

# Queensland Health

Office of the Chief Nursing Officer

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## Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery

November 2008

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## Foreword

The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery is the principal clinical reference and policy document for midwives, working in maternity areas in Queensland. The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery consists of specific Midwifery Health Management Protocols and the links to Midwifery Drug Therapy Protocol they support.

Midwifery Health Management Protocols provide clear and concise protocols under which a midwife can administer and supply medications listed on the Drug Therapy Protocol: Midwifery in accordance with the Health (Drugs and Poisons) Regulation 1996. The clinical guidelines that outline the situations and conditions are the product of extensive review and consultation with interdisciplinary health care professionals, including those working in isolated and rural areas.

All Queensland Health Districts are encouraged to adopt the The Midwifery Health Management Protocols contained in this guide and to actively contribute to ongoing review and revision.

Mick Reid  
Director General  
Queensland Health  
2008

## Introduction

The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery is the product of an extensive review and consultation process with interdisciplinary health care professionals, including those working in isolated and rural areas.

The Midwifery Health Management Protocols (HMP) are concise clinical guidelines for responding to health needs of women and their babies in maternity service areas. They are designed to support compliance with the Queensland Health (Drugs and Poisons) Regulation 1996 and the Drug Therapy Protocol: Midwifery (DTP).

The Midwifery DTP outlines the legislative amendments authorised in the *Health Legislation Amendment Regulation No.4 2007*. The Health (Drugs and Poisons) Regulation 1996 extends authorisation for midwives to initiate the administration and in certain circumstances the supply of drugs and poisons under the Midwifery DTP. The legislative changes are consistent with the Australian Nursing and Midwifery Council competency standards for midwives and removes impediments to midwives providing comprehensive pre-pregnancy, antenatal, intrapartum and postnatal care.

The interventions in the Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery are based on the best available evidence and information on best practice from experienced health professionals working throughout Queensland. The contents are not an exhaustive list of situations that may confront midwives but rather, those they most commonly encounter.

The HMP is effective for a maximum of two (2) years from the date of endorsement. Following this period of two years, or sooner if considered necessary, the HMP must be reviewed by the interdisciplinary team and endorsed again by the District Health Service Manager or Chief Executive Officer of a non-Queensland Health organisation, even if no changes have been made.

The majority of the Midwifery HMPs are taken from the Primary Clinical Care Manual, (PCCM) fifth edition 2007, which is the result of extensive consultation between Queensland Health and the Royal Flying Doctor Service (RFDS) ([www.health.qld.gov.au/pccm/](http://www.health.qld.gov.au/pccm/)). The Therapeutic Guidelines were used extensively to review the PCCM.

The Therapeutic Guidelines are based on the latest international literature, interpreted by some of Australia's most eminent and respected experts, with input from an extensive network of general practitioners and other users ([www.tg.com.au](http://www.tg.com.au)). Where the HMPs are identical to PCCM they have been adopted in full without change to ensure consistency in midwifery practice throughout Queensland.

Rural and Isolated Practice Endorsed Registered Nurses with Midwifery endorsement (RIPRN) will find some additional HMPs contained in the Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery as compared to the PCCM.

S2 or S3 poisons such as Adrenaline, Aspirin, Paracetamol, Paracetamol/Codeine, Ferrous Sulphate, Folic Acid, and Nystatin etc are not included in the HMP's as midwives can already administer these. In addition, unscheduled drugs such as Vitamin K administered to newborn babies for prophylaxis of haemorrhagic disease of the newborn are not included. However routine intramuscular administration of Phytomenadione Vitamin K, (Konakion) 1mg to all newborns is standard policy in all Queensland hospitals.

The Drug Therapy Protocol: Midwifery is located at [http://www.health.qld.gov.au/ph/documents/ehu/dtp\\_midwifery.pdf](http://www.health.qld.gov.au/ph/documents/ehu/dtp_midwifery.pdf)

The Drug Therapy Protocol: Midwifery Appendix 1 list of drugs is located at [http://www.health.qld.gov.au/ph/documents/ehu/dtp\\_midwifery\\_app.pdf](http://www.health.qld.gov.au/ph/documents/ehu/dtp_midwifery_app.pdf)

We welcome your comments on this edition and your contribution to future editions.

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## **The Midwifery Health Management Protocols and the Health (Drugs and Poisons) Regulation 1996**

The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery incorporates HMPs that are essential for the implementation of the Drug Therapy Protocol: Midwifery (DTP) in Queensland as authorised in the *Health (Drugs and Poisons) Regulation 1996*.

The Midwifery DTP specifies the content for the HMPs in this manual, setting out the approved conditions and restrictions applying to the administration and supply of drugs listed in the DTP appendix.

The HMP are not a substitute for consultation with a more experienced or qualified colleague. They are intended to assist midwives to gather information, which will inform later consultation, or allow them to choose an appropriate course of action. Importantly, the Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery incorporates advice about when to consult with, or seek advice and assistance from, a Medical Officer.

The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery is a resource for Midwives. Midwives must remain aware that they are individually accountable for their own practice. The use of HMPs in the manual must be based on each midwife's existing competence and scope of practice.

A Midwife must be aware that practising within the HMP/DTP does not relieve them of their legal responsibility or accountability for their actions and may not provide immunity in case of negligence.

### **Collaborative Practice**

Collaborative practice is the term used to describe the practice relationship between Midwives, Medical Practitioners and other health professionals who will use this manual as a guide to practice, thereby giving confidence to providers, women and their families. The collaborative practice relationship incorporates the dual notions of collaboration and delegation. The defining characteristics of the collaborative practice relationship are:

- Mutual respect and acknowledgment of each profession's role, scope of practice and unique contribution to health outcomes.
- Clearly stated protocols and guidelines for clinical decision-making which comply with relevant legislation and are supported by the health facility and the health organisation.
- Clearly defined levels of accountability with an acceptance that joint clinical decision-making is an integral component of collaborative practice.
- A belief that the best health outcomes are achieved when well prepared health professionals work in collaboration and partnership in both the practice and educational settings.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007

## Definition of a Midwife

A midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognised in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery.

The midwife is recognised as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures. The midwife has an important task in health counselling and education, not only for the woman, but also within the family and the community. This work should involve antenatal education and preparation for parenthood and may extend to women's health, sexual or reproductive health and child care.

A midwife may practise in any setting including the home, community, hospitals, clinics or health units.

**Source:** International Confederation of Midwives Council meeting, 2005, Australia

## Midwifery Health Management Protocols

HMPs outline the situations and conditions under which drugs, listed in the Drug Therapy Protocol: Midwifery, Appendix 1, may be obtained, possessed, administered and/or supplied<sup>1</sup> by a Midwife or Registered Nurse with a midwifery endorsement on their annual Licence Certificate, issued by the Queensland Nursing Council (QNC).

To qualify for these endorsements, Midwives must successfully complete a course accredited by the QNC for the particular endorsement and fulfil any other requirements of the QNC.

Midwives are, to the extent necessary to practise midwifery, authorised to:

**Obtain** a controlled or restricted drug or S2 or S3 poison.

**Possess** a controlled or restricted drug at a place where the person practises midwifery.

**Administer or supply** a controlled or restricted drug under a drug therapy protocol or on the instruction of a doctor or nurse practitioner.

**Administer** an S2 or S3 poison.

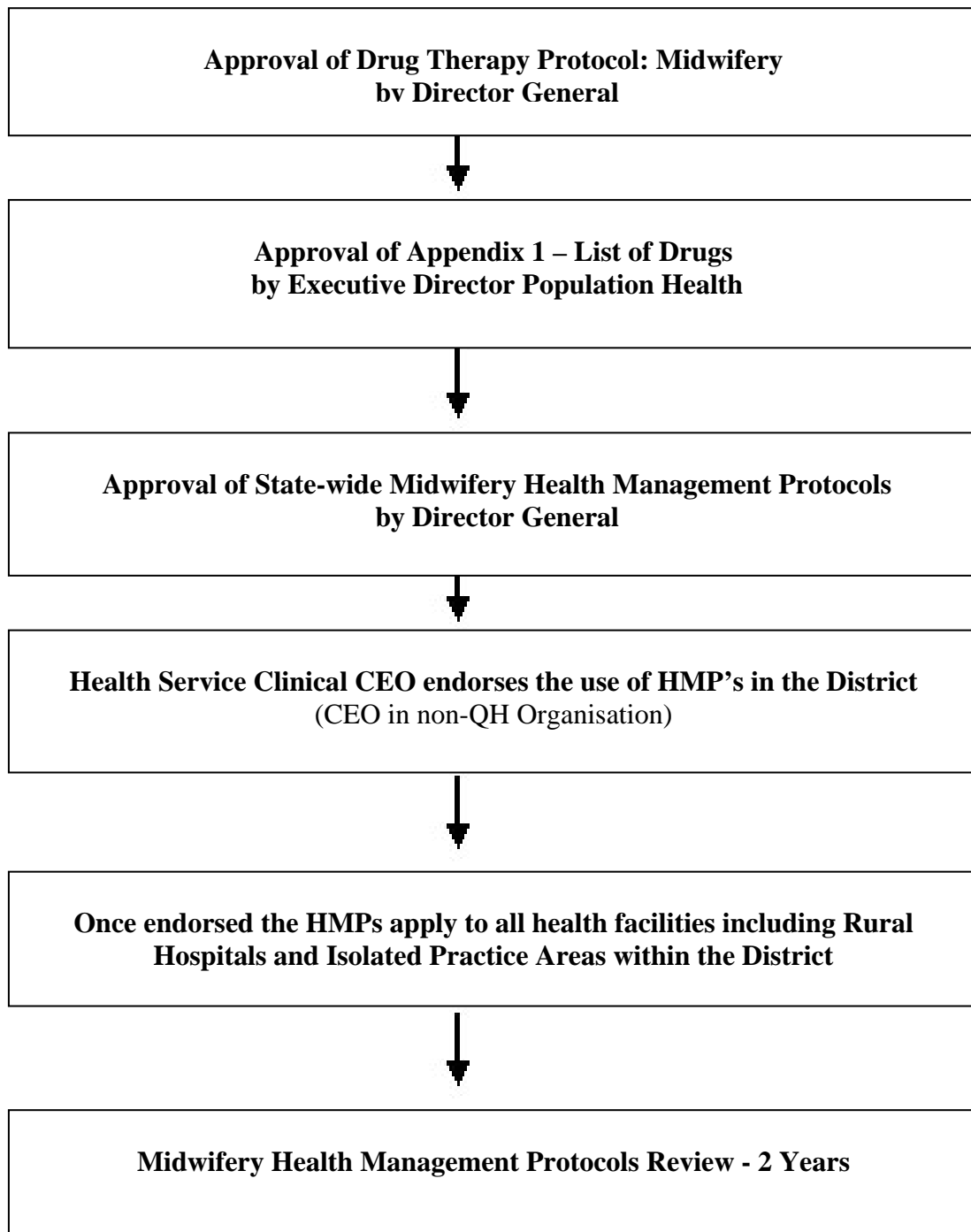
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<sup>1</sup> ...**“administer”**, for a controlled or restricted drug or a poison, means give a person a single treatment dose of the drug or poison, to be taken by the person immediately... **“supply”**, for a controlled or restricted drug or a poison, means give, or offer to give, a person one or more treatment doses of the drug or poison, to be taken by the person during a certain period. ... **“obtain”**, for a controlled or restricted drug or a poison, means acquire, buy, receive or otherwise obtain the drug or poison, ...**“possess”** a controlled drug, restricted drug, poison or other substance, includes having custody or control of the drug, poison or other substance and have the ability or right to obtain custody or control of the drug, poison or other substance.

Source: Health (Drugs and Poisons) Regulation 1996, Appendix 9, “Dictionary”

**Supply** an S2 or S3 poison in a rural hospital or isolated practice area for a person requiring treatment at the rural hospital or in the isolated practice area.

## **Drug Therapy Protocol: Midwifery development and review process**



## Guidelines for the Use and Implementation of the Manual

The Midwifery Health Management Protocols for the Drug Therapy Protocol: Midwifery does not generally include information such as contra-indications, precautions, and adverse reactions relevant to the various drugs recommended. Midwives must have access to the current version of:

- The Drug Therapy Protocol: Midwifery
- The Australian Medicines Handbook and/or a current MIMS Annual
- The *Health (Drugs and Poisons) Regulation 1996*
- The NHMRC Australian Immunisation Handbook

Each Health Management Protocol (HMP) presumes that a thorough physical assessment and a specific and general medical history have occurred, including checking adverse drug reaction history. Use this as a guide when documenting the history and physical examination/clinical assessment and when communicating with the Medical Officer and/or other members of the health care team. The history taking and physical examination/clinical assessment may have to be modified in an emergency situation.

### Assessment & Advice

#### History Taking

Obtaining a full history is done in conjunction with examining the woman; this entails a full assessment. In a woman who has a localised problem it is reasonable to examine the relevant system only. However, always be guided by her history and be prepared to examine other systems as necessary.

All clients should have a basic assessment and screening, where relevant ask for/obtain a copy of the woman's current pregnancy care record and document your findings.

- Visual assessment – opportunity to form an initial impression of the progress of her pregnancy, it also provides an opportunity for discussion of visible physiological changes.
- Screen – urinalysis (glucose and protein) and blood pressure
- Perform and abdominal examination to assess fundal height in relation to gestation age and Estimated Date of Birth (EDB) to determine baby's growth. Also ascertain fetal presentation, descent and liquor volume, auscultate fetal heart and note fetal movements.
- Discuss option of CTG or scan to assess baby's well-being if indicated.
- Review antenatal blood screening – blood group and rhesus factor, rhesus antibodies, full blood count, syphilis, hepatitis B, rubella antibodies.

#### Consulting with a Medical Officer

Be aware of, and identify your own scope of practice regarding interventions for treating or managing women presenting with problem/s and identify referral options for 'out of scope' treatments. If it is necessary to consult with a Medical Officer, present your findings in a clear and methodical way.

- It is often easier if you write your findings down first (time permitting)
- It is helpful to advise the Medical Officer early that you have a client about whom you want some advice or alternatively who you think may need evacuation
- Always begin with the name and age of the woman, her gravidity, parity and current gestation then continue with the presenting concern and proceed through to your examination/clinical assessment. Say what you think is wrong – your assessment is important; after all, you are actually with the woman
- Always consult with the Medical Officer if you are not sure. Take the opportunity to discuss general or specific cases or issues with the Medical Officer at the next clinic visit if you practice in a rural area.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007

## **Midwifery Health Management Protocols -**

## **Contents**

### **Pregnancy**

### **Page Number**

Urinary Tract Infections in pregnancy	12
Hypertensive disorders in pregnancy	15
Suppression of Preterm Labour	19
Prophylactic Anti D	21
Pain Management in First Stage Labour	26
Intrapartum antibiotic prophylaxis for GBS	27
Active Management of the Third Stage	30
Post-partum Haemorrhage	32
Repair of the Perineum	34

### **Postnatal**

Mastitis	35
Anti D administration	36
Rubella immunisation	38
Contraception: Progesterone only 'Minipill'	41

### **Neonatal**

Neonatal Resuscitation	43
Hepatitis B vaccination and immunoglobulin	44
BCG Vaccine	47

### **Miscellaneous**

Emergency Contraception	49
Poisoning and Drug Emergencies – Opiates	51

## Urinary Tract Infections in pregnancy

Urinary tract infection is a very common complication of pregnancy and may lead to preterm labour, low birth weight babies and increase perinatal mortality and maternal anaemia.

If possible, treatment of urinary tract infection should be with a stat dose of antibiotics as this assures compliance.

### May present with:

#### *Asymptomatic Bacteruria*

- No symptoms
- Abnormal urinalysis (nitrites/protein/blood)
- Pure growth >10<sup>5</sup>/cmm on urine culture

#### *Acute Cystitis*

- Lower abdominal pain and sometimes mild low back pain; low abdominal or suprapubic pain with dysuria or frequency in early pregnancy could also be pelvic inflammatory disease (PID); any woman presenting with low abdominal pain should be assessed for PID.
- Urinary frequency
- Discomfort/burning on passing urine (dysuria)
- Abnormal urinalysis (nitrites/protein/blood)

#### *Pyelonephritis*

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

### Management:

Full Clinical assessment is to be performed.

- Obtain a full history including past episodes of UTI both in and out of pregnancy and sexual history.
- Heart rate, Temperature, Blood pressure, abdominal palpation especially for loin or suprapubic tenderness.
- Urinalysis
- Collect a MSU for microscopy, culture and sensitivity
- Consider STI tests for gonorrhoea/chlamydia, trichomonas/bacterial vaginosis, and syphilis if not already done.
- Complete a routine antenatal maternal and foetal examination which should include abdominal palpation and assessment of foetal heart rate

#### *Asymptomatic (antenatal screening)*

**If culture is sensitive to Amoxicillin and woman is not allergic, treat with Amoxicillin.**

- Stat dose is treatment of choice as it ensures compliance.
- NB success of a stat dose suggests that the renal tract is normal.

Schedule 4		Amoxicillin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Capsule	250mg 500mg	Oral	3g Stat or 250- 500mg tds	Stat or 7 days	
Sachet	3g	Oral	3g	Stat	
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

**Consult Medical Officer** if culture is not sensitive to Amoxicillin or if there has been other positive cultures this pregnancy.

#### *Symptomatic Cystitis*

- Advise increase fluid intake
- Treat with Cephalexin unless allergic to Penicillin or other beta-lactam antibiotics (includes Cephalexin) and if sensitivity to Amoxicillin unknown.

Schedule 4		Cephalexin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Capsule	250mg 500mg	Oral	Adult 500mg bd	10 days	
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

#### **If allergic, treat with Nitrofurantoin**

Schedule 4		Nitrofurantoin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Capsule	50mg	Oral	Adult 50mg 6 hourly	10 days	Take with food or milk
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

#### *Pyelonephritis*

**Consult MO**; will need IV antibiotics and hospitalisation

#### **Follow up required:**

- Check culture and sensitivity and **consult MO** if resistant organism found
- Repeat MSU at least 48 hours after completion of treatment
- **Consult MO** if UTI persists or recurs after treatment
- Repeat MSU monthly until birth as required

#### **Post birth follow up:**

- MSU at 6/52 postnatal visit
- Consult MO re: renal ultrasound and serum urea/creatinine/uric acid at 3/12 postpartum if recurrent UTI's

**Referral/Consultation:**  
**Consult MO** as above

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Hypertensive disorders in pregnancy

Hypertension during pregnancy is associated with a significantly higher risk of adverse perinatal and/or maternal outcomes. Pre-eclampsia can occur from 20 weeks; it is a complex multi system disease with significant risks to the health of the mother and baby. Pre-eclampsia can progress very rapidly.

### Gestational hypertension

Gestational hypertension is hypertension arising in pregnancy after 20 weeks gestation without any other feature of the multi-system disorder preeclampsia (see below) and which resolves within 3 months postpartum.

- Women whose pregnancies are complicated by gestational hypertension alone have a very good pregnancy outcome compared with women who develop preeclampsia
- Hypertension in pregnancy is diagnosed when:
  - Systolic blood pressure is  $\geq 140$  mm Hg, and / or
  - Diastolic blood pressure (Korotkoff V) is  $\geq 90$  mm Hg
- These blood pressures should be confirmed by repeated readings over several hours in an outpatient or inpatient setting
- A rise in systolic blood pressure  $\geq 30$ mmHg and / or a rise in diastolic blood pressure  $\geq 15$  mmHg *may* be significant in some women

### Assessment

- Usually in a day stay assessment unit if available
- Some women may require a short admission to hospital
- Maternal and foetal investigations must be performed to exclude pre-eclampsia
- Women with gestational hypertension usually do not require antihypertensive treatment - (severe hypertension would identify the woman as pre-eclamptic)

### Treatment

- Treatment of mild to moderate hypertension will reduce the number of women with severe hypertension, but it does not alter overall pregnancy outcome and may even lead to more intrauterine growth restriction
- Ongoing close monitoring is required to detect the development of pre-eclampsia. Elective induction of labour is an appropriate option for near term women - individual management should be planned in discussion with the woman taking into account the Bishop score and gestational age

### ***Pre-eclampsia***

Pre-eclampsia is usually first detected by the measurement of high blood pressure but features other than hypertension are required to make the diagnosis. It is now recognised that pre-eclampsia is a disorder which affects other organ systems including the feto-placental unit. Proteinuria is the most commonly recognised

feature of pre-eclampsia after hypertension but should not be considered mandatory to make the clinical diagnosis.

A clinical diagnosis of pre-eclampsia can be made when the following systemic features are fulfilled:

- Hypertension arising after 20 weeks gestation and the new onset after 20 weeks gestation of one or more of:
  - Proteinuria > 300 mg / 24 hours or spot urine protein / creatinine ratio > 30 mg / mmol
  - Renal insufficiency - serum / plasma creatinine > 0.09 mmol / L or oliguria
  - Liver disease - raised serum transaminases and / or severe epigastric / right upper quadrant pain
  - Neurological problems - convulsions (eclampsia); hyperreflexia with clonus; severe headaches with hyperreflexia; persistent visual disturbances (scotomata)
  - Haematological disturbances - thrombocytopenia; disseminated intravascular coagulation; haemolysis
  - Intrauterine growth restriction
  - Severe hypertension, i.e. blood pressure  $\geq$  170 / 110 mmHg

**Women may present with:**

*The following features / signs and symptoms should alert clinicians to the (impending) appearance of pre-eclampsia:*

- Failure of blood pressure to fall in mid-pregnancy
- Diastolic blood pressure of 90mmHg or greater, which is persistent despite bed rest.
- The de novo appearance of proteinuria in the second half of pregnancy
- Proteinuria: dipstick testing for proteinuria is a screening test only, with very high false positive and negative rates. While all hypertensive pregnant women with levels  $\geq$  1+ of dipstick proteinuria should be treated initially as though they have pre-eclampsia, dipstick proteinuria should always be confirmed with either:
  - A 24 hour urine collection > 300 mg / day, or
  - A spot urine protein / creatinine ratio > 30 mg protein / mmol creatinine
  - NB routine use of dipsticks in normotensive low-risk women is not an effective screening method because of the high-incidence of false positive and negative results
- Intrauterine growth restriction
- Progressive oedema and or excessive weight gain (> 500 g / week) in 2nd half of pregnancy. Oedema is not included in the diagnostic features of pre-eclampsia, and routine recording of maternal weight is not an effective screening method. The appearance of (mostly ankle) oedema, whilst of concern to the mother, is of little clinical importance. It occurs equally in healthy pregnant women and those with pre-eclampsia, although the rapid development of generalised oedema is usually abnormal.
- Upper abdominal discomfort / pain,
- New onset of nausea / vomiting in the 2nd half of pregnancy
- New headache and / or visual symptoms

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

## Management

Admission to hospital is required once the diagnosis of pre-eclampsia has been made. Bed rest, however, is not usually required and no specific dietary restrictions are necessary

### **Antihypertensive medications for severe hypertension:** (BP >170 mmHg systolic

and / or >110 mm Hg diastolic)

- Oral Nifedipine is currently first choice
- Reducing systolic BP initially by only 20-30 mmHg and diastolic by 10-15 mmHg should protect the mother from cerebral haemorrhage without jeopardising the foetus
- Continuous electronic foetal monitoring during acute treatment
- The risk of sudden hypotension with vasodilators such as nifedipine can be minimised by the use of concomitant plasma expansion.

### *Contraindications for Nifedipine*

- **Not recommended for use in combination with Salbutamol tocolytic**
- Maternal Cardiac disease
- Antepartum haemorrhage
- Foetal distress
- Concomitant use of Magnesium Sulphate (MgSO<sub>4</sub>) – this is not an absolute contraindication, but care must be taken as hypotension may result. A patient treated with Nifedipine should NOT be give bolus doses of Magnesium Sulphate
- Foetal death in-utero
- Intra-uterine infection

Advise the woman that Nifedipine may cause facial flushing, headache, nausea and increased heart rate. Other side effects include hypotension, cardiac failure and increased liver enzymes.

### **If using Nifedipine conduct the following:**

- Insert a large bore IV cannula
- Record BP, pulse and respiratory rate every 30 minutes
- Auscultate chest 8 hourly
- Prepare the woman for evacuation to a referral maternity facility if required

Schedule 4		Nifedipine		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Tablet <b>(not controlled release)</b>	10mg	Oral In the case of urgency – ask the woman to chew the tablet and swallow.	Single dose only, max. 10mg	Stat	10mg only
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult Medical Officer					

**Monitor:**

- Foetal heart with *continuous* Cardiotocography (CTG). In the preterm baby a non-reactive CTG tracing indicates the need for more detailed biophysical monitoring. In the mature baby a non-reactive CTG tracing may be an indication for delivery.
- Maternal vital signs
- Uterine contractions
- Measure and test all urine
- Further management as per local protocol

**Referral/Consultation:**

**Consult MO** on all occasions if BP >135/90 in pregnancy and before administering Nifedipine, unless an emergency.

**Follow up:**

**Consult MO** for review

**Source:**

Brown MA, Hague WM, Higgins J, Lowe S, McCowan L, Oats J et al. The detection, investigation and management of hypertension in pregnancy: full consensus statement. ANZJOG 2000b; 40:139-55. *Australasian Society for the Study of Hypertension in Pregnancy*. Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Suppression of Preterm Labour

To enable transportation of the baby in-utero to a receiving maternity facility. To postpone the birth of the baby for at least 48 hours whilst steroids given can take effect to accelerate foetal lung maturation. Steroids are given only after consultation with MO.

Preterm reflects a gestational age of less than 37 completed weeks of pregnancy. Suppression of labour is most likely to be successful at less than 4 cm of cervical dilation.

### Clinical assessment/diagnosis:

- Uterine contractions – 1:10 minutes or more in association with cervical effacement and dilatation.
- Cervical length of <1cm
- Cervical dilatation of >2cm (insufficient on its own in multiparous women)

### Investigations

- Complete blood picture
- C-reactive protein (CRP)
- Low and high vaginal swabs for microscopy and culture
- Mid-stream specimen of urine for culture
- Cardiotocography (CTG) (interpretation should take early gestational age into account)
- Ultrasound examination for size, presentation, morphology (if unknown), liquor volume and placental localisation.
- Consider assessment of cervical length and dilatation (by vaginal scan) and umbilical artery flow.

### Management

Unless contraindicated Indomethacin is the first choice for suppression of labour in isolated areas or for transport.

If using Indomethacin additional maternal cardiovascular monitoring is not required.

Inform the neonatal/paediatric team of transfer and admission so they can arrange to meet and counsel parents.

Prepare the woman for evacuation if appropriate.

### *Contraindications to Indomethacin:*

- Peptic ulcer
- Foetal death in-utero
- Intra-uterine infection
- Asthma

Indomethacin has a similar degree of effectiveness to Nifedipine and Salbutamol, but the lowest incidence of maternal side effects. There is a theoretical risk of causing a serious complication to the baby (premature closure of the patent ductus arteriosus); this has not been shown to occur if the Indomethacin is used at 34 weeks or less gestation and for duration of less than 48 hours. **MO must be consulted.**

Schedule 4		Indomethacin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Suppository	100mg	Rectal	100mg	Stat. Followed by 25mg oral dose every 4 hours on <b>MOs orders only</b> ; if regular contractions persist 1-2 hours after initial suppository, an additional 100mg may be given on <b>MOs orders</b> .	100mg only
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

If Indomethacin is contraindicated, or there are persistent uterine contractions and progressive cervical dilatation despite Indomethacin use oral Nifedipine.

Nifedipine, a calcium channel blocker, is an effective smooth muscle relaxant with low toxicity. Although known as an antihypertensive drug, the drop in blood pressure in normotensive women after starting tocolytic therapy is significantly more with intravenous salbutamol in comparison to Nifedipine.

#### *Contraindications for Nifedipine*

- **Not recommended for use in combination with salbutamol tocolytic**
- Maternal Cardiac disease
- Antepartum haemorrhage
- Foetal distress
- Concomitant use of Magnesium Sulphate – this is not an absolute contraindication, but care must be taken as hypotension may result. A patient treated with Nifedipine should NOT be give bolus doses of Magnesium Sulphate
- Foetal death in-utero
- Intra-uterine infection

Advise women Nifedipine may cause facial flushing, headache, nausea and increased heart rate. Other side effects include hypotension, cardiac failure and increased liver enzymes.

#### **If using Nifedipine conduct the following:**

- Insert a large bore IV cannula
- Record BP, pulse and respiratory rate every 30 minutes
- Auscultate chest 8 hourly
- Prepare the woman for evacuation ( if required)

Schedule 4		Nifedipine			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Tablet (not controlled release)	10mg	Oral – In the case of urgency – ask the woman to chew the tablet and swallow.	Single dose only, max. 10mg	Stat	10mg only
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

#### Maternal observations and clinical assessment

- Foetal heart rate
- Uterine contractions
- Further management as per local protocol

#### Referral/Consultation:

**Consult MO** on all occasions

#### Prevention of Neonatal Respiratory Distress Syndrome (RDS)

- Give antenatal corticosteroid therapy to women 24–34 weeks gestation who are at risk of preterm birth within the next 7 days
- Betamethasone and Dexamethasone are both effective in preventing neonatal RDS although Betamethasone is preferred because of fewer neonatal adverse effects
- Repeat courses of corticosteroids should not be used routinely; a trial has found they reduce neonatal RDS and severe lung disease compared to a single course but information on long term effects is lacking; other trials are ongoing.
- Standard recommended treatment for prevention of neonatal RDS is two (2) doses of Betamethasone 12 hours apart. Consult a medical officer on all occasions of premature labour before treatment, and for an order for the second dose.

Schedule 4		Betamethasone (Celestone Chronodose Injection)			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	5.7mg	IM	11.4mg	stat	
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

#### Referral/Consultation:

**Consult MO** on all occasions and for order for second dose.

**Source:** Australian Medicines Handbook: January, 2008

<http://www.amh.hcn.net.au/>

## Rh D immunoglobulin

RhD negative women who carry an RhD positive baby may produce antibodies to the foetal RhD antigens after a feto-maternal haemorrhage. These antibodies may then cross the placenta in future pregnancies and cause haemolytic disease if the baby is RhD positive. A woman can also be sensitised by a previous miscarriage, spontaneous or elective abortion, amniocentesis or other invasive procedure.

It is recommended that routine antenatal anti-D prophylaxis is offered to all non-sensitised pregnant women who are RhD negative. The clinician (obstetrician, midwife or general practitioner) responsible for the prenatal care of a non-sensitised RhD-negative woman should discuss with her the options available so that she can make an informed choice about treatment.

Incidence of isoimmunisation during pregnancy for Rh D incompatibility is about 1.5%. This can be reduced to 0.2% by giving Rh D Immunoglobulin at 28 and 34 weeks as well as post partum.

### Indications

Rh D immunoglobulin is indicated for the prevention of Rh D sensitisation in Rh D negative women

### Contraindications

In the maternity setting Rh D immunoglobulin should **not** be given to:

- An Rh D Positive woman
- An Rh D negative woman with preformed anti-D antibodies
- A baby

### General Information

- For successful immunoprophylaxis, Rh D immunoglobulin should be administered as soon as possible after the sensitising event, but always within 72 hours. If Rh D immunoglobulin has not been offered within 72 hours, a dose offered within 9–10 days may provide protection.
- Rh D immunoglobulin should be given slowly by deep intramuscular injection, using a 20 gauge needle. If a large dose (more than 5mL) is required, it is advisable to administer it in divided doses at different sites.
- Rh D immunoglobulin is a blood product and the minimum requirement is for informed consent to be documented in the woman's health record.
- It is essential that the 28 week antibody screening blood sample be taken from the mother *before* the first routine prophylactic injection is given.
- In the case of sensitising events beyond the first trimester it is essential that a blood sample be taken from the mother to assess the magnitude of feto-maternal haemorrhage (FMH) *before* administration of Rh D immunoglobulin.
- Where FMH quantitation shows that FMH greater than that covered by the dose already administered has occurred, administration of an additional

dose/s sufficient to provide immunoprophylaxis must be administered and preferably within 72 hours.

- Administration of 250 Int Units Rh D immunoglobulin (minidose) is sufficient to prevent immunisation by feto-maternal haemorrhage of 2.5mL of foetal red cells (5mL whole blood).
- Administration of 625 Int Units Rh D immunoglobulin is sufficient to prevent immunisation by feto-maternal haemorrhage of up to 6mL of foetal red cells (12mL whole blood).
- For haemorrhages greater than 6mL, the recommended dose is 100 Int Units per extra mL of Rh D positive red blood cells in excess of 6mL. (i.e. 50iu per mL of whole foetal blood in excess of 12mL whole blood)

### ***Sensitising events in the first trimester (up to and including week 12 of gestation)***

A dose of **250 Int units** Rh D immunoglobulin (minidose) should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indicators:

- Threatened miscarriage
- Miscarriage
- Termination of Pregnancy
- Ectopic Pregnancy
- Chorionic villus sampling
- If the gestational age is not known with certainty and the possibility exists that the gestational age is 13 weeks or more, then a larger dose (625 Int Units) should be given.
- If it is known that there is a multiple pregnancy the larger dose (625 Int Units) is recommended.
- Administration of 250 Int Units Rh D immunoglobulin (minidose) is sufficient to prevent immunisation by feto-maternal haemorrhage of 2.5mL of foetal red cells (5mL whole blood).

### ***Sensitising events beyond the first trimester (after week 12 of gestation)***

#### **Consult with medical officer**

A dose of **625 Int Units** Rh D immunoglobulin should be offered to every Rh D negative woman with no preformed anti-D antibodies to ensure adequate protection against immunisation for the following indicators:

- Genetic studies (chorionic villus sampling, amniocentesis and cordocentesis)
- Abdominal trauma considered sufficient to cause feto-maternal haemorrhage
- Each occasion of revealed or concealed antepartum haemorrhage (where a woman suffers unexplained uterine pain, the possibility of a concealed antepartum haemorrhage should be considered, with a view to immunoprophylaxis)
- External cephalic version (performed or attempted)

- Miscarriage or termination of the pregnancy
- Intrauterine death

**Note:** Evidence for the efficacy of this dose for these indications is not available. It is therefore recommended that the magnitude of fetomaternal haemorrhage (FMH) be assessed from the mother *before* administration of Rh D immunoglobulin. When there is a likelihood of a significant FMH, such as severe abdominal trauma, abruption, transplacental puncture or puncture of the baby's blood vessels. Further doses of Rh D immunoglobulin need to be administered for FMH in excess of 6mL foetal red blood cells (12mL whole blood).

### ***Antenatal Prophylaxis (at 28 weeks and 34 weeks of gestation)***

- Universal prophylaxis with Rh D immunoglobulin is recommended for pregnant women who are Rh D negative with no preformed anti-D antibodies.
- Rh D immunoglobulin, in the form of **625 Int Units** CSL Rh D immunoglobulin, should be offered at 28 weeks and again at 34 weeks, to all Rh D negative women with no preformed anti-D antibodies.
- It is essential that women are screened again for pre-existent anti-D and that the blood sample is taken *before* the first routine prophylactic injection is given at 28 weeks. The result of the test does not need to be available before the administration.
- No repeat screening is necessary before the second administration at 34 weeks.

### ***Postpartum***

- A dose of **625 Int Units** should be offered to every Rh D negative woman giving birth except when the baby is known to be Rh D negative.
- Rh D immunoglobulin should not be given to women with pre-existing anti-D antibodies, except where this is known to be due to antenatally administered Rh D immunoglobulin.
- If it is unclear whether the anti-D detected in the mother's blood is passive from the anti-D administration or preformed, a medical officer should be consulted. If there is continuing doubt, Rh D immunoglobulin should be administered.
- The magnitude of feto-maternal haemorrhage (FMH) should be assessed by a method capable of quantifying a haemorrhage of greater than or equal to 6mL of foetal red cells (12mL whole blood). For FMHs of 6mL red cells or greater, further doses should be administered sufficient to prevent maternal immunisation.
- Administration of 625 Int Units Rh D immunoglobulin is sufficient to prevent immunisation by feto-maternal haemorrhage of up to 6mL of foetal red cells (12mL whole blood).

Blood Product		Rh D Immunoglobulin		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	250 Int Units or 625 Int Units	Deep, slow intramuscular injection	<i>Pregnancy</i> Sensitising events in the first trimester 250 Int Units  Sensitising events beyond the first trimester 625 Int Units  Sensitising event in a multiple pregnancy 625 Int Units  Antenatal prophylaxis (28 and 34 weeks) 625 Int Units  <i>Postpartum</i> Unless the baby is known to be Rh D negative 625 Int Units	Stat	Antenatal prophylaxis at 28 and 34 weeks gestation  Sensitising events during pregnancy  Postpartum to avoid iso-immunisation
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual consult medical officer					

### Follow up:

Where FMH quantitation shows that FMH greater than that covered by the dose already administered has occurred, administration of an additional dose/s sufficient to provide immunoprophylaxis must be administered and preferably within 72 hours.

### Referral/Consultation:

For sensitising events beyond the first trimester consult with medical officer.

If it is unclear whether the anti-D detected in the mother's blood is passive from the anti-D administration or preformed, a medical officer should be consulted.

**Source:** Guidelines on the prophylactic use of Rh D immunoglobulin (anti-D) in obstetrics <http://www.nba.gov.au/pubs/pdf/glines-anti-d.pdf>

## Pain Management in First Stage Labour

Women experience a wide range of pain in labour and exhibit an equally wide range of responses to it. An individual's reaction to labour pain may be influenced by the circumstances of her labour, as well as the environment and support provided to her during this period.

### Management:

Reassure woman that pain is a normal part of childbirth; encourage her to try mobilisation, positional changes, shower, massage, heat packs and warm water immersion to make her more comfortable.

Encourage appropriate family member/support person to remain present and active.

Give adequate explanation, encouragement and reassurance.

Encourage frequent intake of fluids and regular bladder emptying.

### Nitrous oxide and oxygen

If she requests it, and she is in established labour, use Nitrous oxide and oxygen up to 70% nitrous oxide.

<b>Schedule 4</b>		<b>Nitrous oxide and oxygen</b>			<b>DTP</b>
<b>MID</b>					
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Gas	Up to 70% Nitrous oxide mixed with oxygen	Inhalation	Monitor effect and adjust intake as necessary	Self administered as required during labour	Max 70% Nitrous oxide mixed with oxygen.
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

### Pethidine

If all other pain management strategies are unsatisfactory and the woman requests pain relief, she is not allergic and birth is not imminent, give Pethidine (1mg/kg based on her weight at booking) in a single injection with or without Metoclopramide (Maxolon).

<b>Schedule 8</b>		<b>Pethidine</b>			<b>DTP</b>
<b>MID</b>					
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	100mg/mL	Intramuscular	50-125mg 1mg/kg	Stat	Single dose only.
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

WITH or WITHOUT (depending on local protocols)

Schedule 4		Metoclopramide			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	10mg/2mL	Intravenous or Intramuscular	10mg Stat	Stat	Single dose only. Maximum 10mg
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> Dystonic reactions eg. Oculogyric crisis is extremely rare (unless repeated doses for adults). As per local care manual, consult medical officer					

**Maternal physical assessment:**

- BP/ heart rate
- Abdominal palpation,
- Frequency/strength of contractions and vaginal loss
- If indicated (and consented to) a vaginal examination may be performed to provide additional clinical information about cervical effacement/dilatation as well as position and descent of the presenting part.
- Auscultate and document the foetal heart rate/pattern during and immediately following uterine contractions at intervals of 30 minutes during the first stage of labour.
- Remain with the labouring woman after Pethidine has been administered.
- Care as per site protocols

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Group B Streptococcus prophylaxis

Group B streptococcus (GBS) is a bacterium that is present as part of the normal flora in the vagina and gastrointestinal tract. Approximately 10-30% of women are symptomatic carriers of GBS. GBS colonisation of the infant is acquired intrapartum from the maternal genital tract, if left untreated, 1 in 200 neonates will develop neonatal sepsis.

Intrapartum antibiotic prophylaxis for women identified at risk is the best currently available strategy for the prevention of early onset GBS disease.

Conversely, antenatal antibiotic prophylaxis is not effective in reducing maternal or infant colonisation GBS rates at the time of birth.

To ensure adequate prophylaxis, antibiotics should, where possible, be commenced at least four hours prior to birth to achieve optimal concentrations in the amniotic fluid and the placental circulation.

Clinical Risk Factors for disease transmission are defined as:

- Preterm birth < 35 weeks duration
- rupture of membranes >18 hours
- maternal fever  $\geq 38^{\circ}\text{C}$
- known GBS colonisation this pregnancy
- GBS bacteriuria this pregnancy
- any woman with a previous GBS *infected* baby irrespective of her colonisation status

Schedule 4		Benzylpenicillin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Vial	600mg	Intravenous	1.2gm stat then 600mg 4 hourly until birth		Group B Streptococcus prophylaxis intrapartum
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

**If allergic to Penicillin, treat with Lincomycin 600mg 8 hourly OR follow local protocol:**

For those women with a history of Penicillin allergy, Lincomycin is preferred to Erythromycin as there is recent evidence of increasing GBS resistance to Erythromycin.

Schedule 4		Lincomycin			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	600mg/2mL	Intravenous	600mg	8 hourly till birth	Group B Streptococcus prophylaxis intrapartum
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**Referral/Consultation:** Notify MO of maternal risk factors

**Follow up:** Neonatal/Paediatric review of baby as per local protocols

**Source:** Flenady V, Jenkins-Manning S (2007) for the Queensland Clinical Practice Guidelines Working Party on the Prevention of Neonatal Early Onset Group B Streptococcal Disease, Centre for Clinical Studies, Mater Health Services, Brisbane.

[http://10.109.65.254/qheps/IFrame/WorkInstr/Instructions/W00692\\_attach.pdf](http://10.109.65.254/qheps/IFrame/WorkInstr/Instructions/W00692_attach.pdf)

## Active Management of the Third Stage

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

### Management:

- Administer a prophylactic oxytocic agent – Syntocinon (IV or IM) to the mother immediately after the birth of the baby.
- Clamp and cut the umbilical cord close to the perineum within 2-3 minutes of administration of the oxytocic.
- Immediately after cord clamping place one hand on the uterine fundus and await the onset of a strong uterine contraction. This is likely to occur within 2-3 minutes after oxytocic administration.

**Note:** collect cord blood at this time if required.

Schedule 4		Oxytocin (Syntocinon)		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	10Int Units/mL	Intramuscular Intravenous	10 units IV or IM	Stat	10 units per dose to a max dose of 20 units
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**In women with a previous history of PPH give Oxytocin/Ergometrine maleate (Syntometrine) with Metoclopramide unless Ergometrine is contraindicated i.e. woman is hypertensive, diastolic BP >90mmHg and/or she has cardiovascular disease.**

Schedule 4		Oxytocin/Ergometrine maleate (Syntometrine)		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	Ergometrine maleate 0.5mg. Oxytocin 5Int Units/mL	Intramuscular	Adult 1mL	Stat	Single dose only
Ergometrine is contraindicated when diastolic BP >90mmHg or Hx of cardiovascular disease					
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**WITH or WITHOUT (depending on local protocols)**

Schedule 4		Metoclopramide		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	10mg/2mL	Intravenous <b>or</b> Intramuscular	10mg Stat	Stat	Single dose only. Maximum 10mg
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> Dystonic reactions eg. Oculogyric crisis is extremely rare (unless repeated doses in adults). As per local care manual, consult medical officer					

### Controlled cord traction (CCT)

- Place side of one hand above the level of the symphysis pubis, applying counter pressure in an upward direction, thus stabilising the uterus during CCT. Do not manipulate the uterus.
- With the strong uterine contraction (within 2-3 minutes after administration of the oxytocic), very gently pull downward on the cord following the direction of the birth canal until the placental appears at the vulva. Continue to apply counter pressure to the uterus.
- During CCT you will observe signs of separation of the placenta, including:
  - lengthening of the cord
  - small amount of fresh blood loss, and
  - the uterine fundus becomes smaller and rounder

**Note:**

If the placenta does not descend during 20-30 seconds of CCT or there is resistance to CCT, **do not** continue to pull on the cord.

- hold the cord loosely (i.e. without any pulling/traction) and wait until the uterus is well contracted again, and
- with the next contraction, repeat controlled cord traction with counter traction.

**Birth of the placenta and membranes**

- Once the placenta is visible, release cord traction and counter traction on the uterus

**Then**

- The placenta may be taken into two hands and gently twisted so that the membranes form a 'rope'; in a gentle upward and downward movement ease the membranes out of the vagina without tearing them. Note the time.
- Immediately massage the uterus to ensure it remains contracted
- Examine the placenta and membranes to ensure they are complete
- Measure the blood loss.
- Post birth observations and care as per site protocols
- If heavy or continued vaginal blood loss see POST PARTUM HAEMORRHAGE HMP

**Referral/Consultation**

Notify Medical Officer if placenta and membranes remain insitu after 30 minutes or excessive bleeding.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Post Partum Haemorrhage

A post partum haemorrhage is life threatening. Think TONE, TRAUMA, TISSUE and THROMBIN.

Postpartum haemorrhage is defined as excessive bleeding from the genital tract at any time following the birth up to 6 weeks. A primary PPH occurs during third stage of labour or within the first twenty four hours of birth. A secondary haemorrhage occurs between twenty four hours and six weeks postpartum.

Postpartum haemorrhage occurs after 3-6% of all births. A postpartum haemorrhage can be a frightening experience for a woman and can undermine her confidence and delay her recovery. The midwife is usually the first, and may be the only, professional in the room when a haemorrhage occurs, so the midwife's prompt action is crucial in controlling and minimising blood loss.

### Immediate response to signs of haemorrhage

- Summon HELP (Senior midwife and medical officer should be called to attend any obstetric emergency) and simultaneously:
- Reassure the woman

#### TONE –

- Check for atonic uterus, rub fundus to initiate contraction. Rub up contraction (stop bleeding). Massage the uterus (rub well)
- Empty bladder, a full bladder may prevent contraction and retraction of uterus. Insert an indwelling urinary catheter.
- Give oxygen via Hudson mask.

#### TISSUE –

- Check for completion of third stage, if placenta is still in the uterus deliver as soon as possible.
- Check to ensure placenta and membranes are complete and ascertain whether tissue has been left behind.
- If expectant (physiological) management of third stage has occurred give oxytocic: - Syntometrine (if haemorrhaging).
- If Syntocinon has been given for active management of third stage, give Syntometrine or Ergometrine.
- Medical officer may request Misoprostol (800 -1000 mcg per vagina or per rectum).
- Insert two large bore IV cannulas ( $\geq 16g$ )

TRAUMA - Check for trauma to genital tract (cervix, vagina and perineum). Identify the apex of any tear or laceration and repair/apply pressure as appropriate.

THROMBIN - Collect blood for group and cross match, FBC and coagulation studies

- Commence IV oxytocin infusion (40units) in 1 litre Hartmann's or Normal Saline or 4% dextrose 1/5 N/Saline @ 4/24 rate (250mL/hr)

Schedule 4 Oxytocin/Ergometrine maleate (Syntometrine)				DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	Ergometrine maleate 0.5mg. Oxytocin 5Int Units/mL	Intramuscular	Adult 1mL	Stat	Single dose only
Ergometrine is contraindicated when diastolic BP >90mmHg or Hx of cardiovascular disease					
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

OR

Schedule 4 Ergometrine			DTP MID		
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	500 micrograms/mL	Intramuscular Intravenous	Adult 500mcg	Stat	Single dose only
<b>NB: Do NOT give ergometrine (either on its own or in Syntometrine) to women with preeclampsia</b>					
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

WITH or WITHOUT

Schedule 4 Metoclopramide			DTP MID		
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	10mg/2mL	Intravenous or Intramuscular	10mg Stat	Stat	Single dose only. Maximum 10mg
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> Dystonic reactions eg. Oculogyric crisis is extremely rare (unless repeated doses in adults). As per local care manual, consult medical officer					

**Do not delay administration of oxytocic by preparing anti-emetic**

**Referral/Consultation** Consult MO on all occasions of PPH

**Observations following postpartum haemorrhage, once bleeding has settled:**

- Maternal vital signs including 15 minutely pulse, respirations and blood pressure and four hourly temperature
- Uterus should be palpated frequently, rub fundus to initiate contraction
- Monitor fluid intake
- Monitor urine output
- Close observation is necessary as woman at risk of further bleeding.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Repair of the Perineum

### Management:

- After thorough inspection of the perineum and vaginal walls, discussion with the woman and obtaining consent to proceed, infiltrate the perineum and vaginal wall with 1% lignocaine plain, to a total of 20mLs
- Wait until the area is anaesthetised before commencing the repair.
- Give advice to the woman regarding perineal hygiene and diet
- Document your care and advice.

Schedule 4		Lignocaine 1%		DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	1% or 10mg/mL	Local infiltration	Maximum (3mg-0.3mL/kg) or 20mL which ever is less	Stat	Maximum 20mL
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**Referral/Consultation: Consult MO** for all third/fourth degree tears  
**Follow up** as per local protocol.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Mastitis

Mastitis occurs in 20% of breastfeeding women in Australia and is characterised by inflammation of the breast accompanied by systemic flu-like symptoms and pyrexia.

When occurring in the immediate postpartum period the most common causal organism is *Staphylococcus Aureus*.

The World Health Organisation recommends that women with mastitis and/or breast abscess continue to breast feed if able. It is safe for healthy infants to receive this milk. The mother should be assisted to keep feeding; weaning at this time can worsen the situation. Regular drainage of the breast by feeding or expressing should be encouraged.

### May present with:

- Rigors, malaise, myalgia, headache, anxiety and occasional vomiting.
- Breast symptoms may include localised erythematous and tenderness.
- Most episodes of mastitis occur in the first six weeks postpartum.

Some causes include:

- Blocked ducts due to poor drainage
- Damaged nipples
- Oversupply of milk in the first few weeks
- Sudden changes in feeding patterns
- Tiredness, illness and stress

### Clinical Assessment:

- Full Clinical assessment is required including heart rate, respirations and temperature.
- Examine breast for redness, tenderness and mass; examine axilla for lymph nodes; observe for signs of blocked ducts while palpating the breast tissue.

### Management:

- Maintain breastfeeding
- Ensure effective milk removal
- Give analgesia: paracetamol or a non steroidal anti-inflammatory drug (NSAID)
- Discuss possible causes with the mother, reinforcing appropriate breastfeeding management and specific treatment strategies related to the identified cause.
- With advice and support from staff, the mother can independently manage condition. Assess mother's risk factors which may have contributed to occurrence (eg. Nipple trauma, maternal or neonatal infection, milk stasis, poor drainage of milk by baby, trauma and anaemia)
- Ineffective sucking technique can result in trauma and ineffective emptying; encourage the mother to remove her bra or other restrictive clothing when feeding. Should the mother wish to wear a bra between feeds, it should be supportive but not tight. Some find more comfort without a bra or find a crop top a suitable alternative.

- Ensure privacy
- Apply warm packs just prior to, or during, feeds and encourage gentle massage to assist the ejection reflex. Cold packs after the feed may provide comfort and decrease venous congestion if present. Without treatment, the mastitis will exacerbate.
- Consider expressing some milk to soften and facilitate attachment if baby is having difficulty latching.
- Ensure that the first breast is drained before offering the second. If blockages are present, ensure they are decreasing in size with breast emptying measures. If it is too uncomfortable to breastfeed, expression may be required - either by hand or with a breast pump.
- **Assess the mastitis at each feed.** If mastitis is severe or persists for more than 24 hrs, the cycle may be broken by completely draining both breasts with an electric pump after a feed. This will assist the relief of venous and lymphatic engorgement so when rebound filling occurs, it is not exacerbated by continuing venous and lymphatic congestion.
- If blockages are not reducing, consider ultrasound or vibration to the congested area (eg. Electric toothbrush)
- Consider referral and consultation with a Lactation Consultant either face to face or via telephone if not available in local area.

#### Subsequent management:

- If symptoms are not resolving within 24 - 48 hours, antibiotic treatment may be required (in conjunction with continuing to maintain breastfeeding or effective milk removal by expressing)
- If symptoms of mastitis are unrelieved or episodes recur, the following diagnostic tests may be appropriate in collaboration with Medical Practitioner:
  - Sample of breast milk for leucocyte count, culture and sensitivity
  - Swabs from infant's nose and throat and other suspicious site of infection
  - Diagnostic ultrasound to exclude abscess.

If woman not allergic to Penicillin, treat with Flucloxacillin:

Schedule 4		Flucloxacillin,			
DTP MID					
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Capsule	500mg	Oral	500mg 6 hourly	10days	
<b>Take half to one hour before food</b>					
Provide verbal consumer medicine information and written (if available). Considered safe for breastfeeding women. Does not accumulate in breast milk and levels in breast milk are undetectable 6 hours after dosage.					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

If allergic to Penicillin, treat with Clindamycin:

Schedule 4		Clindamycin		DTP MID	
MID					
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions

Capsule	150mg	Oral	450 mg tds	10 days	10 days
Provide verbal consumer medicine information and written (if available).					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**Follow up:**

Review next day, if no improvement, consult Medical Officer

If a breast abscess is suspected **consult Medical Officer**; the diagnosis can be confirmed by ultrasound. The abscess requires drainage (either percutaneous aspiration or open drainage).

**Referral/Consultation:**

**Consult Medical Officer** on all occasions of breast abscess

**Consult Medical Officer** on all occasions of mastitis if not improving on review day.

In addition, consider referral and consultation with a Lactation Consultant either face to face or via telephone if not available in local area.

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007.

## Rubella

Rubella is a mild illness caused by the rubella virus. However, rubella is serious because it can produce defects in children born to women who are infected by the virus during pregnancy. Congenital rubella syndrome (CRS) occurs in up to 90% of infants born to women who are infected with rubella during the first trimester of pregnancy. The risk of a single congenital defect falls to approximately 10-20% by the 16<sup>th</sup> week. From the 20<sup>th</sup> week defects are rare.

### ***Exposure to the Rubella virus in pregnancy***

Rubella reinfection can occur in individuals who have both natural and vaccine induced antibody. Occasional cases of congenital rubella syndrome after reinfection in pregnancy have been reported. However, foetal damage is very rare in cases of infection in women in whom antibody has previously been detected.

All pregnant women with suspected rubella or exposure to rubella should be serologically tested, irrespective of a history of previous vaccination, clinical rubella or a previous positive rubella antibody result (see 'Serological testing for rubella' below). This is because the rash of rubella is not diagnostic, asymptomatic infection can occur, and acute rubella can be confirmed only by laboratory tests.

Acute rubella infection is indicated by presence of rubella IgM of 4-fold or greater increase in rubella IgG. Rubella IgM may not appear until a week after clinical symptoms. Sera for IgG testing should be taken 7 to 10 days after onset of illness and repeated 2 to 3 weeks later. The most recent date of potential exposure should be obtained, if possible, to calculate the potential incubation period. As some patients may have more than 1 exposure to a person with a rubella-like illness, and because exposure may occur over a prolonged period, it is important to ascertain the dates of the first and last exposures.

The characteristics of congenital rubella syndrome include intellectual disabilities, cataracts, deafness, cardiac abnormalities, intrauterine growth retardation and inflammatory lesions of the brain, liver, lungs and bone marrow. Any combination of these defects may occur, but defects which commonly occur alone following infection after the first 8 weeks of pregnancy are perceptive deafness and pigmentary retinopathy. Some infected infants may appear normal at birth, but defects, especially sensorineural deafness, may be detected later.

### ***Serological testing for Rubella***

A number of commercial assays for testing immunity to rubella are available. These vary according to the method used to determine the positive cut-off value (the WHO cut-off is 10 IU/mL but, at present, there is no recommended Australian minimal level). Available data support the presumption that an antibody level found by use of a licensed assay to be above the standard positive cut-off for that assay can be considered evidence of past exposure to rubella virus.

Antibody levels below the cut-off are likely not to be protective, particularly if the antibodies have been generated by vaccination rather than by natural infection. Expert consultation and referral of sera to a reference laboratory are recommended if there is a difficulty interpreting results.

- If a pregnant woman at 20 weeks gestation or less has been exposed to the rubella virus serological testing should always be performed. A blood sample should be taken and sent to the laboratory with the date of the last menstrual period and the date of presumed exposure (or date of onset of symptoms).
- She should be offered counselling. There is no treatment to reduce the risk to the unborn baby.
- If the woman has an antibody titre below the protective level, or a low level of antibodies and remains asymptomatic, a second blood specimen should be collected 28 days after the exposure (or onset of symptoms) and tested in parallel with the first. If the woman develops symptoms, the specimen should be collected and tested as soon as possible. A third blood specimen may be required in some circumstances.
- Women found to be seronegative on antenatal rubella immunity testing should be vaccinated **after** birth and before discharge.
- There is no risk to pregnant women from contact with recently vaccinated individuals. The vaccine virus is not transmitted from vaccines to susceptible contacts.

### ***Vaccination Postpartum***

- Women found to be seronegative on antenatal rubella immunity testing should be vaccinated **after** birth and before discharge.
- MMR vaccine is recommended, although monovalent rubella vaccine can also be used for this purpose.
- These women should be tested for rubella immunity 6 to 8 weeks after vaccination. A blood sample should be taken and sent to the laboratory with the date of the vaccination.
- Anti-D immunoglobulin does not interfere with the antibody response to vaccine. If anti-D immunoglobulin is also required, the two may be given at the same time in different sites with separate syringes, or at any time in relation to each other

<b>Schedule 4 Priorix (MMR) – Measles, mumps and rubella live attenuated vaccine DTP MID</b>					
<b>Form</b>	<b>Strength</b>	<b>Route of Administration</b>	<b>Recommended dose</b>	<b>Duration</b>	<b>Restrictions/ Conditions</b>
Reconstituted vaccine		SC or IM	0.5mL	stat	Postnatal only
Rubella-containing vaccine should not be given within at least 3 months after an injection of immunoglobulin, other antibody-containing blood product, or whole blood transfusion, because the expected immune response may be impaired.					
Provide Consumer Medicine Information. <b>Please consult with Australian Immunisation Handbook</b>					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

Monovalent rubella vaccine can be used where there is a contraindication to the measles or mumps components of MMR

Breastfeeding is not a contraindication to rubella vaccination. The rubella vaccine virus may be secreted in human breast milk, and there have been rare cases of

transmission of vaccine virus through breast milk reported. However, these infections have been mild.

**Follow up:**

- Women should be tested for immunity 6-8 weeks after vaccination and revaccinated if necessary.
- The success of the vaccination may be reduced from 95% to 50% if the woman required a whole blood transfusion at the birth, or soon after. This can increase the chances of the woman needing a second vaccination (after 2 months) if she is still not immune.
- Advise not to become pregnant for 1 month after vaccination

**Source:** The Australian Immunisation Handbook 9th Edition

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook-home>

## Contraception: Progesterone only ‘Minipill’

When used as contraceptives, progestogens thicken cervical mucus to impede the passage of sperm and change the endometrium reducing the potential for implantation. Progesterone also acts on the hypothalamus to suppress the pituitary luteinising hormone surge which may inhibit ovulation. Oral progestogen-only contraceptives suppress ovulation in <50% of women.

### Clinical Assessment:

Full clinical assessment and counselling must be made prior to supply.

### Indications

- Postpartum contraception for breastfeeding women.
- Contraception, including when oestrogen-containing products are not tolerated or are unsuitable.

### Contraindications

- Pregnancy
- Breast or liver cancer
- Liver disease

### Important Considerations/Relative Contraindications to progesterone contraceptives:

- Abnormal vaginal bleeding—avoid until fully investigated, as progestogens can cause irregular vaginal bleeding.
- If used as contraceptive before 3 weeks postpartum may cause heavy, irregular bleeding.
- Past history of ectopic pregnancy (risk is no higher than for women not using contraception)
- Polycystic ovarian syndrome because of the possibility of increased androgenic
- May be continued peri-operatively (including major surgery); minimal risk of thromboembolism unless other cardiovascular risk factors are present.

**Safe to use whilst breastfeeding and is the preferred hormonal contraceptive for breastfeeding women as it does not inhibit lactation.**

### Essential Minipill Counselling:

- Start on day 1 of menses (preferred) or day 21 of cycle (if started at any other time, use additional methods of contraception eg condoms, for 48 hours)
- Commence from six (6) weeks postpartum if breastfeeding.
- May be commenced at two (2) weeks postpartum if not breastfeeding.
- Take pills at the same time every day. Choose a time when you are most likely to remember, and keep to it. Use additional contraception for 48 hours if starting after first day of menstruation.
- Must be taken continuously; there are no inactive (sugar) pills or 7-day break as with the combined pill.
- If you forget to take a pill, take it as soon as you remember and take the next pill at the usual time. If the pill is more than 3 hours overdue, you are not protected. Resume normal pill taking, but use another contraceptive

method, eg condoms, for the next 48 hours. If unprotected intercourse has occurred, emergency contraception should be used.

- Vomiting, very severe diarrhoea, and other medications may stop the pill from working. Additional methods of contraception should be used for seven days.
- Progesterone only pills are less effective than the Combined Oral Contraceptive
- Consider the possibility of ectopic pregnancy in cases of contraceptive failure; progestogen-only contraceptives do not reliably inhibit ovulation and therefore offer less protection against ectopic than intrauterine pregnancy

Restricted substance		Levonorgesterel			DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Tablet	30mcg	Oral	30mcg daily	Continue daily for effective contraception	Minipill – 8 week supply only
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**Referral/Consultation** Non breastfeeding women requiring oral contraception need review by medical practitioner.

**Follow up** Clients on oral contraceptive pills should be followed up by a medical officer within 6-8 weeks.

**Source:** Australian Medicines Handbook: January, 2008  
<http://www.amh.hcn.net.au/>

## Neonatal Resuscitation

In the neonate opioids may cause respiratory depression at birth as well as neuro-behavioural side effects which can be exhibited in changes to feeding patterns and normal reflexes. Debate exists over the duration of the effects of Pethidine in relation to administration.

Naloxone (Narcan) is an opiate-receptor antagonist that reverses the effects of narcotics. Narcan is of particular value in reversing respiratory depression due to opiate administration or exposure and thus can be useful in the treatment of newborns with respiratory depression from maternal narcotic administration.

### During neonatal resuscitation

- If a mother received narcotics within 4 hours of birth, her newborn may experience some degree of respiratory depression due to transplacental drug effect. However, Narcan *should not* be considered a resuscitation drug. Always establish and maintain adequate ventilation before considering and administering Narcan.
- **NEVER** administer Narcan to the infant of a mother with narcotic addiction (or on methadone maintenance.) Sudden reversal of chronic narcotic action can cause severe life-threatening withdrawal symptoms, including refractory seizures.
- Opiate analgesics have a longer duration of action than Narcan and, respiratory depression may return as the Narcan wears off. Continued observation and monitoring of respiratory function is essential.
- If mother has been given Pethidine soon before birth, it may be appropriate to give neonatal naloxone to a baby that requires resuscitation in the absence of a known cause.

Schedule 4 Naloxone hydrochloride				DTP MID	
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	0.4mg/mL	Intravenous <b>or</b> Intramuscular	<b>Neonate</b> 0.1mg/kg	Can be repeated every 2-3 minutes only on MO's orders	Maximum 0.4 mg
Provide verbal consumer medicine information and written (if available)					
<b>Management of associated emergency:</b> As per local care manual, consult medical officer					

**Source:** Australian Medicines Handbook: January, 2008

<http://www.amh.hcn.net.au/>

PCCM 5<sup>th</sup> edition

**Follow up:** As per local protocol

## Hepatitis B

There are several different viruses that can cause liver infections and damage. Hepatitis B is one of these. Hepatitis B can be found in the body fluids of infected people, routes of transmission include:

- sharing injecting equipment (such as occurs in injecting drug use),
- needle-stick injury, and other types of parenteral inoculation,
- sexual contact (including heterosexual or homosexual intercourse, although the latter has a higher risk),
- transmission from infected mother to neonate (vertical transmission), usually occurring at or around the time of birth,
- child-to-child (horizontal) transmission, usually through contact between open sores or wounds,
- breastfeeding,
- nosocomial transmission in overseas healthcare facilities if infection control procedures are unsatisfactory

Hepatitis B is a vaccine preventable disease. The rationale for the universal birth dose is not only to prevent vertical transmission from a carrier mother (recognising that there may be errors or delays in maternal testing, reporting, communication or appropriate response), but also to prevent horizontal transmission in the first months of life from a carrier among household or other close contacts.

### Recommendations for Infants

A birth dose of hepatitis B vaccine, followed by doses given at 2, 4 and either 6 or 12 months, is recommended for all children.

- The birth dose should be given as soon as the baby is physiologically stable, and preferably within 24 hours of birth.
- The midwife/parent/guardian should remain with the baby for at least 15 minutes after vaccination.
- Every effort should be made to administer the vaccine before discharge from hospital.
- If an infant has missed the birth dose and is aged 8 days or older, a catch-up schedule is not required.
- A primary course of a hepatitis B-containing combination vaccine should be given at 2, 4 and either 6 or 12 months of age (provided the mother is HBsAg negative).
- Parents/guardians should be provided with the date of the next scheduled vaccination (preferably in writing).
- Preterm babies—provided they are healthy, immunise with childhood vaccines according to usual chronological age.

Vaccine Hepatitis B vaccine H-B-Vax II Paediatric					DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	5mcg	IM	0.5mL	At birth, then as per the Australian Immunisation Handbook	Neonates only
<b>NB.</b> All babies (preterm or term) of carrier mothers must be given a birth dose of hepatitis B vaccine and HBIG. (Hepatitis B Immunoglobulin)					
Provide Consumer Medicine Information. <b>Please consult with Australian Immunisation Handbook</b>					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

There is no evidence of risk to the baby if the mother is breastfeeding. Breastfeeding does not adversely affect immunisation and is not a contraindication for the administration of any vaccine to the baby.

### Management of infants born to hepatitis B carrier mothers

- Routine antenatal screening for HBsAg is essential for correct implementation of the strategy to prevent newborn infants from becoming infected with, and therefore carriers of, HBV.
- **Infants born to HBsAg positive mothers should be given HBIG (hepatitis B Immunoglobulin) and a dose of hepatitis B vaccine on the day of birth.**
- Administration of HBIG is preferable within 12 hours of birth, as its efficacy decreases markedly if administration is delayed beyond 48 hours.
- The first dose of monovalent hepatitis B vaccine should be given at the same time as HBIG, but in the opposite anterolateral thigh, as soon as possible – preferably within 24 hours of birth, and definitely within 7 days.
- If concurrent administration is not possible, vaccination *should not* be delayed beyond 7 days after birth as (providing it is given early) vaccine alone has been shown to be effective in preventing carriage.
- Three subsequent doses of the vaccine should be given at 2, 4 and either 6 or 12 months of age (depending on the vaccine used), so that the infant is given a total of 4 doses of hepatitis B-containing vaccines.

### Preterm babies

Preterm babies do not respond as well to hepatitis B-containing vaccines as term babies. Thus, for babies at <32 weeks' gestation or <2000 g birth weight, it is recommended to give vaccine at 0, 2, 4 and 6 months of age and either:

- measure anti-HBs at 7 months of age and give a booster at 12 months of age if antibody titre is <10 mIU/mL, or
- give a booster at 12 months of age without measuring the antibody titre.

Hepatitis B Immunoglobulin					DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Ampoule	100Int Units	Intramuscular	Actual volume stated on the vial	At birth	For babies born to HBsAG positive mothers only
<b>NB.</b> All babies (preterm or term) of carrier mothers must be given a birth dose of hepatitis B vaccine and HBIG (in opposite thighs)					
Provide Consumer Medicine Information. <b>Please consult with Australian Immunisation Handbook</b>					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local					

**Follow up:** Mother and baby will need review by MO if mother HBsAG positive

**Source:** The Australian Immunisation Handbook 9th Edition

<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook-home>

## BCG Vaccine

In Australia, greater than 80%) of Tuberculosis (TB) cases occur in people born overseas; particularly from Asia, southern and eastern European countries, the Pacific Islands, and north and sub Saharan Africa, which reflect the composition of Australia's migrant and refugee intake. Rates of TB are also high in Aboriginal and Torres Strait Islander people and in Papua New Guineans living in some parts of Australia.

### Indications

Individuals at increased risk of contracting tuberculosis (TB):

- Aboriginal and Torres Strait Island (ATSI) neonates in regions with high incidence of TB
- Neonates born to parents with leprosy or TB, or who have a family history of leprosy

### Precautions

BCG vaccination should be deferred in the following circumstances:

- Neonates with a birth weight <2.5 kg or those who may be relatively malnourished
- Neonates of mothers who are HIV positive
- Children who are currently on isoniazid preventive therapy for latent TB infection (as the therapy can inactivate the BCG)
- A 4-week interval should be allowed after administration of another live vaccine (MMR, varicella [and MMRV when available], yellow fever vaccine) unless given concurrently with the BCG.

### Dosage and administration

BCG vaccine is administered as a single dose by intradermal injection. It should be given only by specially trained medical, midwifery or nursing staff who are fully conversant and certified by the Queensland TB Control Centre.

<b>BCG Vaccine</b>					<b>DTP MID</b>
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Powder + Solvent	1.5mg	Intradermal	0.05mL		For Infants <12 months. Only to be administered by Midwives certified by Qld TB control centre
Provide Consumer Medicine Information. <b>Please consult with Australian Immunisation Handbook</b>					
<b>Management of associated emergency:</b> As for severe allergic reactions see ANAPHYLAXIS in local care manual					

- The midwife/parent/guardian should remain with the baby for at least 15 minutes after vaccination
- A small red papule forms and eventually ulcerates, usually within 2 to 3 weeks of vaccination. The ulcer heals with minimal scarring over several weeks. There may be swelling and tenderness in local lymph nodes.
- BCG vaccine also protects against leprosy

There is no evidence of risk to the baby if the mother is breastfeeding. Breastfeeding does not adversely affect immunisation and is not a contraindication for the administration of any vaccine to the baby.

**Source:** The Australian Immunisation Handbook 9th Edition  
<http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook-home>

## Emergency Contraception

Used to prevent pregnancy after unprotected intercourse or possible failure of contraceptive method (eg missed pills, condom breakage); may be used up to five days after unprotected intercourse, has been shown to be most effective when commenced within 24 hours

Levonorgestrel method is preferable as it has a higher efficacy and lower side effect incidence than the combined oestrogen/progesterone (Yuzpe) method. Emergency contraception has no effect on an established pregnancy; failure of emergency contraception is not thought to increase the risks of birth defects but the possibility of ectopic pregnancy should be considered.

### Indications

- Emergency Contraception

### Clinical Assessment:

Obtain a full history including menstrual, contraceptive, STI risk and counselling must be made prior to supply.

### Management

Ensure the following:

- Where relevant the woman is offered STI screening-urine testing and/or lower vaginal swab for PCR and possible serology
- The woman is clear on how to take the tablet/s
- Should be taken as soon as possible, preferably within 72 hours (3 days) after unprotected intercourse. It is most effective when taken within 24 hours after unprotected intercourse.
- Oral Levonorgestrel has a contraceptive effect when taken up to 120 hours (5 days) after unprotected intercourse, and a pregnancy rate significantly lower than if no contraceptive were used (although the earlier it is taken the better).
- The single dose regimen is preferred but if taking as 2 doses ensure that the second dose is not at an inconvenient time, when it may be missed.
- Repeat the dose if vomiting occurs within 2 hours of taking the tablets.
- Advise she use barrier methods until her next period.
- Next menses usually occurs within 3 days of expected time; advise return if menses is delayed by >1 week late, or if it is unusually light (she should have a pregnancy test).
- If emergency contraception fails, be alert to the possibility of ectopic pregnancy

Restricted substance		Levonorgestrel			DTP
MID					
Form	Strength	Route of Administration	Recommended dose	Duration	Restrictions/ Conditions
Tablet	750mcg	Oral	1500 mcg	Given as 2 doses of 750mcg, 12 hours apart	Emergency contraception
Provide verbal consumer medicine information and written (if available)					

**Management of associated emergency:** As per local care manual, consult medical officer

**Note:** The standard Drug List is likely to change in 2009 to allow a stat 1500 mcg dose, consult SDL for latest dosage information.

**Follow up**

All clients require follow up to exclude pregnancy and STI, if at risk, with a medical officer 3 weeks after dose, and to discuss contraception.

**Source:** Australian Medicines Handbook: January, 2008  
<http://www.amh.hcn.net.au/>

## Poisoning and Drug Emergencies – Opiates

### May present with:

- Respiratory depression
- Vomiting
- Drowsy, unconscious

### Management:

- Give oxygen via Hudson mask to maintain saturation >94%.
- If >94% not maintained **Consult MO**
- **Consult MO,**
- **Only proceed if known opiate overdose and emergency**
- **Give Naloxone if depressed level of consciousness or respiratory rate.** Care needs to be taken not to induce withdrawal in clients who are regular users of opiates – complications include seizures and arrhythmias which may be fatal.
- MO may order further doses or IV infusion of Naloxone. **Naloxone has a short half life** and the client may relapse as the Naloxone wears off
- If the opiate has been taken orally, consider Activated Charcoal – **Consult MO**
- Airway protection may be required

Schedule 4		Naloxone Hydrochloride		DTP MID
Form	Strength	Route of Administration	Recommended dose	Duration
Ampoule	0.4mg/mL	Intravenous Or Intramuscular if Intravenous access difficult	<b>Adult</b> 0.4mg If known to be a regular user of opiates, administer in 0.05mg doses	Can be repeated at intervals of 2-3 minutes to a max of 2mg, <b>but only on MO's orders.</b> In general, if no response with 2mg, it is less likely that opiates are the cause
Provide verbal consumer medicine information and written (if available)				
<b>Management of associated emergency:</b> Consult MO				

**Source:** Primary Clinical Care Manual, 5<sup>th</sup> edition 2007