possible after birth
Offer CMI: Recommended for all newborns to prevent vitamin K deficiency bleeding				
Note: Ampoule can be given orally - consult MO/NP - dose is different. IM route preferred				
Management of associated emergency: Consult MO/NP				8

Risk factors for hypoglycaemia ⁵ If any see Management table (next page)	Symptoms of unwell baby/ hypoglycaemia ^{5,7} Urgently consult MO/NP
<ul style="list-style-type: none"> • Preterm OR birth weight < 2500 g or > 4500 g • Mother has diabetes • T < 36 or unstable • Resuscitation at birth • Meconium stained liquor • Inadequate feeding • Mother taking beta blockers or dexamethasone • Family history of metabolic/endocrine disorders 	<ul style="list-style-type: none"> • Poor feeding + tone, lethargy • Tremors/jitteriness, irritability • Weak or high pitched cry • Irregular/rapid breathing, respiratory distress • Apnoea episodes, cyanosis • Seizures, altered LOC • Unexpected need for resuscitation, abdominal distension²

Management of baby at risk of hypoglycaemia⁵

Well baby with risk factors for hypoglycaemia

Heel prick sites



- **Initiate feeding** within 30–60 minutes of birth + continue 3 hourly feeding:
 - if < 35 weeks, discuss with MO/NP need for gavage feed(s)
- **Do BGL** via heel prick:
 - before 2nd feed (not longer than 3 hours of age), and
 - before 3rd feed (not longer than 6 hours of age)
- If **BGL \geq 2.6** - continue BGL before every 2nd feed 3–6 hourly
- If **BGL 1.5–2.5 - check/validate BGL on i-STAT then:**
 - if \geq 35 weeks, give glucose gel 40% 0.5 mL/kg buccally prior to feed. Feed immediately (breast, express + give colostrum, or give formula)
 - if < 35 weeks, urgently consult MO for advice
 - repeat BGL in 30 minutes
- Monitor T, HR, RR, colour, LOC, + tone until evacuation

Unwell baby OR BGL < 1.5 or unrecordable

- **Check/validate BGL on i-STAT urgently.** MO/neonatologist/NP may order:
 - IV/IM/subcut glucagon 200 microg/kg - do not delay
 - IV glucose 10% 1–2 mL bolus (umbilical vein if skilled, or intraosseous)
 - repeat BGL in 30 minutes
- Ongoing management as per MO/neonatologist/NP

Also see Qld Clinical Guideline *Hypoglycaemia - newborn* <https://www.health.qld.gov.au/qcg/publications>

5. Follow up

- Newborn check by midwife/MO/NP within 48 hours

6. Referral/consultation

- Contact MO/NP early
- If Aboriginal and Torres Strait Islander baby refer for BCG vaccine

Cord prolapse

Umbilical cord prolapse/presentation

Recommend^{1,2}

- Cord prolapse is an obstetric emergency. The cord can be compressed, cutting off oxygen to the baby resulting in asphyxia or death

1. May present with^{1,2}

- **Cord prolapse:**
 - cord visible or palpable (smooth pulsating band) in or outside vagina
 - membranes have ruptured
- **Cord presentation:**
 - cord felt in front of presenting part of baby (on vaginal examination)
 - membranes usually intact - if membranes rupture, cord prolapse is inevitable
- ± fetal bradycardia or abnormal FHR - may be first indicator

2. Immediate management^{1,2}

- Call for help (get midwife if on-site) + note time
- Consult MO/NP urgently + urgent evacuation
- Aim is to stop cord compression
- Listen to FHR - check mother's pulse simultaneously to differentiate between the two:
 - if FHR normal (110–160) cord is not compressed
 - keep mother in current position and get urgent advice from MO/NP
 - eg if mother is lying flat and FHR normal, put wedge under right hip to provide gentle lateral tilt

Reducing cord compression

- Position in **knee-chest, face-down position** (see diagram) OR **exaggerated Sims position** - (left-lateral with pillow under right hip) ± lowering head of bed, so head lower than pelvis
- **If positioning does not stop compression, also put two gloved fingers into the vagina:**
 - gently push the presenting part of the baby upwards off the cord - **keep fingers there**
 - avoid putting pressure on cord
 - if the cord is outside of the vagina, attempt to gently replace into the vagina with a dry pad¹
 - minimise handling as can cause vasospasm



- **MO/NP may advise bladder filling** to maintain elevation of the baby off the cord:¹
 - insert IDC + empty bladder
 - run 500 mL of sodium chloride 0.9% into the bladder using an IV giving set
 - check that the giving set is a good fit with the catheter first, and that fluid can be squeezed into the bladder without leakage
 - clamp the catheter
 - the fingers holding the presenting part may possibly be withdrawn - confirm with MO/NP
 - discuss with MO/NP the timing to release clamp and amount of urine to drain
 - monitor fluid balance
- **Keep woman positioned** knee-chest face-down OR exaggerated Sims' (more practical for transport)
- **Monitor FHR at all times if possible** - alter position of mother in accordance to FHR
- **If FHR not heard** - continue with above measures until an USS can be done

3. Clinical assessment

- Ask about:
 - this presentation, weeks pregnant, pregnancy problems
 - past obstetric/medical history
- Do:
 - vital signs
 - FHR - normal is 110–160
 - palpate contractions
 - assess liquor - clear, meconium stained, bloody

4. Management¹

- Insert IVC eg 14–16 G
- Take bloods - FBC, group and hold
- Nil by mouth
- MO/NP may order/advise:
 - tocolytics to suppress labour. See [Preterm labour, p. 397](#)
 - or, if birth imminent, continue labour and birth baby:
 - if birth, empty bladder first¹ + prepare for [Neonatal resuscitation, p. 408](#)
- In isolated areas, if a woman presents with a cord prolapse, the baby may have already died. However, unless this is certain, it is best to act as above
- Provide emotional support for woman and partner/support person. Keep informed

5. Follow up¹

- Offer ongoing support to woman and family
- Woman may be vulnerable to emotional problems, postnatal depression, post-traumatic stress disorder or fear of further childbirth

6. Referral/consultation

- Consult MO/NP urgently as above
- Consider refer to perinatal mental health support/birth trauma support eg <https://www.birthtrauma.org.au/>

HMP Primary postpartum haemorrhage (PPH)

Recommend

- Close monitoring + rapid response is critical¹
- Visual estimation of blood loss often leads to underestimation. Also consider nature + speed of blood loss + clinical findings¹

Background

- Common causes: **T**issue - retained products/placenta/membranes, **T**one - uterus not contracting, **T**rauma eg of perineum/vagina + **T**hrombin - coagulation abnormalities¹
- Also see Qld Clinical Guideline *Primary postpartum haemorrhage* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with¹

- Bleeding \geq 500 mL immediately post birth or up to 24 hours later:
 - \geq 1000 mL is severe
 - \geq 2500 mL is very severe
- Slow steady trickle of blood after 3rd stage of labour
- Signs of shock, see **Clinical findings**
- Bleeding may look normal if intra-abdominal sources eg ruptured uterus, haematoma²
- **Note:** if $>$ 24 hours post birth + NOT large bleed/shocked, see **Secondary PPH**, p. 429

Clinical findings¹

Blood loss (mL)	Systolic BP	Signs and symptoms	Degree of shock
500–1000	Normal	Palpitations, dizziness, tachycardia	Compensated
1000–1500	Slight ↓	Weakness, sweating, tachycardia	Mild
1500–2000	70–80	Restlessness, pallor, oliguria	Moderate
2000–3000	50–70	Collapse, air hunger, anuria	Severe

Major blood loss can develop rapidly without warning in the absence of haemodynamic compromise

2. Immediate management¹

- DRSABCD
- Send for help
- Contact MO/NP urgently
- Check oxytocin given after birth

If placenta out

- **Massage** fundus (top of uterus) until it is like a hard cricket ball
- Expel clots from uterus if needed - cup fundus with palm of hand, compress uterus between thumb + fingers
- Insert IDC - empty bladder
- IVC x 2 eg 14–16 G¹ (or intraosseous) + take urgent bloods - i-STAT/HemoCue
- **If still bleeding** continue to rub fundus if boggy/not contracting + give:
 - **IV oxytocin** 5 units over 1–2 minutes - **repeat in 5 minutes** if needed
 - **IV fluids** - rapid (warmed if possible) - Hartmann's or sodium chloride 0.9% 1000 mL
 - **oxytocin infusion** 30 units in 500 mL sodium chloride 0.9%, rate 83–167 mL/hour

- MO/NP may order:
 - **ergometrine** + antiemetic. See [Nausea and vomiting, p. 40](#)
 - **misoprostol** - takes 1–2.5 hours to work
 - **tranexamic acid**¹ - give as soon as possible, within 3 hours of PPH
- **If trailing membranes** use sponge holder to remove:
 - without traction, grasp membranes + roll forceps to create a rope
 - use up + down motion + gentle traction to remove
- **If still bleeding excessively** and UTERUS NOT firming - **start BIMANUAL COMPRESSION**
- Check placenta + membranes are complete
- If bimanual compression has been effective MO/NP/retrieval team may consider intrauterine balloon tamponade¹
- If uterus well contracted, placenta + membranes delivered and look intact, and STILL BLEEDING look for **Other causes**¹

Other causes ¹	
Trauma	<ul style="list-style-type: none"> – check perineum, cervix and vagina - check for tears/source of bleeding – apply firm pressure to bleeding areas, or clamps to bleeding vessels until repair
Thrombin	<ul style="list-style-type: none"> – haematuria, petechial conjunctival and mucosa haemorrhage – blood that no longer clots - look on bed or floor – T < 35 – uterine atonia (not contracting)

If placenta NOT out

- Reattempt [Controlled cord traction, p. 405](#)
- Encourage maternal pushing and repositioning
- Insert IDC - empty bladder
- IVC x 2 eg 14–16 G (or intraosseous)
- **If still bleeding:**
 - give IV/M **oxytocin** 10 units
 - give rapid **IV fluids** (warmed if possible) - Hartmann's or sodium chloride 0.9% 1000 mL
 - do vaginal examination to check if placenta remains in uterus. If felt protruding through cervix or lying high in vagina gently attempt to remove
 - if placenta not coming out or incomplete, requires urgent evacuation
 - as a life saving measure MO/NP may advise [Manual removal of the placenta, p. 421](#) in the community
- **If still bleeding excessively** - **start BIMANUAL COMPRESSION**

3. Clinical assessment

- See **Immediate management**

4. Management¹

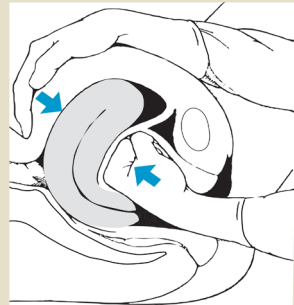
In all cases

- Lie flat. If hypotensive put feet higher than head by 15–30°
- Give O₂ via face mask at 10–15 L/minute regardless of SpO₂
- Keep warm, aim for T > 36
- Continuously monitor vital signs + rate/volume of bleeding:
 - weigh bloody linen, drapes, bluey's/pinkies if practical (be careful to not underestimate)

- Continue fluid resuscitation on MO/NP orders:
 - IV fluids (up to 2 L crystalloids, up to 1.5 L colloids)
 - monitor fluid balance, aim for urine output \geq 30 mL/hour
 - early blood transfusion if available
- MO/NP may order IM carboprost 250 microg¹
- Take urgent bloods/i-STAT time permitting:
 - CHEM20, FBC, coagulation profile
 - blood gas including calcium + lactate
 - cross match - if no group or cross match available or woman has significant antibodies
 - if intraosseous route used for bloods, make note on pathology form
- Offer analgesia. See [Acute pain, p. 32](#)
- Massive haemorrhage protocol may be activated by MO/NP as per local policy if actively bleeding and ANY of the following:
 - blood loss $>$ 2500 mL
 - anticipated 4 units of blood required in $<$ 4 hours AND haemodynamically unstable
 - evidence of coagulopathy

Bimanual compression¹

- **With 1 hand:**
 - keeping fingers straight and thumb tucked in palmar side of index finger, insert hand into the vagina with palm facing woman’s thigh
 - once fingers meet resistance roll the hand so palm is upward, and curl fingers into a fist
 - place fist in anterior fornix of the vagina and apply upwards pressure
- **With other hand:**
 - locate the top of the uterus (fundus)
 - deeply palpate to put the fingers behind the fundus
 - cupping the fundus, compress it firmly around the fist that is in the vagina
 - keep compressed and evaluate effect



S4	Oxytocin		Extended authority ATSIHP/IHW/IPAP/MID/RIPRN	
ATSIHP, IHW, IPAP and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Injection	5 units/mL 10 units/mL	IM	10 units	stat
		IV	5 units	stat Inject over 1–2 minutes Repeat after 5 minutes if needed (max. 10 units)
			Infusion 30 units Dilute in 500 mL sodium chloride 0.9%	Infuse at 83–167 mL/hour (5–10 units/hour)
Offer CMI: May cause nausea and vomiting				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82				1,3,4

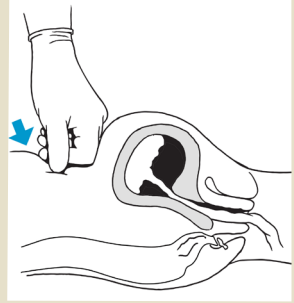
S4	Ergometrine			Extended authority
ATSIHP, IHW, IPAP, RIPRN and RN must consult MO/NP				
ATSIHP, IHW and IPAP may not give IV				
MID may proceed				
Form	Strength	Route	Dose	Duration
Injection	500 microg/mL	IM	250 microg	stat May be repeated once after 5 minutes on MO/NP order
		IV	250 microg Dilute to 5 mL with sodium chloride 0.9%	stat Give slowly over 1–2 minutes May repeat once after 2–3 minutes. Further doses on MO/NP order
Offer CMI: May cause nausea and vomiting				
Contraindication: Retained placenta, preeclampsia, eclampsia, severe/persistent sepsis, renal, hepatic or cardiac disease				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 1,5,6				

S4	Misoprostol			Extended authority
ATSIHP, IHW, IPAP and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Tablet	200 microg	PR/Subling	800–1000 microg	stat
Offer CMI: May cause nausea, vomiting, diarrhoea, back pain, headache, epigastric pain or vasovagal symptoms eg flushing, shivering				
Note: Monitor cardiovascular status closely as may cause transient BP changes				
Contraindication: Previous caesarean section or major uterine surgery, asthma, COPD - may cause bronchospasm				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 1,7				

S4	Tranexamic acid			Extended authority
ATSIHP, IHW, MID, RIPRN and RN must consult MO/NP				
Form	Strength	Route	Dose	Duration
Injection	1000 mg/10 mL	IV	1000 mg	stat
			Dilute in 100 mL sodium chloride 0.9%	Infuse over 10 minutes If bleeding persists after 30 minutes a 2nd dose is recommended
Offer CMI: May cause hypotension, dizziness (particularly after rapid administration), thrombosis or visual disturbances				
Contraindication: Active intravascular clotting. Use with caution if predisposition to thrombosis. Reduce dose if renal impairment				
Management of associated emergency: Consult MO. See Anaphylaxis, p. 82 8,9				

Aortic compression¹⁰ (if MO advises)

- Aim is to conserve blood by cutting off supply to pelvis via compression:
 - place left fist just above and to the left side of the woman's umbilicus
 - before exerting pressure, feel femoral artery for a pulse using right hand
 - slowly lean over woman to increase pressure over aorta
 - check femoral pulse is now non-palpable - adjust position of fist as needed
 - keep monitoring femoral pulse while aorta is being compressed

**Manual removal of the placenta** - life saving measure only on MO advice^{11,12}

- MO/NP may order:
 - opioid analgesia + nitrous oxide + O₂ (Entonox®)
 - a single dose of antibiotics - ampicillin or first-generation cephalosporin
- IDC to empty bladder
- Use 1 hand to follow the umbilical cord through the vagina, cervix and lower uterine segment to find the maternal-placental interface
- Keep the uterine fundus in position with the other hand - through the mother's abdomen
- Gently separate the placenta from the uterus with your hand using a side-to-side motion until the placenta has completely separated
- If the opening of the cervix is too small to fit the clinicians hand, MO may order a relaxant eg GTN
- If there is a small area where the placenta is very adherent to the uterus, use your fingers to slowly and persistently attempt to remove
- When placenta removed massage fundus to promote uterine contraction

Uterine inversion¹

- Contact MO urgently who may advise:
 - stop oxytocin infusion, as replacement requires relaxed uterus ±
 - subling GTN 400 microg/spray, IV/subcut terbutaline 250 microg, or IV magnesium sulfate 4 g infused over 5 minutes

5. Follow up

- Support mother baby bonding + help with breastfeeding. Offer debriefing to family + staff as needed

6. Referral/consultation

- Consult MO/NP early as above

Shoulder dystocia

Recommend^{1,2}

- Shoulder dystocia is an obstetric emergency
- **Do NOT:**
 - use downward or excessive pulling of the baby's head - can cause injury to baby
 - do an episiotomy unless your hand is unable to enter the vagina for internal manoeuvres. It will not relieve the bony obstruction
 - apply pressure to the top of the uterus - can cause uterine rupture

1. May present with^{1,2}

- Shoulder does not deliver with normal gentle axial traction of baby
- Difficulty with birth of face and chin
- When head born, it stays tight against vulva, or retracts - turtle-neck sign
- Baby's head fails to restitute (turn)

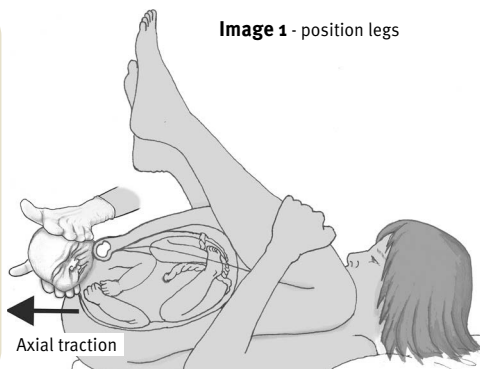
2. Immediate management^{2,3}

- Call for help + urgently contact MO/NP and get midwife if available. **Stay calm**
- Note **time head born**
- Aim for birth within 5 minutes - if possible
- Ask mother to **stop pushing** - can increase impaction
- Try changing mother's position(s) to help release shoulder
- Go to **STEP 1**

STEP 1 Position legs^{2,3} McRoberts'

- Lie flat, remove pillows, move buttocks to edge of bed
- Bring **thighs to abdomen**. Hyper-flex as far as they can go, so **they lift off the bed**
- Hold legs in place (assistant to do)
- Apply gentle routine axial traction (in line with baby's spine) - same as during a normal birth
- Ask mother to push with next contraction³

If top shoulder NOT released go to STEP 2



If you are by yourself, go to step 3 - all fours

STEP 2 Apply suprapubic pressure²

- Keep thighs to abdomen as above
- Get assistant to:
 - stand on the side of the baby's back
 - **put hand just above the mother's symphysis pubis**, from side of baby's back (NOT top of uterus)
 - if unsure where back is, choose most likely side (can try other side if not working)
 - **apply pressure in a downward and lateral direction** - continuous or rocking 'CPR-like' motion, compressing baby's shoulder to rotate towards the baby's chest
- **At the same time:**
 - apply gentle routine axial traction to baby's head + ask mother to push with next contraction

If top shoulder NOT released go to STEP 3



STEP 3 Roll onto all fours²

- Assist woman into all fours position, with hips and knees flexed (like a reverse McRoberts' position)
- Apply gentle axial traction to baby's head to deliver the top (posterior) shoulder (buttocks side)
- Ask mother to push with next contraction³

If top shoulder NOT released go to STEP 4

Image 2 - suprapubic pressure

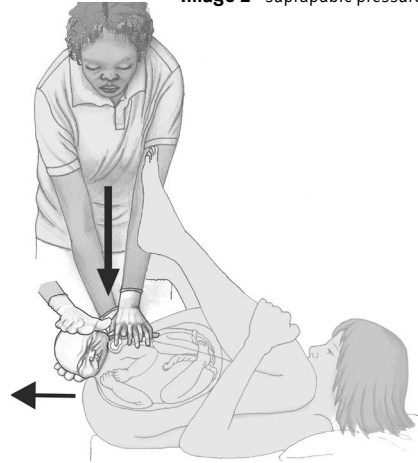
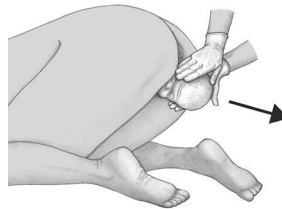


Image 3 - all fours



Images 1–3 adapted from Remote Primary Health Care Manuals. Women's Business Manual (6th ed); 2017. Images 2.10, 2.11 & 2.12 www.remotephmanuals.com.au CC-BY-NC-SA 3.0

STEP 4 Insert whole hand into vagina² (with woman's consent)

- Keep in all fours position OR lie in knees to chest position (McRoberts')
- Insert hand into vagina **in sacral hollow (buttocks side)**:
 - scrunch up hand like trying to fit it into a tin of Pringles® or putting on a tight bracelet (fingers compressed and thumb tucked into palm)
 - will be a tight fit

Try to Deliver posterior arm (woman's buttocks side) **OR Internal rotation**. **Try both if needed**

Option 1 Deliver posterior arm²

Image reproduced with permission of the Queensland Ambulance Service

Option 2 Internal rotation²

Image reproduced with permission of the Queensland Ambulance Service

- Feel across the baby's chest for its arm
- **If arm is FLEXED:**
 - grasp the forearm (with fingers and thumb) and sweep the baby's arm across the baby's face to deliver the arm
 - use action like putting your hand up in class
- Once the arm is delivered, apply gentle traction to deliver the rest of the body
- **If arm is NOT FLEXED (ie straight), flex first by:**
 - locating the baby's elbow, then
 - using your thumb to apply pressure to the antecubital fossa to flex elbow in front of the baby's body
 - then proceed as 'if arm is FLEXED' above

- **Press behind either the front or back of the baby's lowermost (posterior) shoulder:**
 - push to rotate up to 20–30° in the direction of the baby's chest
- **If not working try:**
 - pressing on the other side to move in the opposite direction
 - changing the hand you are using
 - getting assistant to apply suprapubic pressure to help rotation - in the same direction as you

If birth NOT achieved go back to STEP 1

- Continue progressing through each step
- Be guided by MO/NP

3. Clinical assessment

- See **Immediate management**

4. Management³

- Be prepared for [Primary PPH, p. 417](#) - common after shoulder dystocia
- A baby born with shoulder dystocia will require resuscitation. See [Neonatal resuscitation, p. 408](#)
- Once baby born, continue to manage woman as per [Imminent birth, p. 403](#)
- Note which area/shoulder was trapped to assess for damage
- MO/NP will arrange for evacuation to neonatal unit
- Keep mother informed of what is happening
- If outcome of shoulder dystocia results in neonatal injury or death, provide emotional support to mother and partner/family

5. Follow up

- As guided by MO/NP

6. Referral/consultation

- Always consult MO/NP

Breech birth

Recommend

- Manage a preterm breech the same as if at term¹
- Avoid traction/pulling on the baby's trunk. Can cause arms to go around back of neck and complicate the birth²
- Episiotomy not usually needed¹

Background²

- Once buttocks have passed the perineum, significant cord compression is common
- The Burns-Marshall technique (grasping the feet of the baby who has delivered to the nape of the neck and sweeping up in a wide arc to deliver the head) is **not advised**. Can cause overextension

1. May present with²

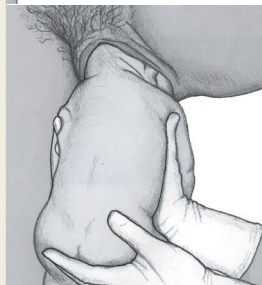
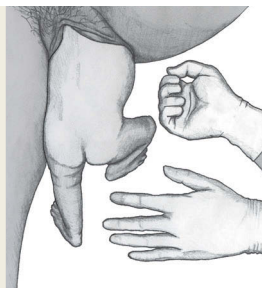
- Woman in 2nd stage of labour
- Baby's buttocks/feet are presenting

2. Immediate management²

- Call for help + urgently contact MO/NP and get midwife if available. **Stay calm**
- During birth:
 - semi-recumbent or all fours position (consider semi-recumbent position if assistance needed)²
 - make sure baby's back stays opposite to mothers back:
 - if baby's trunk looks like it is rotating to the sacro-posterior position (baby's back to mother's back) controlled rotation may be needed
 - only handle baby over bony prominences
 - keep mothers bladder empty where possible

Keep HANDS OFF as much as possible

- When baby's buttocks are seen at vaginal opening:
 - note time
 - **encourage mother to push** during contractions
 - allow baby to birth by itself
 - keep hands off - do not pull baby
- When umbilicus visible **note time** (avoid handling umbilical cord, can cause vasospasm)
- In most cases the baby will birth spontaneously and you only need to gently support the body as the head is born
- **If buttocks remain at vaginal opening WITHOUT descent:**
 - urgently consult MO/NP for evacuation + caesarian section
- **If spontaneous descent of baby's body to level of umbilicus (at vaginal opening) but legs still extended:**
 - release the legs by applying gentle pressure on the posterior knee towards the baby's abdomen (flex knee) and then laterally (lateral rotation of hip)



Images from Remote Primary Health Care Manuals, Women's Business Manual (6th ed); 2017. Images 2.23 & 2.24
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Signs assistance needed²

- Poor baby condition eg poor colour, tone
- No forward movement of the baby with a uterine contraction and maternal effort (pushing)
- Delay eg due to extended arms/neck:
 - > 3 minutes from birth of umbilicus to head
 - 5 minutes between the birth of the buttocks to head

Assistance

- **If arms do not birth spontaneously**
 - use Løvsett's manoeuvre (below):
 - aim is to bring the posterior shoulder of the baby into the curve of the mothers sacrum, then rotate this posterior shoulder in the direction of the baby's back to anterior and inferior of the mothers symphysis pubis, allowing the release of the arm across the baby's face
 - repeat process on the other shoulder and arm of the baby

Løvsett's manoeuvre to release arms²

- **Gently hold the baby around the thighs**, placing thumbs on the buttocks and first finger on symphysis pubis (encircling the hips) - **Image 1**
- **Rotate baby** keeping the back anterior until a shoulder is under the mother's symphysis pubis
- **Sweep the arm** (nearest to the symphysis pubis) down across the chest (toward the umbilical cord) and out - **Image 2**
- Following release of the 1st arm:
 - rotate baby 180° keeping back anterior
 - the 2nd arm becomes upper most
 - release this arm as per the first
- **After release of the arms:**¹
 - support baby until nape of neck becomes visible
 - use the weight of the baby to encourage flexion of the head
 - gently support baby as head is birthed

Image 1

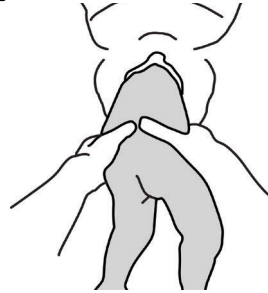
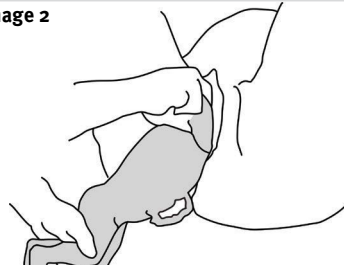


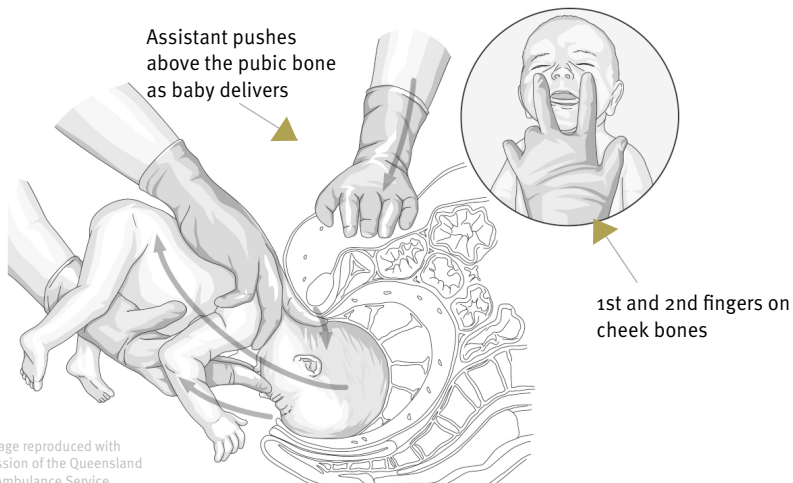
Image 2



- **If head does not birth spontaneously**²
 - get assistant to apply suprapubic pressure to the mother to assist flexion of the head
 - if head still not birthing, use Mauriceau-Smellie-Veit manoeuvre
 - **do not allow the head to get de-flexed** eg by pulling baby

Mauriceau-Smellie-Veit manoeuvre birth of the head²

- Support baby's body on the under surface of your dominant forearm:
 - place 1st and 2nd fingers of your hand on the cheekbones of the baby (no fingers in mouth)
- With your other hand:
 - apply pressure to the occiput (back of baby's head) with the middle finger
 - place the other fingers on the baby's shoulders to promote flexion of the head (keep the chin on the chest)
- Deliver baby in an arc towards the mother's abdomen
- Ask assistant to apply suprapubic pressure to the mother to aid flexion

**3. Clinical assessment**

- See **Immediate management**

4. Management

- A baby born via breech may require resuscitation. See [Neonatal resuscitation, p. 408](#)
- Once baby birthed, continue to manage woman as per [Imminent birth, p. 403](#)

5. Follow up

- As guided by MO/NP

6. Referral/consultation

- Always consult MO/NP

Postnatal

HMP Secondary postpartum haemorrhage (PPH)

Recommend

- May present as massive haemorrhage. Start resuscitation, rapid response is critical¹

Background

- Usually occurs as a result of a tear, an infection, or by fragments of the placenta ± membranes, remaining in the uterus + causing an infection or preventing the uterus from contracting^{1,2}

1. May present with

- Vaginal bleeding > 500 mL¹ after 24 hours + up to 12 weeks postpartum²
- ± signs of infection - fever, pelvic pain, uterine tenderness, offensive vaginal discharge
- ± signs of shock:
 - ↓ LOC
 - restlessness
 - cool, clammy skin, sweating
 - mottled or ashen appearance

2. Immediate management¹

- If **large bleed/shock**, treat the same as [Primary PPH, p. 417](#)
- Do vital signs
- Screen for [Sepsis, p. 64](#)

3. Clinical assessment

- If haemodynamically stable, continue as below
- **Ask about:**²
 - bleeding - when did it start, how much, is it heavy and ongoing, colour
 - feeling unwell/well, fever
 - pain/cramping - where, when did it start, severity
 - offensive vaginal discharge
 - any other symptoms - rigors, nausea, vomiting
 - consider other sources of infection - mastitis, UTI³
- **Get obstetric history, including:**^{2,3}
 - parity, labour + birth details - vaginal or caesarean
 - any interventions for immediate bleeding after birth eg misoprostol, blood transfusion²
 - any complications eg manual removal of placenta, prolonged ROM/labour, fever in labour
 - completeness of placenta + membranes¹
- Any relevant medical or family history - bleeding disorder, diabetes, hypertension²
- Estimate total blood loss, previous + ongoing:
 - be mindful of underestimation + keep all pads/linen for weighing
- **Do physical examination, including:**¹
 - blood loss, clots, amount, colour
 - palpate abdomen - assess uterus size, tenderness, any bladder distension²
 - if uterus boggy, rub fundus

- **If skilled**, do sterile speculum examination:¹
 - look for bleeding source, infected tears on vulva/perineum
 - visualise the cervix, any discharge
 - is cervical os open or closed
 - if products of conception protruding, use sponge forceps to remove gently
 - take endocervical swab + vaginal swabs (including episiotomy/tear sites) for MCS, gonorrhoea, chlamydia + trichomonas PCR. See [STI/BBV tests](#), p. 448
- **Do:**¹
 - if > 6 weeks postpartum, do pregnancy test
 - urinalysis + MSU for MCS if signs of infection¹
 - bloods - FBC, clotting profile on i-STAT
 - if T \geq 38 take blood cultures

4. Management

- Consult MO/NP who may order:
 - antibiotics \pm misoprostol⁴
 - evacuation/hospitalisation - where possible keep mother + baby together
 - nil by mouth
 - monitor closely - vital signs + amount/rate of blood loss

5. Follow up

- If not evacuated/hospitalised, advise woman to:
 - be reviewed the next day, or sooner if concerned, or if bleeding restarts/gets heavier
 - see MO/NP at next clinic
- Follow up test results

6. Referral/consultation

- As above

HMP Mastitis or breast abscess

Background

- Also see Qld Clinical Guideline *Establishing breastfeeding* <https://www.health.qld.gov.au/qcg/publications#maternity>

1. May present with^{1,2}

- **Mastitis:**
 - red, tender, hot, swollen, wedge-shaped area of breast
 - $T \geq 38.5$
 - chills, flu-like aching
 - difficulty breastfeeding
- **Breast abscess:**
 - severely swollen, painful lump, oedema in overlying skin

2. Immediate management

- Do vital signs
- Screen for [Sepsis, p. 64](#)

3. Clinical assessment

- **Ask about:**^{2,3}
 - fever, chills, flu-like aching
 - breast pain, tenderness, redness, swelling - when did it start
 - other symptoms eg nausea, vomiting, fatigue
 - age of baby
- **Ask about feeding:**²
 - breastfeeding/other:
 - how often - usual 8–12 times/day
 - feeding from affected breast
 - if expressing - how often
- **Examine breasts.** Any signs of:^{2,3}
 - mastitis/redness/abscess
 - damage to nipples - sore, cracked, bleeding
 - **note:** a blocked milk duct presents as a tender lump in well women
- **Check baby while breastfeeding:**²
 - correct positioning and attachment (if skilled):
 - mouth is opened wide against breast, with nipple and surrounding breast in mouth
 - deep jaw movements, cheeks are not sucked in
 - milk transfer is evident and breast softens during feed
- **Check baby getting enough milk:**¹
 - alert, mostly happy
 - ≥ 6 day wet nappies/24 hours
 - gaining weight:
 - weigh baby bare - check against previous weight, should \uparrow
 - plot on growth chart
 - **note:** if < 1 week of age, for normal input/output see Qld Clinical Guideline *Establishing breastfeeding*, Appendix C

4. Management¹

- **Breast abscess:**
 - consult MO/NP if suspected
 - needs incision and drainage ± evacuation
- **Mastitis:**^{1,2}
 - **frequent and effective milk removal/feeding is most important management**
 - start now - delay may lead to infection/breast abscess
 - encourage to keep breastfeeding
- Offer ibuprofen or paracetamol. See [Acute pain, p. 32](#)
- **Give antibiotics if:**^{1,2,4}
 - acutely unwell with systemic symptoms **OR**
 - symptoms are not improving in 24–48 hours with ↑ milk removal/feeding:
 - flucloxacillin **OR**
 - cefalexin if hypersensitivity to penicillins eg rash **OR**
 - clindamycin if anaphylaxis or immediate reaction to penicillins

Advice to improve milk removal^{1,2}

- Get advice from lactation consultant, midwife or child health nurse
- ↑ feed frequency
- Before feed apply heat - shower, warm cloth, heat pack
- Start feed on affected side - if too painful, start on other side and switch once let-down occurs
- Ensure attachment correct
- Massage during feed from blocked/tender area toward nipple
- Express after feed if required
- Advise rest, fluids and nutrition, comfortable bra, cold packs after feeds

S4	Flucloxacillin			Extended authority	
ATSIHP, IHW, IPAP and RN must consult MO/NP					
MID and RIPRN may proceed					
Form	Strength	Route	Dose	Duration	
Capsule	250 mg 500 mg	Oral	500 mg qid	5–10 days Stop at 5 days if resolved	
Offer CMI: Take on an empty stomach ½ hour before or 2 hours after food. May cause diarrhoea, nausea or thrush. Safe in breastfeeding. May cause loose bowel actions in baby					
Note: Can cause cholestatic hepatitis. If renal impairment seek MO/NP advice					
Contraindication: History of cholestatic hepatitis with dicloxacillin or flucloxacillin. Severe or immediate allergic reaction to a penicillin. Be aware of cross-reactivity between penicillins, cephalosporins and carbapenems					
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82					4,6

S ₄	Cefalexin			Extended authority
ATSIHP, IHW, IPAP and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Capsule	250 mg 500 mg	Oral	500 mg qid	5–10 days Stop at 5 days if resolved
Offer CMI: May cause rash, diarrhoea, nausea, vomiting, dizziness, headache or thrush. Safe in breastfeeding. May cause loose bowel actions in baby				
Note: If renal impairment seek MO/NP advice				
Contraindication: Severe or immediate allergic reaction to a cephalosporin or a penicillin. Be aware of cross-reactivity between penicillins, cephalosporins and carbapenems				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 4,7				

S ₄	Clindamycin			Extended authority
ATSIHP, IHW, IPAP and RN must consult MO/NP				
MID and RIPRN may proceed				
Form	Strength	Route	Dose	Duration
Capsule	150 mg	Oral	450 mg tds	5–10 days Stop at 5 days if resolved
Offer CMI: May cause rash, diarrhoea, nausea, vomiting or abdominal pain. Take with a full glass of water. Can cause severe diarrhoea (colitis) due to <i>C. difficile</i> . Safe in breastfeeding. May cause loose bowel actions in baby				
Contraindication: Allergy to clindamycin or lincomycin				
Management of associated emergency: Consult MO/NP. See Anaphylaxis, p. 82 4,8				

5. Follow up

- Advise to be reviewed daily, or sooner if breastfeeding support needed:
 - check baby is feeding adequately + gaining weight
 - if a well defined area remains hard, red and tender despite management consider breast abscess⁵
 - if no improvement in 24–48 hours consider antibiotics⁴
- If antibiotics given and no improvement consult MO/NP:
 - + consider candidiasis

6. Referral/consultation

- If required, refer to lactation consultant, midwife or child health nurse

Postnatal check

Recommend¹

- Do on day 3, between day 7–14 and 6 weeks after birth. Modify to meet needs of mother and baby
- Mother and baby should be seen as a unit in the first few months
- At 6 weeks do baby check and immunisations. See the *Chronic conditions manual* <https://www.health.qld.gov.au/rrcsu/clinical-manuals/chronic-conditions-manual-ccm> Baby check form <https://www.health.qld.gov.au/rrcsu/resources>

1. May present with

- Mother and baby after birth

2. Immediate management Not applicable

3. Clinical assessment¹

- **Check birth + pregnancy history:**
 - get discharge summary from hospital
 - normal birth or caesarean, gestation, estimated blood loss
 - antenatal problems eg gestational diabetes, anaemia, ↑ BP, preeclampsia
 - pathology results:
 - rubella - if non-immune check MMR vaccine was given after birth
 - STIs needing follow up - mother and baby eg syphilis
- **Check if history of:**
 - RHD, depression, anxiety
- **Ask about:**
 - baby feeding - breastfeeding/other, any concerns
 - urinary symptoms
 - constipation - advise diet, ↑ fluid intake ± gentle laxative³
 - vaginal discharge - colour, amount, any odour⁴
 - perineal pain/stitches
 - caesarean wound - pain/concerns
 - legs/signs of DVT, p. 124
 - alcohol/tobacco, second-hand smoke
 - how is she coping, emotional/other support² +
 - do EPDS between 6–12 weeks post birth www.blackdoginstitute.org.au/docs/CliniciansdownloadableEdinburgh.pdf
 - check risk of domestic and family violence - redo antenatal screening tools if needed
- **Do:**^{2,3}
 - vital signs
 - look for signs of anaemia - pallor, fatigue, breathlessness - check Hb if concerned
 - urinalysis if urinary symptoms
 - offer to check perineum if concerns
 - check caesarean wound
 - if CST due, offer/refer around 6 weeks
 - **note:** abdominal palpation to assess fundus is not needed, unless there are concerns²

4. Management

- Consult MO/NP if:
 - abnormal vaginal discharge/blood loss eg:⁴
 - soaking > 1 pad/1–2 hours
 - amount suddenly ↑ or large clots
 - suddenly changes to bright red
 - smells
 - fever⁴
 - dizzy, weak, sweaty, trouble breathing⁴
 - perineal or caesarean wound looks infected
 - Hb ≤ 110 g/L
- Follow up **Antenatal problems**
- Offer **Postnatal advice** as appropriate

Antenatal problems	Follow up
Hypertension or preeclampsia ⁵	<ul style="list-style-type: none"> • Advise to have MO review at 6 weeks
Syphilis treated in pregnancy (regardless of adequacy of treatment) ⁶	<ul style="list-style-type: none"> • Check baby at every opportunity for signs of syphilis eg rash, hepatomegaly, rhinitis, lymphadenopathy • Baby needs syphilis serology at 3 + 6 months. Also see Qld Clinical Guideline <i>Syphilis in pregnancy</i> https://www.health.qld.gov.au/qcg/publications
Gestational diabetes ⁷	<ul style="list-style-type: none"> • OGTT at 6–12 weeks to screen for persistent diabetes + lifelong screening at least 3 yearly • Early glucose testing in future pregnancies

Postnatal advice²

- Baby's feeding
- Support available eg parent groups
- [Contraception options, p. 438](#)
- After pains, fatigue, sleeping
- Perineal care, pelvic floor exercises
- Resuming sex - as guided by woman's desire and comfort
- Smoking, nutrition, physical activity, alcohol/drugs
- Safe sleeping, SIDS
- Immunisations for baby

5. Follow up

- Follow up as per individual needs

6. Referral/consultation

- As required, refer to midwife, child health nurse, mental health worker, social worker

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