Acknowledgments

Mater Mothers’ Hospital (MMH), Mater Health Services, Brisbane, is working with Greater Metro South Brisbane Medicare Local (GMSBML) and other key clinicians in the public and private sector, to develop a best practice model for GP (General Practitioner) Maternity Shared Care in South Brisbane, Queensland. Inclusive in this model is a uniform guidelines and protocols booklet for GPs and hospitals to assist them to care for women in accordance with current evidence based antenatal practice.

Sincere thanks are extended to the following for their dedication to the task:

• Dr Don Cave, Director Perinatal Medicine and Women’s Health Services, MMH (2005–2013)
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• Sam Drew, Midwifery Unit Manager Ambulatory Services (2011–2014)
• Kay Wilson, Deputy Director Ambulatory and Birthing Services
• Maree Reynolds, Director Women’s Health Services
• Dr Glenn Gardener, Director of Maternal Fetal Medicine, MMH
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• Michelle Kelly, Manager, Parent Education & Support Services, MMH
• Annette Parry, CNC—Diabetes, MMH

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GP Advisor for the MMH/GP Maternity Shared Care Program is supported by:

We would like to acknowledge the South Australian Divisions of General Practice Inc (SADI) for providing information regarding the SA Statewide model and the use of the ‘GP Obstetric Shared Care Protocols: A Statewide Model’ (March 2006) document as a template for this publication.
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1. Maternity Shared Care

Women wishing to attend the Mater Mothers’ Hospital (MMH) for their care during pregnancy and in childbirth have an option of GP shared care, which means most of their maternity care is managed by their General Practitioner (GP).

The most important principle underlying shared care is that the designation of high and low risk is a continuing process throughout the pregnancy, as more than one fifth of those designated as low risk on first antenatal visit will have their risk status changed during their pregnancy. A further percentage will have their risk status changed during labour. In certain circumstances a high risk woman may be accepted into a shared care program providing all health care providers are familiar with the stated risk factors and consequent management strategies. This would require close collaboration between GPs and the hospital. It is most important in all cases to demonstrate consistency in the approach between all caregivers and the pregnant woman.

The decision to enter into a shared care arrangement is a joint decision made by the woman, her GP and the consultant obstetrician at MMH, all of whom share responsibility. While it is not necessary that the GP wishing to conduct shared care holds the DRANZCOG (Diploma of the Royal Australian College of Obstetricians and Gynaecologists), or the CWH (Certificate of Women’s Health) he/she should have adequate knowledge and skill in obstetric care and be familiar with the policies of MMH. GPs undertaking maternity shared care are expected to meet the alignment requirements for maternity shared care.

Shared care automatically implies that the responsibility for the health of the woman and her baby is shared.

A referral to a consultant obstetrician at Mater Mothers’ Hospital should be submitted before 12 weeks gestation whenever possible.

The following guidelines and protocols are to help you as a GP undertaking shared care, and the staff at MMH, to care for women in accordance with current evidence based obstetric practice.

2. The Pregnancy Health Record

The aim of the Pregnancy Health Record is to facilitate women’s participation in their care and communication, and to promote early and appropriate use of antenatal services, particularly amongst disadvantaged groups.

The Pregnancy Health Record must be used for all women involved in GP Shared Maternity Care.

The Pregnancy Health Record includes:

- An antenatal pathway format and will act as a prompt to both General Practitioners and hospital professionals about the important issues to be covered at significant points in the pregnancy.
- Action oriented problems are designed to clearly identify concerns that may lead to an action above and beyond routine antenatal care e.g. past history of premature labour—admit if any contractions; APH repeated unexplained—serial growth measurements.
- A section entitled notes beneath each visit is designed to record concerns not necessarily requiring further action later in the pregnancy. This is a very important area for all members of the team to become aware of the individual woman’s experience of pregnancy.
- All care providers must record tests requested and the results when these are available. This process will enable rapid appreciation of timing and results of pathology tests ordered throughout the pregnancy. In addition this ensures that someone has checked the results of tests.

The Pregnancy Health Record is to be the substantive record of the woman’s pregnancy and MUST be completed at each visit. Information is to be recorded in the Pregnancy Health Record at every visit by the care provider and must be sufficient to meet the care provider’s duty of care in diagnostic and treatment decisions.

All original pathology and ultrasound results are to be included in the Pregnancy Health Record.
The Pregnancy Health Record will be commenced by the midwife at the antenatal history appointment as an electronic record and a printed copy will be given to the woman at each subsequent appointment. This should be carried by her to all appointments during her pregnancy, including those with other health professionals. The woman should be made aware that the Pregnancy Health Record is the **ONLY** complete medical record maintained for her antenatal care and becomes part of the obstetric hospital’s health records.

**As the substantive record, the Pregnancy Health Record will be filed in the medical records at MMH. The Pregnancy Health Record is not to be destroyed under any circumstances.**


### 3. Medical indemnity recommendations

The risk of litigation in the practice of obstetrics mainly relates to the conduct of labour. Recently litigation has also occurred when antenatal screening tests have failed to be performed, or when serious medical problems or obstetric complications have not been detected during the pregnancy, or there has been a delay in management.

To be indemnified for the practice of maternity shared care the following guidelines must be adhered to:

1. Every GP should check with their MDO or professional indemnity provider as to the extent of cover provided. However in general terms it is the Mater’s understanding that GPs with non-procedural cover are covered for claims arising out of antenatal care (including any major antenatal complications) up until labour but are not covered for any intrapartum care or treatment. To be covered for intrapartum care the GP must have GP obstetric cover.

2. Ensure all appropriate antenatal screening tests are performed and followed up:
   a. **any investigations requested by shared care GPs for any pregnant woman under their care must be followed up by the GP concerned.**
   b. while part of appropriate follow up may be by communicating to the obstetrician/registrar at the shared care hospital the relevant results, it is still necessary for the GP to check that appropriate action has been taken. The GP will not be relieved of all liability by simply communicating the results in the assumption the hospital will act on the results.

3. Ideally the woman should be referred to an antenatal clinic before 12 weeks and triaged for consultation with an obstetrician/obstetric registrar at an appropriate time.
   a. if shared care is planned then the consultant obstetrician/obstetric registrar or midwife should see the woman at 36 weeks and again at 41 weeks, provided that the antenatal course is uneventful. Should any problems occur the consultant obstetrician should be advised.
   b. GPs may continue to see pregnant women for antenatal visits or for intercurrent medical problems, but in shared care the responsibility for the obstetric care and the delivery of the baby must rest with the consultant obstetrician or with a GP who has obstetric insurance arrangements.

4. In an emergency situation, e.g. haemorrhage or preterm birth, any doctor irrespective of their cover must render whatever emergency assistance they can, and will be indemnified.

5. If an aligned GP is going to be away from his or her practice, then the woman’s care must be handed over to another aligned GP, or she must be referred back to MMH. It is not acceptable for GPs not in the shared care alignment program to provide back up.

6. Further details can be obtained from your indemnifier.
4. Alignment and CPD requirements

GPs that choose to join the Alignment Program will have access to:

- High quality educational events, including on-line education.
- A range of on-line resources and tools, including the Appointments Schedule, Guidelines for Referral and Consultation and referral templates.
- Improved lines of communication into MMH.

In return, GPs participating in the Alignment Program will commit to providing:

- Referrals with an agreed minimum amount of clinically relevant information to facilitate safe provision of care. Hard-copy or electronic templates have been created for GP use. Referrals are to include copies of pathology and radiology reports.
- MMH Antenatal clinic (ANC) to be copied in all pathology and radiology requests.
- Timely, clinically significant communication with the appropriate clinician/s.
- Attendance at education updates, with a minimum of one update per QI & CPD triennium.
- High quality care to their patients, as described in the RACGP JCC Obstetrics document at http://www.racgp.org.au/Content/NavigationMenu/About/Governance/JointConsultativeCommittees/ObstetricsJCCO/20030812jccsharedcare.pdf

MMH is committed to supporting all GPs who wish to share care in maintaining their skills and familiarity with new protocols and approaches. The alignment program is designed to be as flexible as possible for busy GPs and to minimise time lost and risks inherent in delayed communication with the hospital, bookings and missing information.

To become an aligned Maternity Shared Care GP with MMH, a GP must fulfil the requirements listed below.

Alignment

GPs must be a registered medical practitioner with current medical indemnity insurance.

As previously stated on page three, while it is not necessary that the GP wishing to conduct shared care holds the DRANZCOG or CWH, they should have adequate knowledge and skill in maternity care. GPs undertaking maternity shared care are expected to meet the alignment requirements for maternity shared care and be familiar with the policies of MMH.

To provide maternity shared care GPs must attend the Mater Shared Care Alignment Program and complete the questionnaire satisfactorily or attend an affiliated alignment program and complete the Mater online bridging program.

To maintain your alignment:

In order to continue to provide maternity shared care with MMH you will need to re-align each triennium by one of the following means:

1. Attend a MMH alignment seminar and complete the questionnaire satisfactorily
2. Complete the MMH online re-alignment and complete the questionnaire satisfactorily
3. Attend a maternity alignment seminar with an affiliated provider* and complete the MMH online bridging program
4. Attend three relevant two hour antenatal or postnatal/neonatal CPD events (category 2) AND complete the MMH online bridging program including Q&A*.

*A copy of your attendance certificate/s from courses other than MMH is required to be forwarded to and accepted by the program administrator prior to recognition of re-alignment.

The three year cycle is run in parallel with the triennium set down by the RACGP and the Australian College of Rural and Remote Medicine (ACRRM) for GP Vocational Registration.
If the recommended best practice protocols are not followed and patient management problems occur, accreditation may be withdrawn. This is monitored by reviewing patient records. GPs that have not been following protocols will be contacted, either by phone or letter to inform them of their protocol omission. Repeated omissions or serious management problems will be reviewed by the Maternity Shared Care Advisory Committee and may result in withdrawal of Alignment.

If alignment is not maintained a GPs name will be removed from the GP Maternity Shared Care Program database, which would preclude participation in MMH Maternity Shared Care.

5. Contraindications to Shared Care

Special arrangements can be made for shared care for most women, but it is not recommended for women with the conditions listed under Section 6. However, some GPs may have skills that enable them to manage women with some of these conditions. Discussion with a consultant obstetrician is recommended to clarify management in these situations.

In circumstances where a woman has one of the listed complications and requests shared care, please make this clear in your referral letter to the consultant obstetrician involved.

The basic philosophy in this approach is that these women may have ongoing or future health needs for which the GP is responsible. It may not necessarily be appropriate to interrupt that process in pregnancy and in some circumstances it may be better to establish a modified system of shared maternity care between the GP and the consultant obstetrician.
6. Antenatal guidelines for consultation and referral – Mater Mothers’ Hospital

6.1 Introduction

Purpose

The following guidelines provide an evidence-based, structured, decision-making framework, for Mater midwives and General Practitioners. They outline specific antenatal indications to facilitate discussion, consultation and/or referral to specialist obstetricians in the care of pregnant women and their families. The main purpose of the indication list is to provide a guide for risk assessment and referral decisions.

Scope and Context

This guideline applies to Mater medical and midwifery staff and General Practitioners caring for pregnant women planning to birth at Mater Health Services. At Mater Mothers’ Private Hospital Redland, women will always be managed under the care of a visiting medical officer. The guidelines are aligned with both the Australian College of Midwives and RANZCOG guidelines and we recognise all providers of maternity care will work collaboratively, recognising the knowledge, skills and experience that each professional group possesses, within a woman-centred, shared model of care.

Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A - Discuss</td>
<td>The primary carer (midwife or GP) will provide clinical care and, if necessary, call upon such qualified health professionals as may reasonably be expected to have the necessary skills and experience to assist in the provision of care.</td>
</tr>
<tr>
<td>B - Consult</td>
<td>Consult with a Mater Mothers’ Hospital (MMH) specialist obstetrician or obstetric registrar.</td>
</tr>
<tr>
<td>C - Refer</td>
<td>Transfer responsibility for the woman’s care to a MMH specialist obstetrician.</td>
</tr>
</tbody>
</table>

6.2 Guidelines

Discuss (A)

a. The primary carer (midwife or GP) will call upon such qualified health professionals as may reasonably be expected to have the necessary skills and experience to assist in the provision of care.2

b. The primary carer (midwife or GP) will initiate a discussion with, or provide information to, another midwife or health care provider, in order to plan and provide optimal care.1,2

c. Following this discussion, the primary carer may recommend to the woman that consultation with another health care provider or medical practitioner take place because her pregnancy, labour, birth, postnatal period, or the baby may be affected by the condition or situation. Such a discussion does not transfer the responsibility for care. It is important that all parties are made aware of any recommended changes to care arrangements after the discussion.1,2

d. Any exchange of information or advice will be clearly agreed upon and will be clearly documented e.g. in the woman’s Pregnancy Health record or electronic health record.2

e. This discussion will include the need for, and timing of, any further review.2

Consult (requested with a specialist obstetrician or obstetric registrar) (B)

a. A consultation refers to the situation where a primary carer (midwife or GP) recommends the woman consult a specialist obstetrician or obstetric registrar or where the woman requests another opinion.

b. It will be the primary carer’s (midwife or GP) responsibility to initiate a consultation and to clearly communicate to the specialist obstetrician or other health care provider that they, and/or the woman, is seeking a consultation.2

c. The individual situation of the pregnant woman will be evaluated and agreements made about the responsibility for maternity care based on the Antenatal Guidelines for consultation and referral – MMH.
d. A consultation may include the following:

- i. A face-to-face assessment with the woman and the medical practitioner or other health care provider. This can also be performed using telehealth technologies. The outcome will be clearly communicated to the primary carer and the woman and documented formally e.g. using the woman's hand held record, an electronic record, letter or email.

- ii. The primary carer may seek advice directly from the specialist obstetrician or other health care provider on behalf of the woman. This consultation may occur in person, by telephone or using telehealth facilities. The primary carer will document this request for advice as well as the advice they receive so that the matter can be discussed with the woman.

e. When a consultation occurs, the decision regarding ongoing clinical roles and responsibilities will involve a discussion between the specialist obstetrician or health care provider, the primary carer and the woman. The woman may choose to consent to or decline the consultation. Seeking a consultation does not transfer responsibility for care. If the medical practitioner or health care provider recommends a change to the responsibility of care, this will be clearly communicated to the primary carer and the woman involved.

f. The consultation involves addressing the issue that led to the referral and the prompt communication of the findings and recommendations to the woman and the referring professional. The primary carer or specialist obstetrician will not automatically assume responsibility for ongoing maternity care. Responsibility will depend on the clinical situation and the wishes and needs of the individual woman. After consultation with a specialist obstetrician, it should be clearly established whether maternity care and responsibility:

- i. continues with the primary carer (midwife or GP), or

- ii. is referred to the specialist obstetrician.

g. Areas of discussion and involvement will be agreed upon and clearly documented.

h. The specialist obstetrician may be involved in, and responsible for, a discrete area of the woman’s care, with the primary carer maintaining overall responsibility within their scope of practice.

i. Where urgency, distance or climatic conditions make a face-to-face consultation between a woman and a specialist obstetrician impossible, the primary carer will seek advice from the specialist obstetrician by phone. The primary carer should document this request for advice in their records, and discuss with the woman the advice received.

j. Areas of discussion and involvement will be clearly agreed upon and clearly documented.

**Transfer (to specialist obstetric care) (C)**

a. When maternity care is referred (either permanently or temporarily) from the primary carer to a specialist obstetrician, the specialist obstetrician, in consultation with the woman and primary carer, assumes all responsibility for maternity care (secondary or tertiary). The woman will provide informed consent prior to a transfer. The obstetrician (or other medical specialist) will assume ongoing clinical responsibility and the role of the midwife or GP will be agreed between the specialist, the midwife or GP and the woman. This will include a discussion about the appropriate timing of a transfer of clinical responsibility back to the midwife or GP when the condition(s) permit.

b. When maternity care is referred to a specialist obstetrician, the primary carer may continue to provide maternity care within the primary carer’s scope of practice, in collaboration with the specialist obstetrician.

c. Areas of discussion, responsibility and involvement should be agreed upon and clearly documented and communicated to the woman.

d. Specialist obstetricians/registrars will consult with other specialist medical officers as required, such as anaesthetics, obstetric medicine and neonatology.

e. NOTE: Where there are variations in the severity of a condition there may be more than one level recommended e.g. B/C; A/B/C Indications at booking history.

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### 6.3 Medical conditions at commencement of pregnancy

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6.3.1 Anaesthetic difficulties</strong></td>
<td>Previous failure or complication (e.g. difficult intubation, failed epidural)</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Malignant hyperthermia or neuromuscular disease</td>
<td>C</td>
</tr>
<tr>
<td><strong>6.3.2 Autoimmune disease</strong></td>
<td>SLE/connective tissue disorder:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Active with major organ involvement on medication</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>• Inactive, no renal involvement, no hypertension, or only skin/joint problems</td>
<td>B</td>
</tr>
<tr>
<td><strong>6.3.3 Body mass index (BMI)</strong></td>
<td>BMI less than 18 and more than 35</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>BMI more than 40</td>
<td>B</td>
</tr>
<tr>
<td><strong>6.3.4 Cardiovascular disease</strong></td>
<td>Arrhythmia/palpitations; murmurs: recurrent, persistent or associated with other symptoms</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Cardiac valve disease</td>
<td>C</td>
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<tr>
<td></td>
<td>Cardiac valve replacement</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Cardiomyopathy</td>
<td>C</td>
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<tr>
<td></td>
<td>Congenital cardiac disease</td>
<td>C</td>
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<tr>
<td></td>
<td>Hypertension</td>
<td>B</td>
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<tr>
<td></td>
<td>Ischemic heart disease</td>
<td>C</td>
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<tr>
<td></td>
<td>Pulmonary hypotension</td>
<td>C</td>
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<tr>
<td><strong>6.3.5 Drug dependency and prescription medicine</strong></td>
<td>Use of alcohol and other drugs</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Medicine use: the effect of drugs on the pregnant woman and the unborn child, lactation and/or neonate. (Information available from Mothersafe:1800 647 848)</td>
<td>B</td>
</tr>
<tr>
<td><strong>6.3.6 Endocrine</strong></td>
<td>Addison's disease, Cushing's disease or other endocrine disorder requiring treatment</td>
<td>C</td>
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<tr>
<td></td>
<td>Diabetes mellitus:</td>
<td></td>
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<tr>
<td></td>
<td>• Gestational diabetes in previous pregnancy</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>• Pre-existing Type 1 or Type 2 diabetes</td>
<td>C</td>
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<tr>
<td></td>
<td>Hypothyroidism:</td>
<td></td>
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<tr>
<td></td>
<td>• stable treated hypothyroidism</td>
<td>B</td>
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<tr>
<td></td>
<td>• new diagnosis</td>
<td>B</td>
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<tr>
<td></td>
<td>Hyperthyroidism</td>
<td>B</td>
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<tr>
<td></td>
<td>Thyroid disease</td>
<td>B</td>
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<tr>
<td><strong>6.3.7 Gastro-intestinal</strong></td>
<td>Hepatitis B with positive serology (HBsAg+)</td>
<td>B</td>
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<tr>
<td></td>
<td>Hepatitis C</td>
<td>B</td>
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<tr>
<td></td>
<td>Inflammatory bowel disease:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• This includes ulcerative colitis and Cohn's disease</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Oesophageal varices</td>
<td>C</td>
</tr>
<tr>
<td><strong>6.3.8 Genetic – any condition</strong></td>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>6.3.9 Haematological</strong></td>
<td>Anaemia at commencement of care irrespective of how treated or whether it responds to treatment:</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Anaemia defined as Hb less than 90 g/L</td>
<td>C</td>
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<tr>
<td></td>
<td>Coagulation disorders</td>
<td>C</td>
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<tr>
<td></td>
<td>Decline blood products</td>
<td>B</td>
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<tr>
<td>Item</td>
<td>Description</td>
<td>Key: A = Discuss; B = Consult; C = Transfer</td>
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<tr>
<td></td>
<td>Haemoglobinopathies</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Haemolytic anaemia</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Other antibodies detected</td>
<td>B/C</td>
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<tr>
<td></td>
<td>Rhesus negative blood group requiring Rh (D) immunoglobulin</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Thalassemia</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Thrombo-embolic process of importance is the underlying pathology and the presence of a positive family medical history</td>
<td>C</td>
</tr>
</tbody>
</table>
|      | Thrombophilia including anti-phospholipid syndrome:  
  • no previous obstetric complications or maternal thrombosis  
  • on warfarin, previous obstetric complications or maternal thrombosis | B/C                                    |

<table>
<thead>
<tr>
<th>6.3.10 Infectious diseases</th>
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<tbody>
<tr>
<td>Cytomegalovirus</td>
</tr>
</tbody>
</table>
| Genital Herpes:  
  • primary infection  
  • recurrent infection | B/A/B |
| History of viral, or parasitic infection | A/B |
| HIV infection | C |
| Rubella | C |
| Parvovirus infection | B/C |
| Previous neonatal GBS | B |
| Syphilis:  
  • positive serology and treated  
  • positive serology and not treated  
  • primary infection | B/B/B |
| Toxoplasmosis | B |
| Tuberculosis active or a history of | B/C |
| Varicella zoster virus infection | B |

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<thead>
<tr>
<th>6.3.11 Maternal age</th>
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<tbody>
<tr>
<td>over 38 years</td>
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<tr>
<td>under 14 and over 45 years</td>
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<tr>
<th>6.3.12 Neurological</th>
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</thead>
<tbody>
<tr>
<td>AV malformations</td>
</tr>
<tr>
<td>Bell’s palsy</td>
</tr>
<tr>
<td>Epilepsy with medication or seizure in last 12 months</td>
</tr>
<tr>
<td>Epilepsy without medication or in the past without treatment and no seizures in the last 12 months</td>
</tr>
<tr>
<td>Multiple sclerosis</td>
</tr>
<tr>
<td>Muscular dystrophy or myotonic dystrophy</td>
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<tr>
<td>Myasthenia gravis</td>
</tr>
<tr>
<td>Spinal cord lesion (paraplegia or quadriplegia)</td>
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<tr>
<td>Subarachnoid haemorrhage, aneurysms</td>
</tr>
</tbody>
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| 6.3.13 Organ transplant | C |

<table>
<thead>
<tr>
<th>6.3.14 Perinatal mental health problems – history of</th>
</tr>
</thead>
</table>
| Care during pregnancy and birth will depend on the severity and extent of the mental health status:  
  • EPDS – > 12 or positive response to Q10 re self-harm  
  • puerperal psychosis | A/B/B |
### Item Description

**6.3.15 Renal function disorders**

- Disorder in renal function, with or without dialysis
- Pyelitis
- Previous kidney surgery with potential to impair kidney function during pregnancy i.e. removal of kidney etc.
- Urinary tract infections (recurrent)

**6.3.16 Respiratory disease**

- Asthma – mild
- Asthma – moderate (i.e. oral steroids in the previous 12 months and maintenance therapy)
- H1N1 (current)
- Severe lung function disorder
- Sarcoidosis (can be exacerbated during pregnancy)

**6.3.17 Skeletal Problems**

These include conditions that may cause severe pain during labour:

- history of developmental skeletal disorders
- osteogenesis imperfecta
- Scheuermann’s disease
- scoliosis (with rods)
- spondylolisthesis

**6.4 Pre-existing gynaecological disorders**

**6.4.1 Cervical abnormalities**

- Abnormal PAP smear results requiring follow-up during pregnancy
- Cervical amputation
- Cervical surgery including cone biopsy, laser excision or LLETZ biopsy
- Cervical surgery with subsequent term vaginal birth
- Cervical surgery without subsequent term vaginal birth

**6.4.2 Female genital mutilation (FGM)**

**6.4.3 Fibroids**

**6.4.4 Infertility treatment**

**6.4.5 Intrauterine contraceptive device (IUCD) insitu**

**6.4.6 Pelvic deformities (trauma, symphysis rupture, rachitis)**

**6.4.7 Pelvic floor reconstruction**

- Colpo-suspension following prolapse, fistula and/or previous rupture

**6.4.8 Uterine abnormalities**

- Myomectomy or hysterotomy
- Bicornuate uterus, unicornuate uterus or other congenital reproductive tract anomaly (includes vaginal septums)

**6.5 Previous obstetric history**

**6.5.1 ABO incompatibility**

**6.5.2 Active blood incompatibility (Rh, Kell, Duff, Kidd)**

**6.5.3 Autoimmune thrombocytopenia**

**6.5.4 Caesarean section**
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5.5</td>
<td>Cervical weakness (and/or cervical suturing procedure)</td>
<td>C</td>
</tr>
<tr>
<td>6.5.6</td>
<td>Cholestasis</td>
<td>B</td>
</tr>
<tr>
<td>6.5.7</td>
<td>Congenital and/or hereditary disorder of a previous child</td>
<td>B</td>
</tr>
<tr>
<td>6.5.8</td>
<td>Forceps or vacuum extraction</td>
<td>A</td>
</tr>
<tr>
<td>6.5.9</td>
<td>Grand multiparity – defined as parity more than five</td>
<td>A/B</td>
</tr>
<tr>
<td>6.5.10</td>
<td>Hypertension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eclampsia</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Gestational hypertension</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Pre-eclampsia</td>
<td>B</td>
</tr>
<tr>
<td>6.5.11</td>
<td>IUGR less than 10 percentile</td>
<td>B</td>
</tr>
<tr>
<td>6.5.12</td>
<td>Macrosomia more than 4.5 kg</td>
<td>B</td>
</tr>
<tr>
<td>6.5.13</td>
<td>Neonatal asphyxia (defined as an APGAR score of less than seven at five minutes)</td>
<td>B</td>
</tr>
<tr>
<td>6.5.14</td>
<td>Perinatal death</td>
<td>B/C</td>
</tr>
<tr>
<td>6.5.15</td>
<td>Placental</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Abruptio</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Accreta</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Manual removal</td>
<td>B</td>
</tr>
<tr>
<td>6.5.16</td>
<td>Postpartum depression</td>
<td>A</td>
</tr>
<tr>
<td>6.5.17</td>
<td>Postpartum haemorrhage more than 500 ml requiring additional treatment and/or transfusion</td>
<td>B</td>
</tr>
<tr>
<td>6.5.18</td>
<td>Preterm birth (less than 35 weeks) in a previous pregnancy</td>
<td>B</td>
</tr>
<tr>
<td>6.5.19</td>
<td>Previous HELLP syndrome</td>
<td>C</td>
</tr>
<tr>
<td>6.5.20</td>
<td>Previous neonatal group B streptococcus (GBS) infection</td>
<td>B</td>
</tr>
<tr>
<td>6.5.21</td>
<td>Pervious serious psychological disturbance</td>
<td>B</td>
</tr>
<tr>
<td>6.5.22</td>
<td>Recurrent miscarriage (three or more during the first trimester)</td>
<td>B</td>
</tr>
<tr>
<td>6.5.23</td>
<td>Rhesus isoimmunisation</td>
<td>C</td>
</tr>
<tr>
<td>6.5.24</td>
<td>Shoulder dystocia</td>
<td>B</td>
</tr>
<tr>
<td>6.5.25</td>
<td>Symphysis pubis dysfunction</td>
<td></td>
</tr>
<tr>
<td>6.5.26</td>
<td>Termination of pregnancy (TOP)</td>
<td>A</td>
</tr>
<tr>
<td>6.5.27</td>
<td>Trophoblastic disease: hydatidiform mole or vesicular mole, within last 12 months</td>
<td>C</td>
</tr>
<tr>
<td>6.5.28</td>
<td>Third or fourth degree perineal laceration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Functional recovery</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Persistent pelvic floor dysfunction</td>
<td>B</td>
</tr>
<tr>
<td>6.5.29</td>
<td>Vulval/perineal haematoma requiring surgical treatment</td>
<td>B</td>
</tr>
<tr>
<td>6.5.30</td>
<td>Other significant obstetric event</td>
<td>A/B/C</td>
</tr>
</tbody>
</table>

**6.6 Other indications from previous obstetric history**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.6.1</td>
<td>Current or previous child protection concerns</td>
<td>A</td>
</tr>
</tbody>
</table>

**6.7 Clinical indications developed or discovered during pregnancy**

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.7.1</td>
<td>Adoption – intended</td>
<td>A</td>
</tr>
<tr>
<td>6.7.2</td>
<td>Cervical weakness (cervical dilation prior to 37 weeks and/or cervical procedure)</td>
<td>C</td>
</tr>
<tr>
<td>6.7.3</td>
<td>Cervix cytology abnormalities</td>
<td>B/C</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Key: A = Discuss; B = Consult; C = Transfer</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>6.7.4</td>
<td>Ectopic pregnancy</td>
<td>C</td>
</tr>
<tr>
<td>6.7.5</td>
<td><strong>Endocrine disorders</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Gestational diabetes – diet controlled</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>• Gestational diabetes – requiring medication</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Thyroid disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Hypothyroidism</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>• Hyperthyroidism</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Addison’s disease, Cushing’s disease or other endocrine disorder requiring treatment</td>
<td></td>
</tr>
<tr>
<td>6.7.6</td>
<td><strong>Fetal anomaly</strong></td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.7</td>
<td>Fetal death in utero</td>
<td>C</td>
</tr>
<tr>
<td>6.7.8</td>
<td><strong>Fetal size discrepancy</strong></td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Polyhydramnios or oligohydramnios</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Small for gestational age (SGA) or large for gestational age (LGA)</td>
<td>B (size &lt; or &gt; 3 cm)</td>
</tr>
<tr>
<td>6.7.9</td>
<td><strong>Fibroids</strong></td>
<td>A/B</td>
</tr>
<tr>
<td>6.7.10</td>
<td><strong>Gastrointestinal</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cholestasis</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Hepatitis B with positive serology (HBsAg+)</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Hepatitis C</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Inflammatory bowel disease includes ulcerative colitis and Cohn’s disease</td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.11</td>
<td><strong>Haematological</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anaemia – Hb less than 90 g/L and not responding to treatment</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Blood group incompatibility</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Coagulation disorders</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Rhesus negative requiring Rh (D) immunoglobulin (anti-D)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>Thrombosis</td>
<td>C</td>
</tr>
<tr>
<td>6.7.12</td>
<td><strong>Hernia nuclei pulposi (slipped disc)</strong></td>
<td>B</td>
</tr>
<tr>
<td>6.7.13</td>
<td>High head at term</td>
<td>B</td>
</tr>
<tr>
<td>6.7.14</td>
<td><strong>Hyperemesis gravidarum</strong></td>
<td>B</td>
</tr>
<tr>
<td>6.7.15</td>
<td><strong>Hypertension</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Any type with proteinuria (more than 1+ or more than 0.3 g/24 hours)</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Chronic hypertension – present during preconception or the first half of the pregnancy. It may be essential hypertension (no apparent cause) or secondary hypertension (hypertension is associated with renal, renovascular, endocrine disorder or aortic coarctation). Diastolic pressure should be recorded as point V Korotkoff (KS) i.e. the point of disappearance of sounds.</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Eclampsia</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Gestational hypertension – any hypertension after 20 weeks gestation</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Pre-eclampsia – BP of more than, or equal to, 140/90 and/or relative rise of more than 30/15 mm/Hg from BP reading at commencement of care</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>And any of:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• proteinuria more than 0.3 g/24 hours; or protein/creatinine ratio more than, or equal to, 30 mg/ mmol or 2+ protein on dipstick</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>• Platelets less than 150 x 10/9/L</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>• Abnormal renal or liver function</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>• Imminent eclampsia</td>
<td>C</td>
</tr>
</tbody>
</table>
### Infectious diseases

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.7.16</td>
<td>Infectious diseases</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cytomegalovirus</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Genital Herpes: • late in pregnancy – active lesions • primary infection • recurrent</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>HIV infection</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Parvovirus infection</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Listeriosis</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Rubella</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Sexually transmitted infections including syphilis, gonorrhoea, chlamydia, human papilloma virus</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Toxoplasmosis</td>
<td>B/C</td>
</tr>
<tr>
<td></td>
<td>Tuberculosis – active tuberculous process</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Varicella zoster virus infection</td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.17</td>
<td>Malpresentation/non-cephalic presentation at term</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Breech presentation (refer for ECV at 35 weeks)</td>
<td>B</td>
</tr>
<tr>
<td>6.7.18</td>
<td>Multiple pregnancy</td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.19</td>
<td>No prior prenatal care (at term)</td>
<td>B</td>
</tr>
<tr>
<td>6.7.20</td>
<td>Perinatal mental health issues</td>
<td>A/B</td>
</tr>
<tr>
<td></td>
<td>EPDS &gt; 12 or positive response to Q10 self-harm</td>
<td></td>
</tr>
<tr>
<td>6.7.21</td>
<td>Placenta indications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Placental abruption</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Placenta accreta</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Placenta praevia confirmed</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Vasa praevia</td>
<td>C</td>
</tr>
<tr>
<td>6.7.22</td>
<td>Post-term pregnancy (amenorrhoea lasting longer than 42 completed weeks or 294 days)</td>
<td>A/B</td>
</tr>
<tr>
<td>6.7.23</td>
<td>Preterm labour (threatened or actual) and birth</td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.24</td>
<td>Preterm rupture of membranes</td>
<td>B/C</td>
</tr>
<tr>
<td>6.7.25</td>
<td>Reduced fetal movement in third trimester</td>
<td>B</td>
</tr>
<tr>
<td>6.7.26</td>
<td>Renal function disorders</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urinary tract infections</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>Pyelitis</td>
<td>C</td>
</tr>
<tr>
<td>6.7.27</td>
<td>Respiratory disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Asthma</td>
<td>A/B</td>
</tr>
<tr>
<td>6.7.28</td>
<td>Surgery during pregnancy</td>
<td>C</td>
</tr>
<tr>
<td>6.7.29</td>
<td>Symphysis pubis dysfunction (pelvic instability)</td>
<td></td>
</tr>
<tr>
<td>6.7.30</td>
<td>Uncertain duration of pregnancy by amenorrhoea 20 weeks</td>
<td>B</td>
</tr>
<tr>
<td>6.7.31</td>
<td>Vaginal blood loss</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recurring loss prior to 12 weeks</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>At or after 12 weeks</td>
<td>B</td>
</tr>
</tbody>
</table>

### Other indications during pregnancy

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Key: A = Discuss; B = Consult; C = Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.8.1</td>
<td>Current or previous child protection concerns</td>
<td>A</td>
</tr>
</tbody>
</table>
7.1 Booking at MMH

MMH is a private hospital contracted by Qld Health to conduct an agreed number of public births per year. Due to high demand it is not currently possible to accept routine low risk referrals from outside the catchment area. Special consideration is made for women requiring tertiary care and indigenous women.

The GP should submit a referral on the Mater Antenatal referral form as soon as possible following the first appointment or, if the LNMP is uncertain, after confirmation of the due date by dating scan. The Mater Antenatal referral form can be accessed by:

1. Users of Medical Director, Best Practice, Practix or Genie can download the referral templates from www.materonline.org.au from heading Services choose Maternity. There are instructions provided to load this referral template to your system on the site. Many of the required data fields on the referral form will be auto-completed from your management system.

2. From the website www.materonline.org.au the form can be printed out (as a PDF) and completed by hand and then faxed or mailed, or completed using the interactive PDF document and then printed out and faxed or mailed.

3. A supply of paper copies of the referral form is available for those practices without computer or Internet access. Copies of this form can be obtained by contacting the GP Liaison Midwife on 07 3163 1861; by email GPL@mater.org.au

Completed referrals may be faxed to 07 3163 8053 or posted to Mater Mothers’ Antenatal Clinic, Raymond Terrace South Brisbane Qld 4101.

Referrals are triaged daily and appointments are allocated according to urgency and due date.

A booking history appointment with a midwife will be arranged for 12–14 weeks and an obstetric appointment for 16–20 weeks unless a medical condition or obstetric history dictate an earlier appointment.

Women who want counselling re diagnostic testing (CVS or amniocentesis) should be referred to antenatal clinic. Ultrasound reports and a copy of blood test results should be brought to the first antenatal clinic appointment.

7.2 Calculation of due date

EBD is based on the LNMP if:

- LNMP normal, cycle regular, women is certain of the first day of last LNMP, woman has not breastfed or taken OCP within the last three months, has not been on depo-provera within the last 9 months
- If LNMP doesn’t fulfil above criteria, use first ultrasound
- Crown-rump length used for dating if CRL is < 84mm
- If more than one 1st trimester USS, use earliest USS with CRL = to at least 7 wks (CRL 10mm)
- If CRL > 84 mm (13.6 wks) EBD is based on head circumference (HC).

<table>
<thead>
<tr>
<th>Gestation</th>
<th>Best method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 14+0 weeks</td>
<td>Use LNMP* if within four days (less than four days) from the USS estimated due date.</td>
</tr>
<tr>
<td>14+0 to 22+6 weeks</td>
<td>Use the LNMP* if within seven days (less than seven days) from the USS estimated due date.</td>
</tr>
<tr>
<td>More than 23+0 weeks</td>
<td>Discuss with consultant if using LNMP* for dating and first scan performed at more than 23 weeks.</td>
</tr>
</tbody>
</table>

*LNMP must be ‘normal’ to be considered for calculating the estimated date of birth.
8. Screening for fetal chromosome abnormalities e.g. Down syndrome

Screening for fetal chromosome abnormalities should be discussed and offered to women of ALL ages:

- Screening tests for fetal chromosome abnormalities are dependant upon accurate gestational age dating —if dates are uncertain a ‘dating scan’ is required for appropriate screening tests to proceed.

- First trimester combined screen consisting of Papp-A, B-HCG and Nuchal translucency ultrasound.

- Alternative test in second trimester is the ‘triple test’ consisting of B-HCG, AFP and Oestradiol (*note for optimal triple test screen a dating scan is required).

- Biochemical tests in first and second trimester are available at all pathology providers and the timing of tests is outlined in the table below.

- When requesting a nuchal translucency scan, please indicate the pathology provider on the scan referral so that a combined result can be calculated on the day of the scan.

<table>
<thead>
<tr>
<th>Screening Test</th>
<th>Appropriate timing—gestational age</th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester biochemistry—Papp-A, B-HCG</td>
<td>10±0 to 13±6 weeks</td>
</tr>
<tr>
<td>Nuchal translucency scan</td>
<td>11±0 to 13±6 weeks</td>
</tr>
<tr>
<td>Second trimester Triple test—B-HCG, AFP, oestradiol</td>
<td>15 to 20 weeks (optimal time 16 weeks)</td>
</tr>
</tbody>
</table>

When ordering the first trimester combined screen, the blood test should be performed before the nuchal translucency scan so that the result is available to be combined into a single adjusted risk on the day of the scan. The result should not be given with separate biochemistry and nuchal translucency risks but always as a ‘combined’ adjusted risk only. If the gestational age is altered by the scan by more than four days the biochemistry report should be altered by contacting the relevant pathology provider.

What is NIPT?

Non-invasive prenatal testing (NIPT) refers to testing of the fetal genome (DNA) through a sample of the mother’s blood, hence it is ‘non-invasive’ and poses no risk to the pregnancy. The major benefit for NIPT is a significant reduction in the need to perform invasive testing e.g. chorionic villous sampling (CVS) or amniocentesis which carries a risk of fetal loss of up to 1%. Further information can be found on the Mater Mothers website: http://brochures.mater.org.au/Home/Brochures/Mater-Mothers-Hospital/Chorionic-villus-sampling-(CVS)-and-amniocentesis

Routine morphology ultrasound screening

All pregnant women should be offered a morphology ultrasound scan performed between 18±0 and 20±6 weeks gestation. The routine morphology scan is not endorsed as a screening test for Down syndrome and if screening for Down syndrome is requested by the woman then the only endorsed screening test for Down syndrome at this gestation is the triple test (see above).
9. GP shared care antenatal appointment schedule

**Specific instructions**

a. Throughout the entire antenatal period, practitioners will remain vigilant to the signs and symptoms of any conditions which affect the wellbeing of the mother and unborn baby.

b. Healthy pregnant women, with uncomplicated singleton pregnancies, will be offered continuity of care through GP Shared model of care or midwifery models.

c. Women’s height and weight will be measured at the first antenatal visit and their body mass index (BMI) will be calculated. Women will be provided with advice about appropriate weight gain during pregnancy. Repeated weighing during pregnancy will be confined to circumstances that are likely to influence clinical management.³

d. Urine testing for proteinuria (dipstick urinalysis) and asymptomatic bacteriuria (mid-stream urine (MSU) for microscopy, culture and sensitivity (MC&S)) are recommended at the first antenatal visit regardless of stage of pregnancy.³

e. Screening for gestational diabetes mellitus should be offered to all women who are not known to have Type 1 or Type 2 Diabetes.

f. Pregnant women over the age of 35 years require obstetric review by 14 weeks.

**Routine antenatal assessment**

A routine antenatal assessment will be performed, at each appointment, and includes the following, as specified:


b. Fetal growth measurement—fundus to symphysis pubis (from 24 weeks gestation).

c. Fetal movement.

d. Fetal heart rate (from 16 weeks gestation).

e. Presentation/position (from 36 weeks gestation).

f. Reassess any risk factors.

**Documentation at each antenatal appointment**

a. Midwives will document in the pregnancy health record (PHR), or Mater shared electronic health record (MSEHR).

b. GPs will document in PHR, or provide printout for PHR. If printout provided, it will be filed appropriately at the next hospital appointment.

c. All other health professionals will document in the PHR (or MSEHR)

d. Electronic test results will be accessible in Verdi. Where electronic results are not available, paper-based will be obtained from the woman, GP or service provider and filed in woman’s health record after review.

e. The antenatal history will be completed in Matrix at the first hospital antenatal appointment. Additional information will be added to Matrix during pregnancy, as appropriate e.g. changes to ‘issues and plans’.

f. All internal and allied health referrals will be documented in the women’s health record.

**Appointment with GP to confirm pregnancy between six and 12 weeks**

a. Obtain medical and obstetric history.

b. Measure BP, record height and weight, and calculate BMI.

c. Order βHCG, if required.

d. Discuss antenatal screening and testing options, including Down syndrome screening, with all women irrespective of maternal age.

e. Order first trimester combined screen, if requested:
   i. PAPP-A biochemistry at 9+0–13+6 weeks
   ii. Nuchal translucency screen at 11+0–13+6 weeks.

f. Order dating ultrasound scan, if requests serum screening for Down syndrome (triple test performed between 14–20 weeks) and presents too late for first trimester combined screen.

g. Discuss and provide referral for the 18–20 week morphology scan.

h. Obtain routine bloods after discussion and informed consent, and ensure all blood results will be copied to Mater Mothers’ Hospital:
   i. full blood count (FBC)
   ii. blood group and antibodies
   iii. rubella antibody titre
   iv. hepatitis B, hepatitis C, human immunodeficiency virus (HIV)

v. syphilis

vii. urine:
• mid-stream urine (MSU) for microscopy, culture and sensitivity (MC&S)
• dipstick urinalysis for proteinuria

viii. If BMI more than 30 and/or aged 40 years or older, perform OGTT, baseline ELFT, urine protein/creatinine ratio.

i. Perform Pap smear, if due.
j. Discuss available models of care.
k. Indicate GP alignment status and woman’s preferred model of care on referral (including GP Share Care option).
l. Known Rh (D) negative women—discuss antenatal Rh (D) prophylaxis and the importance of seeking advice following any potentially sensitising events.
m. Fax or post Mater Mothers’ Hospital’s Antenatal referral form and include above information.

12–18 week appointment with a midwife

a. Full booking history taken and documented in Matrix.
b. Check BP; record height and weight; calculate BMI.
c. Identify any risk factors and those women requiring additional care. Consult and refer if necessary.
d. Discuss suggested model of care and appropriate schedule of antenatal visits with woman. Model of care and schedule of visits to be confirmed at first doctor’s visit.
e. Perform blood tests and MSU (as listed above), if not already obtained.
f. Check blood group result in Verdi or paper copy filed in health record.
g. Review, discuss and document all results available. File any paper-based copies provided by woman in the health record and request woman brings copies of any subsequent scans/results to following appointments.
h. Dipstick urinalysis will be performed to screen for chronic renal disease (check for blood, protein, nitrites and leucocytes).
i. Confirm that each woman understands the screening tests and answer any questions raised. If required, refer to appropriate professional for ongoing management.
j. Reinforce public health principles: diet, exercise, smoking cessation, domestic abuse, drug and alcohol use, social circumstances.
k. Undertake Edinburgh Postnatal Depression Scale (EDPS) and refer appropriately, if required.
l. Provide information about allied health services and refer as appropriate.
m. Discuss parent education—invite to attend antenatal classes.
n. Identify on schedule of visits midwifery clinic code (if applicable), omit 24 and 31 week appointments for multiparous women if same father of baby, indicate if obstetric review required at 36 weeks and/or above (e.g. consent and book repeat elective caesarean section, or maternal age equal to or more than 38 years).
o. Provide information about length of hospital stay and postnatal homecare visits.

Rh (D) negative women

i. Antenatal Rh (D) prophylaxis will be discussed and the women will be informed about the importance of seeking advice following any potentially sensitising events.

ii. Ensure that 28 and 34 week Rh (D) appointments are booked.

iii. If the woman is participating in GP-shared care, a letter advising the current recommendations for Rh (D) prophylaxis will be forwarded to her GP.

16 – 20 week appointment with an obstetrician at Mater Mothers’ Hospital

a. Results of all pathology tests and ultrasound scans (USS) performed to this point will be reviewed and actioned as appropriate, ensuring a copy of any paper based results provided by the woman are available in the health record.
b. Initiate triple test, if appropriate.
c. Routine antenatal assessment. Refer to 3.2.
d. Confirm EDB.
e. Obstetrician to make final recommendation regarding model of care after consideration of any risk factors.
f. Discuss planned schedule of antenatal visits, confirm and give schedule, Pregnancy health record and copy of Antenatal record to woman.

18–20 week morphology ultrasound scan followed by an appointment with the GP as soon as possible

a. Routine antenatal assessment will be performed. Refer to 3.2.
b. Review morphology USS results and refer, if necessary, to Maternal Fetal Medicine or specialist obstetrician.
c. Review triple test result if taken and action as appropriate.
d. Confirm estimated date of birth, EDB if not already performed by the obstetrician.
e. Check placental position on 18–20 week scan. If placenta is less than 2 cm from os a follow up scan to check placental position should be performed at 34 weeks gestation.

24 week appointment with primary carer (GP or midwife) for primigravida (and multigravida with a different partner this pregnancy, or risks identified)

a. Routine antenatal assessment. Refer to 3.2.
b. Begin assessment of fundal height to measure fetal growth and include at each antenatal assessment.
c. Discuss and provide written information about normal fetal movements during the antenatal period.
d. Reinforce aspects of health promotion and parent education.
e. Reassess planned schedule of care and identify women who need additional care.
f. Gestational diabetes screening will be offered to all women: fasting 75 g two-hour oral glucose tolerance test (OGTT)
g. Provide request form for 26–28 week blood tests: FBC, OGTT, and blood group and antibody screen (for Rh (D) negative women).

28 week appointment with primary carer (GP or midwife)

a. Routine antenatal assessment. Refer to 3.2.
b. Reinforce aspects of health promotion, including pertussis and influenza vaccinations, and parent education.
c. For women not seen at 24 weeks repeat as above.
d. Review, discuss and document results of tests taken at 26–28 weeks (or obtain if not yet taken) and action as required.
   i. If Hb less than 105, further investigation and appropriate treatment will be provided.
   ii. If woman is Rh (D) negative, take antibody screen before offering administration of 625 IU Rh (D) immunoglobulin IM.
e. Discuss infant feeding and benefits of breastfeeding.
f. Discuss neonatal vitamin K, and hepatitis B vaccination, for baby at birth.
g. Reassess planned schedule of care and identify women who need additional care.
h. Repeat the Edinburgh Postnatal Depression Scale (EDPS), if applicable, to assess woman for antenatal depression.3
   i. Discuss and commence birth plan.
   j. Consider discharge planning.

31 week appointment with primary carer (GP or midwife) for primigravida (and multigravida with a different partner this pregnancy, or risks identified)

a. Routine antenatal assessment. Refer to 3.2.
b. Review, discuss and document results of tests taken at 28 weeks and action as required.
c. Reassess planned schedule of care and identify women who need additional care.
d. Discuss neonatal vitamin K, and hep B vaccination, for baby at birth. Obtain verbal consent (Vitamin K) and written consent (hepatitis B), if form available.
e. Continue discussing birth plan.

34 week appointment with primary carer (GP or midwife)

a. Routine antenatal assessment. Refer to 3.2.
b. Order FBC to be taken prior to 36 week appointment.
c. If a woman is Rh (D) negative, recommend and administer 625 IU R (D) immunoglobulin IM.
d. For women not seen at 31 weeks, review as above.
e. Repeat ultrasound scan if low lying placenta at morphology scan.
f. Reassess planned schedule of care and identify women who need additional care.
g. Discuss birth plan.
h. Repeat the Edinburgh Postnatal Depression Scale (EDPS), if applicable, to assess woman for antenatal depression.3 GP to document in PHR or print antenatal summary and attach into pregnancy health record for MMH.

36 week appointment with midwife (or obstetrician e.g. previous caesarean birth, to discuss mode of birth).

a. Routine antenatal assessment. Refer to 3.2.
b. Identify and document fetal presentation.
c. If breech presentation, provide Mater’s brochure Pregnancy—breech presentation at term, accessible via http://brochures.mater.org.au, and refer for discussion regarding external cephalic version (ECV).
d. Reassess planned schedule of care and identify women who need additional care.

e. Review blood test result (or obtain blood for FBC if not yet taken). If Hb less than 100 for further investigation and appropriate treatment.

f. Check follow-up ultrasound for placental position if low lying placenta at 18–20 weeks.

g. Perform EPDS.

h. Discuss birth preferences, active birth/labour and pain relief, especially if woman has not attended parent education. Confirm Birth Preferences Awareness statement has been signed.

i. Discuss and provide Mater’s Perineal massage brochure. Provide opportunity/access for woman to watch the perineal massage video.

j. Review infant feeding discussion.

k. Discuss length of hospital stay and postnatal homecare.

l. Ensure awareness of contact number for urgent telephone advice

m. Ensure copies of all results available in either Verdi or the hospital health record.

38 week appointment with primary carer (GP or midwife)

a. Routine antenatal assessment. Refer to 3.2.

b. Review any outstanding blood results.

c. Confirm understanding of signs of labour and indications for admission to hospital. Provide additional information as required.

40 week appointment with primary carer (GP or midwife)

a. Routine antenatal assessment. Refer to 3.2.

b. Provide additional information as required.

41 week appointment with the obstetrician or midwife (MMH)

a. Routine antenatal assessment. Refer to 3.2.

b. Ensure EDB is correct. If uncertain, refer for consultant opinion.

c. For all women who have not given birth by 41+0 weeks, discuss implications of prolonged pregnancy and induction of labour (IOL).

d. Discuss and offer membrane sweep and follow-up in two days.
10. MMH Antenatal support

10.1 Depression

The recognition of depression in the antenatal period is important as it may require treatment during the pregnancy and is a strong predictor for postpartum depression. It is appropriate to use the Edinburgh Postnatal Depression Scale to assess antenatal depression (see Section 16.2). This does occur at the first midwifery visit and is to be repeated by the GP routinely at 34 weeks and 6 weeks postpartum or if there are any ongoing concerns. It is the GPs responsibility to arrange appropriate referrals if needed and document in pregnancy health record.

FOR IMMEDIATE URGENT MENTAL HEALTH CONCERNS PHONE PAH ACUTE CARE TEAM 1300 858 998

The Risk Planning Midwife co-ordinates the maternity care of women with mental health concerns and social risk factors. Telephone 3163 7917 or Fax: 3163 8053

10.2 Early Pregnancy Assessment Unit

The Early Pregnancy Assessment Unit (EPAU) is a specialist unit located on level 7, Mater Mothers’ Hospital, for care of women with molar pregnancy, stable (pain-free) ectopic pregnancy and threatened or confirmed miscarriage. Women with hyperemesis should be referred to the adult emergency department.

To refer a woman to EPAU, please Telephone: 07 3163 5132 or Fax: 07 3163 6120. EPAU is open from 8.30 am–1.30 pm Monday to Friday by appointment only. A referral from a GP is not essential. The EPAU team consists of a nurse, a medical practitioner and a sonographer. A triage system will be used to offer the correct clinical pathway for women with bleeding and/or pain in early pregnancy.

Service criteria

The inclusion criteria are:

- A pregnancy of less than 20 weeks gestation.
- Pain or vaginal bleeding but clinically stable.
- No bleeding but with a nonviable pregnancy.
- A confirmed stable ectopic pregnancy to be treated conservatively.
- Pregnancy of unknown location, stable and requiring follow-up.

Exclusion criteria are:

- More than 20 weeks completed gestation.
- Haemodynamically unstable/heavy bleeding (takes less than 30 minutes to soak a pad).
- In pain that exceeds normal period pain and/or is unrelieved by simple analgesia.
- Pulse rate > 100, any postural drop.
- For routine pregnancy confirmation.
- For routine pregnancy dating scan.
- Nausea and vomiting in pregnancy.
- Presenting with other acute gynaecological conditions or other medical/surgical conditions in early pregnancy.
- Advance notice required if interpreter needed as it is preferable to use an on-site interpreter.

Women should be given the option of attending the emergency department to be triaged or EPAU for the first available appointment. If women choose EPAU, they must be advised to attend sooner than the given appointment should the bleeding/pain increase (< 30 minutes to soak a pad and pain not relieved by simple analgesia).

Contact details:

If you have any queries, please contact the EPAU nurse co-ordinator on 07 3163 5132.
10.3 Pregnancy Assessment and Observation Unit

The Pregnancy Assessment and Observation Unit (PAOU) is open 24 Hours, 7 days a week. Self referral or GP referral. For women from 20 weeks of pregnancy with conditions requiring immediate assessment e.g. reduced fetal movements, hypertension, ruptured membranes, contractions, bleeding etc. Please call prior to presentation.

**Contact details:**
Telephone: 07 3163 6577  Fax: 07 3163 2281.
For clinical consultation or advice phone the obstetric registrar Telephone: 07 3163 6611.
Patients call: 07 3163 7000

11. Supplements

VITAMIN AND MINERAL SUPPLEMENTS: see RANZCOG College Statement C-Obs 25
http://www.ranzcog.edu.au/college-statements-guidelines.html#obstetrics

IODINE:

FOLATE:
The National Health and Medical Research Council (NHMRC)

12. How to Manage Abnormal Results

Any investigations requested by a GP for any pregnant woman under their care must be followed up by the GP concerned. It is the GPs responsibility to follow up all abnormal results irrespective of whether a copy has been sent to the hospital.

**Full Blood Count**
Consider iron studies if the haemoglobin is 105 g/L or less and the MCV is low or red blood cells are microcytic. Check B12/folate levels if the red blood cells are macrocytic.
Testing for thalassaemia (haemoglobin electrophoresis) should also be considered where appropriate. Low white cell or platelet counts should prompt discussion with obstetric registrar, and/or referral to MMH Antenatal Clinic.

**Blood group and antibody screen**
Any positive test for antibody levels should prompt immediate referral to MMH Antenatal Clinic.

**Rubella titre**
A “non immune” level should prompt a note to discuss immunisation with the woman postnatally. **Under no circumstances should immunisation be given in pregnancy.**
Contact with rubella should be avoided.

**Syphilis serology**
Refer to Qld Sexual Health Management Guidelines and provide treatment as required.

**Hepatitis B and C, and HIV tests**
A positive result should prompt immediate referral to MMH Antenatal Clinic. The obstetrician will refer to Mater Adults infectious diseases/gastrology clinic.
Oral glucose tolerance test
Diagnosis of gestational diabetes is based on:
Fasting glucose $\geq 5.1$ mmol/L and /or
1 hour glucose $\geq 10.0$ mmol/L and /or
2 hour glucose $\geq 8.5$ mmol/L.
The diagnosis of gestational diabetes should prompt immediate referral to the Antenatal Clinic and transfer from GP Shared Care to MMH Obstetric care. Fax a referral letter and a copy of the GTT result to GP Liaison Midwife c/- ANC on Fax: 07 3163 8053 highlighting that this referral is for the management of gestational diabetes in a previously booked shared care woman. Please do not use the antenatal new patient referral form if patient is already booked.

Thyroid Function tests
Routine testing of thyroid function in low risk women is not recommended during pregnancy. However, if a woman is tested be aware that TSH generally drops (and may become undetectable on current assays) in first trimester due to the rise in HCG. If a woman has a TSH lower than the lab reference range, check free T4 and T3—if these are normal, the woman does not need referral. If the T4/T3 is elevated, they will need clinical review and possibly referral—liaise with MMH.

Mild biochemical hypothyroidism (TSH > 2.5) in the first trimester is associated with an increased risk of overall pregnancy complications. There has been concern that women with a subclinical hypothyroidism may give birth to children with a slightly decreased IQ (e.g. decreased by 5-10 IQ points) but a recent randomised controlled trial showed no benefit from initiating thyroxine therapy prior to 16 weeks. Current recommendations still advise treatment of women with mildly elevated TSH values (TSH > 2.5) detected in early pregnancy, but the aim of this treatment is to decrease overall pregnancy complications rather than to improve the baby's neurological development.

Management recommendations with TSH > 2.5 mU/L;
1. Repeat TSH, request FT4 and FT3.
2. Check the anti-thyroid antibody titres (Anti TPO—thyroid peroxidase Ab and anti-thyroglobulin (TG) Ab)
   a. If repeat TSH < 2.5 mIU/L and antibodies are normal—no further testing
   b. If repeat TSH < 2.5 mIU/L but antibodies are positive—commence thyroxine 50ugm/day
   c. If TSH > 2.5 mIU/L with or without antibodies—commence thyroxine 50ugm daily
3. Repeat TSH in 4 weeks.
   a. If TSH > 2.5 mIU/L, increase thyroxine to 75ugm/day
   b. If TSH < 0.4 mIU/L, decrease thyroxine to 25ugm/day
4. Repeat TSH @ 18 weeks, 26 weeks, 34 weeks adjust thyroxine as required. If thyroxine needs to be adjusted please retest levels in 4 weeks.

Nuchal translucency scan or triple test
Abnormal results should prompt immediate referral to MMH Antenatal Clinic for counselling re diagnostic testing.

Morphology ultrasound
Any abnormality should prompt discussion with referral to Mater Mothers Antenatal Clinic.
Fax scan report and previous results e.g. nuchal translucency and a cover letter to antenatal clinic
Fax: 07 3163 8053.
For consultation or advice phone the obstetric registrar on 07 3163 6611 or Maternal Fetal medicine staff only line Telephone: 07 3163 1899.
**Management of Anaemia in Pregnancy - flowchart**

- **Hb 105+**
  - Routine iron supplementation is not indicated
  - Encourage iron rich diet
  - May use a ‘natural’ low-dose iron supplement
  - If MCV low (<80), suspect thalassemia & perform Hb electrophoresis

- **Hb <105**
  - MCV normal (80-100)
    - Iron deficiency anaemia
    - Perform iron studies
      - Iron Deficient
      - Iron studies normal
  - MCV low (<80)
    - Iron deficiency anaemia likely
    - Perform iron studies
  - MCV high (>100)
    - Likely vitamin B12 deficiency
    - Perform iron studies, vitamin B12, red cell folate

- **Confirmed iron deficiency + Hb <70 + intolerant of oral iron**
  - Consult Obstetrician
  - Consider iron infusion
    - Imminent delivery
    - Consider blood transfusion

- **Treat with oral iron supplement**
  - Not responding to treatment
    - Consult Obstetrician
    - Re-check iron deficiency diagnosis

- **Consult Obstetrician**
  - Perform serum methylmalonic acid if vitamin B12 low
  - Vitamin B12 deficiency: IM cyanocobalamin daily for 1wk
  - Then weekly for 4 weeks
  - Folate deficiency: 5mg folate/day

- **Thalassemia or Sickle cell**
  - Folate 5mg
  - Treat iron deficiency if present
  - Genetic counselling/Test partner
  - May need blood transfusion
  - Individualise treatment
13. How to Manage Abnormal Findings/Symptoms

**Intrauterine growth restriction (IUGR)**

Measure symphysial-fundal height (SFH):

- Ensure mother is comfortable in a semi-recumbent position, with empty bladder.
- Use the unmarked side of a non-elastic tape measure.
- Measure from fundus to top of symphisis pubis.
- Measure longitudinal axis of the uterus, do not correct to midline.
- Record and plot metric measurement on chart.
- Emphasis on slope of serial measurements.

Other considerations include transverse lie, multiple pregnancies and obesity.

If serial SFH measurements are flattening then refer the woman for an ultrasound and request:

- fetal size/growth compared with previous ultrasound (BPD, abdominal circumference)
- doppler of umbilical artery flow
- amniotic fluid index (ask for normal range).

If any parameters are abnormal refer to MMH by communicating with the PAOU obstetric registrar on 07 3163 6611.

**Reduced fetal movements**

If fetal movements are reduced check fundal height and fetal heart rate and refer to Mater Mothers PAOU for assessment of fetal wellbeing.

If the fetal movements are appropriate but GP or woman is uncomfortable about the situation, or there is a previous history of fetal death in utero, or a stillbirth, refer to PAOU by communication with the PAOU obstetric registrar on 07 3163 6611.
Hypertension

Definition: systolic blood pressure greater than or equal to 140 mmHg and/or diastolic blood pressure greater than or equal to 90 mmHg (Korotkoff V).\(^1\)

Essential hypertension is diagnosed prior to pregnancy or before 20 weeks. Gestational hypertension is diagnosed after 20 weeks (without pre-existing hypertension).

Pre-eclampsia is a multi-system disorder unique to human pregnancy characterised by hypertension and involvement of one or more other organ systems and/or the fetus. Raised blood pressure is commonly but not always the first manifestation. Proteinuria is the most commonly recognised additional feature after hypertension but should not be considered mandatory to make the clinical diagnosis.\(^1\)

A diagnosis of pre-eclampsia can be made when hypertension arises after 20 weeks gestation and is accompanied by one or more of the following:

- Renal involvement:
  - Significant proteinuria—dipstick proteinuria confirmed by urine protein/creatinine ratio ≥ 30 mg/mmol.
  - Serum or plasma creatinine > 90 micromol/L
  - Oliguria
- Hematological involvement
  - Thrombocytopenia
  - Hemolysis
  - Disseminated intravascular coagulation
- Liver involvement
  - Raised serum transaminases
  - Severe epigastric or right upper quadrant pain.
- Neurological involvement
  - Severe headache
  - Persistent visual disturbances (photopsia, scotomata, cortical blindness, retinal vasospasm)
  - Hypereflexia with sustained clonus
  - Convulsions (eclampsia)
  - Stroke
- Pulmonary edema
- Fetal growth restriction
- Placental abruption

Management of hypertension

If mild hypertension (e.g. > 149/90 but < 150/100) without proteinuria and the woman is asymptomatic, educate the woman re signs and symptoms of pre-eclampsia and review within a few days. If hypertension is persistent request urine protein creatinine ratio, FBC, U/E ELFTS and USS. Follow up the results and copy to MMH. If not > 140/90 and blood tests and ultrasound are normal, request an obstetric appointment in antenatal clinic within a week. If the woman presents with signs or symptoms of pre-eclampsia, BP > 140/90, abnormal pathology or signs of fetal growth restriction refer immediately to MMH Pregnancy Assessment and Observation Unit by communicating with the obstetric registrar on 3163 6611 or consultant 3163 6009.

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Vaginal bleeding ≥ 20 weeks (See EPAU advice for bleeding < 20 weeks)

- Perform a physical assessment of the woman and record a fetal heart rate.
- Review ultrasound result for placenta site (clear of os) and if no scan refer for one if stable (speculum can be performed with placenta praevia but avoid digital exam).
- Speculum to view cervix and PAP if no normal PAP result in last two years.
- Consider need for Anti–D if rhesus negative and Kleihauer count to ascertain amount to give.
- If spotting ceased and exam normal reassure and encourage observation at home.
- For ongoing bleeding or anything other than light spotting refer woman to PAOU at MMH ext. 07 3163 6577
- If heavy blood loss and or patient appears clinically compromised IV access, arrange urgent transfer to hospital and contact on call obstetric registrar/consultant.

Abnormal presentation

If 36 weeks or more and suspected breech or transverse lie refer to antenatal clinic for assessment as soon as possible. Fax a letter to 07 3163 8053 or phone for an appointment with an obstetric registrar.

14. Care for women who are Rh (D) negative

Pregnant women who are Rh (D) negative fall into two categories: those with and those without Anti-D antibodies. Women with Rh D antibodies are not suitable for shared care. The following information therefore relates only to women who are Rh (D) negative and have no preformed antibodies.

Testing for Anti-D antibodies:

- All women should be tested for blood group antibodies at the first antenatal visit.
- Women who are Rh negative and had no Rh (D) antibodies in early pregnancy should be tested again for the presence of antibodies before administration of Anti-D at K28.
- Ideally testing should precede administration of Anti-D. However, if both are done at the same clinic appointment, the sequence in which they occur does not matter. It takes some time (2–4 hours) before the Anti-D that has been injected can be detected in the circulation.
- Further testing later in pregnancy (after administration of Anti-D) is superfluous because the test cannot distinguish between endogenous and administered Anti-D.

Anticipating prophylactic Anti-D administration in pregnancy

- All women who are Rh (D) negative and have no preformed Anti-D antibodies should be informed about the need to prevent Rh D sensitisation. This includes:
  - Anti-D administration if a sensitising event occurs in pregnancy
  - routine prophylaxis at 28 and 34 weeks gestation
  - further prophylaxis after birth if the baby is Rh D positive.
- Recurrent vaginal bleeding requires discussion with/or referral to MMH before administering doses of Anti-D.
- Informed consent for prophylaxis should be obtained early in pregnancy (as soon as the Rh D status has been determined). This is to cover any and all occasions on which Anti-D may become indicated during pregnancy.
- The woman’s consent for prophylaxis must be documented in her Pregnancy Health Record.
Notes in aid of obtaining informed consent

Ensure that the woman understands what Rh D sensitisation means and the consequences it may have, if not necessarily for this pregnancy, at least for any future pregnancies.\(^1\)

- Provide the woman with information.
- Antenatal administration of Anti-D to all Rh negative women is recommended by the NHMRC. Administration of Anti-D to all Rh negative women who give birth to a Rh positive baby has been practiced for many years in Australia.
- Anti-D is a blood product. As it is made from human blood, there is a theoretical risk of transmission of blood borne diseases. However, the risk of transmission is extremely small because of the careful selection of blood donors and because of the way in which Anti-D is produced from the blood.
- More than 1.5 million doses of Anti-D have been given in Australia without a single viral transmission thus far.
- The risk of HIV transmission, for example, is currently estimated to be less than one in five million Anti-D ampoules administered. Thus far, HIV has never been transmitted through Anti-D injections.
- One case has been reported of transmission of Hepatitis C attributed to Anti-D administration. This occurred overseas.

Anti-D prophylaxis for potentially sensitising events

RhD immunoglobulin must be given within 72 hours of the sensitizing event. Potentially sensitising events are defined as any situation in which there is an increased likelihood of fetal red blood cells entering the maternal circulation. These include:

- any uterine bleeding in pregnancy ranging from (threatened) miscarriage to antepartum haemorrhage. However, there is insufficient evidence to suggest that a threatened miscarriage before K12 necessitates Anti-D
- any abdominal trauma in pregnancy
- any uterine or intra-uterine intervention (such as external cephalic version, amniocentesis, etc). However, the responsibility for prophylaxis rests with the hospital at which these interventions are performed.

If a sensitising event occurs:

- before 12 weeks gestation, the recommended prophylaxis consists of 250 IU (international units) CSL Rh D immunoglobulin
- at or after 12 weeks gestation, the recommended prophylaxis consists of 625 IU (international units) CSL Rh D immunoglobulin
- after routine prophylaxis at 28 weeks, she should have a dose of Anti-D regardless of when the prophylactic dose was administered.

Routine prophylaxis at 28 and 34 weeks (with or without previous sensitising events)

- Rh D negative women without preformed Anti-D antibodies should receive 625 IU CSL Rh D immunoglobulin at 28 weeks (after or simultaneously testing for preformed Rh D antibodies) and again at 34 weeks.
- Anti-D can be administered before the result of the test for endogenous Anti-D at 28 weeks becomes available provided that the woman had no Anti-D antibodies at the beginning of pregnancy.

- Basic principles about the timing of the routine prophylaxis are:
  1. the Anti-D administration will provide cover for a minimum of six weeks
  2. the risk of sensitisation increases as pregnancy progresses.
- Thus, if someone has received Anti-D slightly before 28 weeks, the 34 weeks injection should still be given as planned at 34 weeks.

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\(^1\) RANZCOG COLLEGE STATEMENT FOR GUIDELINES for the use of RH(D) Immunoglobulin (Anti-D) in Obstetrics in Australia.
• If someone has missed out on receiving Anti-D at 28 weeks (for example because they did not attend) Anti-D should be given at the next visit (better late than never). In that case, the second injection should be planned six weeks later, provided that the woman is still pregnant then.

• If a woman has received Anti-D for a potentially sensitising event, e.g. antepartum haemorrhage or trauma, before 28 weeks, she should still receive Anti-D at 28 and 34 weeks, as scheduled, unless the Anti-D for the sensitising event was administered less than one week before the prophylactic dose being due.

Administration of Anti-D

• Rh D immunoglobulin should be given slowly by deep intramuscular injection, using a 20 gauge needle.

• Administration of Anti-D must be documented in the woman’s Pregnancy Health Record.

• RhD immunoglobulin can be obtained from the following pathology companies upon receipt of a signed and completed request form. It will be delivered by their routine courier service.
  a. Mater Blood Bank Fax 07 3163 8179
  b. QML Blood Bank Fax 07 3371 9029

If your practice has an immunization fridge you may be able to order and keep a small supply.

Dosing recommendations for Rh D negative women—Australian Red Cross Blood Service (as at 16/8/13)

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<thead>
<tr>
<th>Dose of CSL Rh (D) immunoglobulin</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First trimester sensitising events (&lt; 12 weeks)</td>
<td>250IU</td>
</tr>
<tr>
<td>First trimester sensitising events (multiple pregnancies &lt; 12 weeks)</td>
<td>625IU</td>
</tr>
<tr>
<td>Second and third trimester sensitising events</td>
<td>625IU</td>
</tr>
<tr>
<td>All Rh (D) negative women without preformed Anti-D—at 28 and 34 weeks gestation</td>
<td>625IU</td>
</tr>
<tr>
<td>Postnatal prophylaxis</td>
<td>625IU</td>
</tr>
</tbody>
</table>

15. Birth and Postnatal Care

The care of the woman during labour and birth will be the responsibility of the health care team at MMH. At discharge, a summary of the pregnancy and birth outcome will be sent to the GP. MMH has a Breastfeeding Support Centre (Telephone: 07 3163 8200) for women experiencing feeding difficulties (refer to Section 15.1). A postnatal appointment with the GP is advised for mother and baby at 5–10 days and 6 weeks. Some women may be offered a postnatal outpatient appointment at MMH if they have experienced specific problems during pregnancy or birth e.g. third or fourth degree tear. This appointment will be made prior to discharge. During the postnatal period, the GP may identify problems that require referral back to MMH or to a paediatrician.

Postnatal GP appointment at 5–10 days

Mother

Early contact to assess wellbeing, social risk factors, and level of support. Apply Edinburgh Postnatal Depression Scale if indicated. Review:

• BP
• lochia
• perineum
• abdominal wound if LSCS
• feeding—refer section 15.5 for breastfeeding information and advice
• contraception.
- Referral (prn):
  - Child Health Centre
  - lactation consultant Mater Breastfeeding Support Centre Telephone: 07 3163 8200
  - Australian Breastfeeding Association
  - social worker.

**Baby**

Review by GP between five and ten days if baby discharged from hospital < 72 hours of age (Queensland Health, Personal Health Record book):

- age, weight, head circumference
- feeding
- examination: signs of jaundice; fontanelle/sutures; eyes and red reflexes; face/palate/ears; limbs; spine; genitalia; anus; meconium within 24 hours; urine output, abdomen and umbilicus; respiratory; cardiac (auscultation and femoral pulses; hips; neurological/reflexes
- health promotion safe sleeping, SIDS prevention, benefits of breastfeeding, vaccinations, role of child health nurse.

Referral (prn):

- child health clinic
- paediatrician.

**Postnatal GP appointment at 6 weeks**

**Mother**

Assess wellbeing, social risk factors, and level of support. Apply Edinburgh Postnatal Depression Scale.

Examination:

- BP
- breasts, nipples
- abdomen—palpate uterus unless LSCS, check wound if LSCS, refer to physio if abdominal diastasis
- examine perineum if tear or episiotomy. Pap smear if due; ask re urinary or faecal incontinence
- family planning /intercourse.

Follow-up for mother e.g. gestational diabetes, hypertension.

**Baby**

As for initial visit and including the following:

Examination:

- weight, length, head circumference—plot on growth charts
- vision profile—eyes tracking (red light reflex)
- facial symmetry—smiling
- hearing profile
- cardiovascular
- femoral pulses
- hip testing
- genitalia—testes fully descended?
- development.

Discuss: bowel habits, vaccinations, SIDS awareness.
16. Further information for GPs

16.1 Infections

Pregnancy may be complicated by any of the common infections. There are however infections which can impact adversely on fetal wellbeing. Discussion with a consultant obstetrician is required where these infections are suspected or there is a history of exposure. Obstetric Consultant: 07 3163 6609 Obstetric Registrar: 07 3163 6611

- **Coxsackie virus** (hand, foot and mouth disease)
  - In adults, most diseases caused by coxsackie B viruses are mild. However coxsackie B viruses may cause an inflammation in the fetal heart or lungs and increase the chance of spontaneous miscarriage, infection in the fetus or stillbirth. Referral for discussion of confirmed infection during pregnancy is appropriate.

- **Cytomegalovirus**
  - Primary infection and reactivation in pregnancy can both result in congenital CMV. Up to 20% of infants born to mothers who have primary infection in pregnancy will be symptomatic with mortality in this group of 9% and severe neurological sequelae in 80%.

- **Epstein-Barr virus** (Glandular Fever)—Primary EBV infection during pregnancy is rare. Only 3–3.4% of pregnant women are susceptible (Arvin and Maldonado 2001)
  - Only 50% of pregnant women infected will develop clinical infectious mononucleosis.
  - The low frequency of maternal EBV in pregnancy makes it difficult to assess the risk to the fetus.
  - Early studies have reported that infants occasionally suffer damage due to maternal primary EBV infection just before conception or during pregnancy.
  - In other studies, EBV infection was not transmitted to the fetus and there were no adverse effects.
  - The risk of intrauterine transmission of EBV infection is considered to be low, even when the mother is symptomatic clinically (Fleisher and Bolognese 1984; Sumaya 1998; Arvin and Maldonado 2001).

- **Genital herpes simplex** (HSV)
  - 50% risk of transmission if primary infection with active lesions at time of vaginal birth. 3% risk of transmission if recurrent infection with active lesions at time of vaginal birth
  - If primary infection in second half third trimester refer for advice about delivery. Prophylactic valacyclovir offered to reduce incidence of recurrence to facilitate decisions around vaginal delivery.

- **Hepatitis B**
  - Infection rate 90% and infection occurs typically at time of birth.
  - Neonatal vaccination protects 95% of at risk newborns. HBIG and HB vaccine for the baby at birth.
  - Presence of HBeAg confers high risk fetal transmission.

- **Hepatitis C**
  - Obstetrician will refer to infectious diseases consultant
  - Screen for other STIs and check liver function.
  - Avoid invasive tests (has implications for discussion around Nuchal Screening).
  - Vaginal birth and breastfeeding are not discouraged.
  - Baby is screened at 18 months for HCV antibody.

- **HIV/Aids**
  - Risk of transmission during pregnancy and postnatal period 25%. This can be reduced to close to 1% with antiretrovirals and elective caesarean section for birth. More recent data suggests, for women with a nondetectable viral load, a vaginal birth may not confer any increased risk.
  - Screening for other STIs is important.
  - Avoid invasive tests (has implications for discussion around Nuchal Screening).
  - Refer to antenatal clinic. MMH obstetrician will refer to Infectious Diseases consultant.
  - Breastfeeding confers a risk of transmission and is not advised in Australia.
• Parvovirus (slapped cheek syndrome)
  – Up to 50% pregnant women have pre-existing IgG and therefore are not considered at risk of infection.
  – B19 infection in pregnancy is associated with fetal loss and hydrops fetalis.
  – Fetal hydrops is amenable to treatment with intrauterine transfusion after 20 weeks.
  – Check for maternal IGM and IGG. If IgG positive and IgM negative reassure and referral not required.
  – If IgG negative or IgM positive refer to consultant obstetrician.

• Rubella infection
  – German measles outbreaks are rare secondary to effective immunisation campaign in Australia.
  – Heterogenous spread fetal infection rates are 80% first trimester, 25% second trimester, 35% early third trimester and 100% of fetuses exposed after 36 weeks.
  – Risk of congenital rubella is limited to the first 16 weeks of pregnancy. May result in sensorineural deafness, ophthalmic abnormalities, cardiac malformation and neurological sequelae.
  – Infection later in pregnancy is associated with intrauterine growth restriction.
  – Diagnosis is by four fold rise in IgG or the presence of IgM or positive rubella culture.

• Syphilis (Treponema Pallidum)
  – Refer to Qld Sexual Health Management Guidelines
  – Perinatal transmission rate is 50% in primary or secondary syphilis. Reduced risk if latent or tertiary disease.
  – Risk of fetal anomaly, growth restriction, congenital infection, prematurity, stillbirth, neonatal death.
  – Adequate treatment of mother in pregnancy can reduce fetal infection rate from 70 to 100% down to 1%.

• Toxoplasmosis
  – Mononucleosis like illness.
  – Infection confirmed if demonstrate seroconversion IgG or IgM negative to positive.
  – Avidity testing helps interpret results as IgM can remain positive for up to 13 months.
  – Risk of fetal transmission increases with increasing gestational age (15% first trimester, 44% second trimester, 71% third trimester).
  – Amniocentesis with PCR for T. gondii is undertaken to diagnose fetal infection and enable optimal medical treatment or discussion about pregnancy continuance.

• Varicella-zoster (chicken pox)
  – Risk of maternal compromise e.g. pneumonia. Give Acyclovir if seen within 24 hours of symptoms.
  – Risk for the fetus is before 20 weeks (2% risk of Varicella Zoster syndrome) and five or less days before birth as baby can develop infection without maternal antibodies.
  – Refer any woman with varicella in pregnancy, but liaise by phone to reduce risk to other pregnant women.
  – Refer to Qld Sexual Health Management Guidelines.

16.2 Edinburgh Postnatal Depression Scale (EPDS)\textsuperscript{1}

**Instructions for users**
- The mother is asked to underline which comes closest to how she has been feeling in the previous seven days.
- All 10 items must be completed.
- Care should be taken to avoid the possibility of the mother discussing her answers with others.
- The mother should complete the scale herself unless she has limited English or has difficulty reading.

**How are you feeling?**
As you have recently had a baby, we would like to know how you are feeling now. Please underline the answer which comes closest to how you have felt in the past seven days, not just how you feel today.

Here is an example, already completed:

**I have felt happy**
Yes, most of the time
Yes, some of the time
No, not very often
No, not at all

**In the past seven days**

1. I have been able to laugh and see the funny side of things:
   - As much as I always could
   - Not quite so much now
   - Definitely not so much now
   - Not at all

2. I have looked forward with enjoyment to things:
   - As much as I ever did
   - Rather less than I used to
   - Definitely not so much now
   - Hardly at all

3. I have blamed myself unnecessarily when things went wrong *
   - Yes most of the time
   - Yes, some of the time
   - Not very often
   - No, never

4. I have felt worried and anxious for no good reason:
   - No, not at all
   - Hardly ever
   - Yes sometimes
   - Yes, very often

5. I have felt scared or panicky for no good reason *
   - Yes, quite a lot
   - Yes, sometimes
   - No, not much
   - No, not at all

6. Things have been getting on top of me *
   - Yes, most of the time I haven’t been able to cope at all
   - Yes, sometimes I haven’t been coping as well as usual
   - No, most of the time I have coped quite well
   - No, I have been coping as well as ever

7. I have been so unhappy that I have had difficulty sleeping *
   Yes, most of the time
   Yes, sometimes
   Not very often
   No, not at all

8. I have felt sad or miserable *
   Yes, most of the time
   Yes, quite often
   Not very often
   No, not at all

9. I have been so unhappy that I have been crying *
   Yes, most of the time
   Yes, quite often
   Only occasionally
   No, never

10. The thought of harming myself has occurred to me *
    Yes, quite often
    Sometimes
    Hardly ever
    Never

**Scoring**
Response categories: 0, 1, 2, and 3 according to increased severity of the symptom.
Items marked with an asterisk * are reverse scored (i.e. 3, 2, 1, 0). The total score is calculated by adding together the scores of each of the 10 items.

Mothers who score above 12 are likely to be suffering from a depressive illness of varying severity. The EPDS should not override clinical judgement. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt during the previous week and in doubtful cases, it may be usually repeated after two weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

**Immediate urgent mental health concerns:** PAH Acute Care Team. Telephone: 1300 858 998.
**Mater Mothers Risk Planning Midwife** co-ordinates the maternity care of women with mental health concerns and social risk factors. Telephone: 07 3163 7917  Fax: 07 3163 8053
### 16.3 Gestational Diabetes screening and diagnosis

#### 16.3.1 Key recommendations

As of January 1, 2015 the diagnosis of GDM is to be based only on an oral glucose tolerance test (75 g carbohydrate load). There has also been a change to the threshold for diagnosis of GDM. This is in line with recommendations from the International Association Diabetes in Pregnancy Study Group (IADSPG) and the World Health Organisation (WHO) and is endorsed by the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG).

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Recommendation</th>
</tr>
</thead>
</table>
| **Diagnostic testing**              | • Diagnosis of GDM is based solely upon an oral glucose tolerance test (75 g carbohydrate load)  
• The two step Glucose Challenge Test (GCT) followed by an Oral Glucose Tolerance Test (OGTT) will no longer be performed  
• The GCT will not be available for GDM diagnosis (do not order this test)                                                                   |
| **All women**                       | • Require a two hour OGTT (after overnight fasting)  
• Should maintain a normal diet until 10 hours before the OGTT and then FAST  
• During fasting, advise the woman to drink water to prevent dehydration and to continue any usual medications  
• The three day high carbohydrate diet is no longer required                                                                                     |
| **High risk women**                 | • Perform an additional early OGTT with first antenatal bloods or at the first antenatal visit (as early as possible)                                                                                  
• If normal, repeat at 26-28 weeks                                                                                                                                 |
| **Women having maternal steroids**  | • Do not perform an OGTT within one week of maternal steroids (betamethasone/dexamethasone) administration  
• Monitor blood glucose levels if the woman is receiving steroids                                                                                     |
| **Diagnostic threshold for GDM**    | • Diagnosis of GDM is based on:  
  c. Fasting glucose of greater than or equal to 5.1 mmol/L and/or  
  d. 1-hour glucose greater than or equal to 10.0 mmol/L and/or  
  e. 2-hour glucose greater than or equal to 8.5 mmol/L  
• If a fasting glucose test has been performed for other reasons and shows an elevated value, this may be accepted as diagnostic of GDM |
| **Diabetes in pregnancy**           | • Women with markedly elevated OGTT values may be classified as having Diabetes in Pregnancy  
  a. Fasting glucose greater than or equal to 7.0 mmol/L and/or  
  b. 2-hour glucose greater than or equal to 11.1 mmol/L  
• Women with diabetes in pregnancy:  
  a. Require urgent care  
  b. May have undiagnosed “overt” diabetes and associated complications such as retinopathy and nephropathy  
  c. Are at higher risk of pregnancy complications  
  d. Manage in a centre/clinic with experience in the management of pre-existing diabetes in pregnancy  
  e. May require confirmation of diagnosis in the postpartum period                                                                                 |
16.3.2 Flowchart for Gestational Diabetes Mellitus

**Risk factors (circle all that apply)**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMI (kg/m²) pregnancy or first antenatal visit: BMI 25-34 = score 1; BMI ≥ 35 = score 2</td>
<td>2</td>
</tr>
<tr>
<td>Ethnicity: Asian, Indian subcontinent, Aboriginal, Torres Strait Islander, Pacific Islander, Melanesian, Middle Eastern, non-white African?</td>
<td>1</td>
</tr>
<tr>
<td>Previous GDM</td>
<td>1</td>
</tr>
<tr>
<td>Previous elevated blood glucose</td>
<td>2</td>
</tr>
<tr>
<td>Previous macrosomia (birth weight &gt; 4500 g)</td>
<td>2</td>
</tr>
<tr>
<td>Previous perinatal loss</td>
<td>2</td>
</tr>
<tr>
<td>Polycystic Ovarian Syndrome</td>
<td>2</td>
</tr>
<tr>
<td>Medications: Corticosteroids, antipsychotics</td>
<td>2</td>
</tr>
</tbody>
</table>

**Total score (≥ 2 = High risk)**

**Assess all women for high risk factors**

- **Risk factor score > 2?**
  - **Yes**
    - Order 2 hour 75 g OGTT with antenatal bloods or at first visit
    - Review OGTT result: GDM vs Normal
      - **GDM**
        - One or more of:
          - Fasting ≥ 5.1 mmol/L
          - 1 hour ≥ 10 mmol/L
          - 2 hour ≥ 8.5 mmol/L
        - Refer for GDM care as per local protocol
      - **Normal Result**
        - Results:
          - Fasting < 5.1 mmol/L
          - 1 hour < 10 mmol/L
          - 2 hour < 8.5 mmol/L
        - **Normal**
          - Review OGTT result: GDM vs Normal
            - **Normal**
              - **First high risk OGTT?**
                - Yes
                  - Routine antenatal care
                - No
                  - Routine antenatal care
                - **No**
                  - Routine antenatal care
  - **No**
    - Order 2 hour 75 g OGTT at 24-28 weeks gestational age
    - Advise women to:
      - Fast (except for water) for 10 hours prior to OGTT
      - Take usual medications
    - Review OGTT result: GDM vs Normal
      - **GDM**
        - One or more of:
          - Fasting ≥ 5.1 mmol/L
          - 1 hour ≥ 10 mmol/L
          - 2 hour ≥ 8.5 mmol/L
        - Refer for GDM care as per local protocol
      - **Normal Result**
        - Results:
          - Fasting < 5.1 mmol/L
          - 1 hour < 10 mmol/L
          - 2 hour < 8.5 mmol/L
        - **Normal**
          - Review OGTT result: GDM vs Normal
            - **Normal**
              - **First high risk OGTT?**
                - Yes
                  - Routine antenatal care
                - No
                  - Routine antenatal care
                - **No**
                  - Routine antenatal care
### 16.4 Pregnancy Management Plan BMI > 35

<table>
<thead>
<tr>
<th>BMI 35–39</th>
<th>BMI 40–44</th>
<th>BMI &gt; 45</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preconception</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage weight loss</td>
<td>Consider referral to a dietitian</td>
<td></td>
</tr>
<tr>
<td>Consider referral to a dietitian</td>
<td>Recommend screening for glucose intolerance</td>
<td></td>
</tr>
<tr>
<td>Recommend screening for glucose intolerance</td>
<td>Inform women of the health risks of obesity in pregnancy</td>
<td></td>
</tr>
<tr>
<td>Inform women of the health risks of obesity in pregnancy</td>
<td>5 mg Folate daily</td>
<td></td>
</tr>
<tr>
<td><strong>History and booking at 14 weeks</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dietician referral and weight tracker</td>
<td>Routine booking bloods plus UELFT, OGTT, urine protein creatinine ratio</td>
<td></td>
</tr>
<tr>
<td>Routine booking bloods plus UELFT, OGTT, urine protein creatinine ratio</td>
<td>Commence customised growth centiles chart (when available)</td>
<td></td>
</tr>
<tr>
<td><strong>Anaesthetic referral</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Routine model of care with shared GP or midwifery model</td>
<td>Modified care including Cons/Registrar visits K36 K41</td>
<td>Modified care including Cons/Registrar visits K41 K24 K30 K36 K41</td>
</tr>
<tr>
<td>Modified care including Cons/Registrar visits K36 K41</td>
<td>Modified care including Cons/Registrar visits K41 K24 K30 K36 K41</td>
<td></td>
</tr>
<tr>
<td><strong>Second trimester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider low does aspirin if additional risk factors for pre-eclampsia</td>
<td>Consider LMWH if additional risk factors for DVT</td>
<td></td>
</tr>
<tr>
<td>Consider LMWH if additional risk factors for DVT</td>
<td>Repeat 75 g OGTT if previous testing negative</td>
<td></td>
</tr>
<tr>
<td><strong>Third trimester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional scan for growth in third trimester if unable to assess clinically</td>
<td>Scan growth at 28 and 34 weeks</td>
<td>Consider notification of wards and theatre of the need for bariatric equipment if required for patients perinatal care</td>
</tr>
<tr>
<td><strong>Intra-partum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notify anaesthetic and obstetric medical staff of patient’s admission</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Post-partum</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consider LMWH if operative birth or mobility compromised by BMI and TEDS</td>
<td>Dietician referral</td>
<td>OGTT 6 weeks postpartum if GDM</td>
</tr>
</tbody>
</table>

### 16.5 Breastfeeding

Breastfeeding is the normal method of feeding infants and positively influences both their immediate and long-term health.

**GPs have a very important role in encouraging and supporting women to breastfeed.**

- The initial antenatal interview between a woman and her doctor or midwife should include a careful assessment of the woman’s (and her partner’s) attitudes, beliefs, expectations, knowledge and experience in relation to infant feeding.
- Women are more likely to breastfeed if: they are committed to breastfeeding prior to birth, their husband/partner and mother supports breastfeeding, they attend antenatal classes, and if they have access to support in the postnatal period.

**Recommendations for breastfeeding**

- Exclusive breastfeeding for the first six months. The infant receives only breast milk by mouth, no other liquid or solids, with the exception of medication for the first six months of life.
- Continued breastfeeding until 12 months of age, with introduction of solids around 6 months of age.
- Breastfeeding continued beyond 12 months as desired by mother and child.
Benefits of breastfeeding

Mother
• Accelerated weight loss and return to pre-pregnancy body weight
• Protection against premenopausal breast cancer, ovarian cancer and osteoporosis.
• Promotes a loving bond between mother and baby.
• Convenient and inexpensive.
• Prolonged period of postpartum infertility.

Infant
• Increased protection against bacteraemia, meningitis, urinary tract infection, otitis-media, and SIDS.
• Possible reduced risk of developing obesity, coronary vascular disease, cancer, type two diabetes, asthma and delayed onset of coeliac disease.
• Reduced incidence and duration of diarrhoeal illnesses.
• Improved cognitive development.
• Reduced risk of developing cow’s milk allergy and allergy related illness.
• Reduced malocclusion due to better jaw shape and development.

GPs have a very important role in supporting women to overcome any breastfeeding problems.
• Some women cease breastfeeding too early because they encounter problems, do not have support, or mistakenly feel they do not have an adequate supply of breast milk.
• Timely support and management is the key to overcoming these problems to ensure continued breastfeeding.
• Refer to services providing breastfeeding support (see end of section).

Common problems with breastfeeding and where to go for help:
- Is my baby getting enough milk?
- Is my baby feeding enough? Too frequently?
- Breastfeeding is painful—sore or cracked nipples.
- Engorgement or mastitis.
- Oral infant pathology i.e. tongue tie.
- Flat or inverted nipples.
- My baby is unsettled, particularly in the early evening. Does my baby have colic?

Australian Breastfeeding Association: 1800 686 2686
MMH Breastfeeding Support Centre: 07 3163 8200

16.6 Smoking during pregnancy
• Effective smoking cessation intervention should be offered to pregnant smokers at the first antenatal visit and throughout pregnancy and postpartum.
• Extended psychosocial interventions that exceed minimal advice to quit should be made available for pregnant women.
• Consider lowest dose intermittent nicotine replacement therapy after the first trimester using a risk/benefit approach.

Pregnant and lactating women

Issues
• Cigarette smoking by pregnant women causes adverse fetal outcomes including stillbirth, spontaneous abortion, reduced fetal growth, preterm birth, low birth weight, placental abruption, sudden infant death,
cleft palate, cleft lip and childhood cancers.

- Maternal smoking increases the risk of poor health outcomes in infants and children including sudden infant death syndrome, respiratory infections, asthma, and middle ear disease.
- Although abstinence early in pregnancy will produce the greatest benefits to the mother and fetus, smoking cessation at any point during the pregnancy will be beneficial.
- The health benefits of breastfeeding whilst smoking outweigh the risk of formula feeding in a smoking household. Mothers who smoke whilst breastfeeding should be encouraged and supported to stop smoking; and concurrently educated about the benefits of continuing to breastfeed their babies.

Smoke Free Pregnancy Project
Call the Quitline on 13 78 48 for help

16.7 Resources for GPs
See Shared Care Alignment on the Mater website www.mater.org.au/mater-shared-ehr for:
- Guidelines for Consultation and Referral
- Antenatal Appointment Schedule for Normal Healthy Women with Singleton Pregnancies
- Antenatal referral form
- Shared care guidelines.

Therapeutic Advice & Information Service—Drug information line for health professionals: Telephone: 1300 138 677 or online at www.nps.org.au. Click on TAIS to fill out an online enquiry form.
Shared Care Guidelines: www.materonline.org.au/resources
Pregnancy Health Record: www.materonline.org.au/pregnancy-health-record
Alignment and Realignment options: www.materonline.org.au/alignment

17. Additional information for Women
Mater Mothers’ Breastfeeding Support Centre: brochures.mater.org.au/breastfeeding-support-centre
Information On Having Your Baby At The Mater Mothers: brochures.mater.org.au/having-your-baby-at-mmh
Child Health Line/Parent Line Queensland (QLD): Telephone Information Support Service Telephone: 07 3862 2333 (Brisbane metro area) or 1800 177 279
13HEALTH—Queensland Health help-line: Telephone: 13 43 25 84
Medicines Line Medicines information line for consumers. Telephone: 1300 888 763
Mater brochure site: brochures.mater.org.au/MMH (select Mater Mothers)
Mater Patient Portal: patientportal.mater.org.au
Contact list

Mater Mothers’ Hospital

Aboriginal and Torres Strait Islander Liaison Service
Telephone: 07 3163 1528 or 07 3163 1853 or 07 3163 8111
Pager: 4845 or 0918

Breastfeeding Support Centre
Telephone: 07 3163 8200

CHAMP (recent or current drug/alcohol use)
Telephone: 07 3163 2417  Mobile: 0434 189 444 (in hours only)

CNC Diabetes—contact ANC
Telephone: 07 3163 1988  Fax: 07 3163 8053

Consultant Psychiatric Liaison
Telephone: 07 3163 1755  Fax: 07 3163 1798

Dietician
Telephone: 07 3163 8585  Fax: 07 3163 2442

Early Pregnancy Assessment Unit (EPAU) nurse co-ordinator
Management of non urgent miscarriage or ectopic < K20 Monday to Friday morning appointment required.
Telephone: 07 3163 5132  Fax: 07 3163 6120

Fertility Services at Mater
Telephone: 07 3163 8437  Fax: 07 3163 2137

GP Liaison Midwife
Telephone: 07 3163 1861  E-mail: GPL@mater.org.au
Antenatal Clinic Team Leader: 07 3163 8611

Health & Wellness Clinic
Private Allied Health
Telephone: 07 3163 6000  Fax: 07 3010 5745

Mater Adults Hospital Emergency Department
Urgent miscarriage, ectopic, hyperemesis < K20
Telephone: 07 3163 8434  Fax: 07 3163 1661

MMH Antenatal Clinic
Staff access telephone: 07 3163 8611  Fax: 07 3163 8053  Appointments phone: 07 3163 8330

Mater Centre for Maternal Fetal Medicine (MFM)
Staff access telephone: 07 3163 1899  Fax: 07 3163 1890  Appointments phone: 07 3163 1896
Tertiary ultrasound referrals (not routine morphology). Genetic counselling and diagnostic procedures.

Mater Shared EHR
Telephone: 1800 228 470  Email: MaterSharedEHR@mater.org.au

Perinatal bereavement and support
Telephone: 07 3163 3467  Fax: 07 3163 2137  Mobile: 0414 828 724

Physiotherapy Department
Telephone: 07 3163 6000  Fax: 07 3163 1509

Preconception Care Clinic
Telephone: 07 3163 8611  Fax: 07 3163 8053

Pregnancy Assessment & Observation Unit (PAOU) > K20
Telephone: Team Leader: 3163 6577  PAOU Registrar: 07 3163 6610  Consultant: 07 3163 6009
Patients call: 3163 7000  Fax: 07 3163 2281

Refugee Maternity Service
Telephone: 0434 189 102  Fax: 07 3163 8053
Mater Pathology

The Mater Pathology team provides exceptional diagnostic and consultative services for all doctors and members of the community.

Mater pathology offers a complete routine and specialised service including, Anatomical Pathology, Cytology, Cytogenetics, Genomics, Haematology, Immunology, Microbiology, Molecular Genetics, Serology and testing for clinical trials and research. For more information on the complete range of tests please contact Mater Pathology on 07 3163 8500.

Benefits of using Mater Pathology include

- All of our collection centres are staffed by qualified collectors experienced in the collection of adult, maternity, paediatric and neonatal tests.
- Mater Pathology provides an efficient and fully bulk billed home collection service for your patients throughout Brisbane, Ipswich and the Gold Coast regions. Phone 07 3163 8500 to book your home collection, available Monday to Friday.
- Mater Pathology is Queensland’s leading not-for-profit pathology provider, reinvesting revenue back into health care.
- Mater Pathology has over 95 years’ experience and established Queensland’s first hospital pathology laboratory in 1919.

Mater Pathology has collection centres located at: Alexandra Hills, Annerley, Beenleigh, Brookwater, Chermside, Cleveland, Coorparoo, Deagon, Hope Island, Inala, Ipswich, Kenmore, Keperra, Logan Central, Macleay Island, Oxley, Russell Island, South Brisbane, Springfield, Springwood, Sunnybank Hills and Yamanto.

Mater Pathology provides 24 hour pathology collection services via:

Mater Private Emergency Care Centre
301 Vulture St, South Brisbane Qld 4101.

For further information call 07 3163 8500 or visit pathology.mater.org.au