Mater Mothers

Mater Mothers' Hospital

Mater Mothers Hospital Alignment 3

February 17, 2018

Exceptional People. Exceptional Care.

Good morning and welcome to our first session Medical conditions in pregnancy

Time	Task	Who
9:00 am	Welcome, housekeeping, learning objectives	Dr Wendy Burton
9:10	Thyroid disorders	Dr Julie Buchanan Dr Janelle Nisbet
9.35	Asthma	Dr Janelle Nisbet Dr Julie Buchanan
9:55	Hypertension/PIH	Dr Janelle Nisbet Dr Julie Buchanan
10:25	Weighty issues Diabetes, obesity, pregnancy after bariatric surgery	Dr Shelley Wilkinson Dr Janelle Nisbet Dr Julie Buchanan
11:05	MODY research	Dr Janet Warner
11:15	Group discussions/learnings, Q & A	All
11:30	Tour of hospital (optional) Lunch	All
Introducing our midwives	Anne Williamson CM, GPLM Jennifer Timoney CM, Risk Planning	Kirsty Lehmann CM Young Womens Clinic

Session two
Obstetric complications

Time	Task	Who
12:30 am	Small group work – Obstetric Complications PV Bleeding Current controversies Obstetric emergencies Multiple pregnancies	 Dr Albert Jung Dr Sarah Janssens Dr Julie Buchanan Dr Huda Safa
1:50	Group discussions/learnings	All
2:30 pm	Afternoon tea	All

Welcome to our final session
Perinatal Mental Health

Time	Task	Who
3 pm	Small group work—Perinatal Mental Health The consumer perspective Mental illness in the perinatal period Screening, referral pathways Medication use in pregnancy and breastfeeding	All Debbie Spink Dr Lyndall White Dr Wendy Burton Dr Treasure McGuire
4:20	Group discussion/learnings, Q & A	All
4:45	Wrap up	All
5 pm	Finish!	All

Alignments 1 and 2

Alignment 1 content

- First trimester presentations, recommended screening tests, ultrasound scanning including nuchal translucency recommendations, NIPT, SMA/CF/FXS, gestational diabetes, prescribing in pregnancy, communication with MMH, Rh negative women, hypertension, pre-eclampsia, early pregnancy bleeding, reduced fetal movements, immunisations and depression

Alignment 2 content

- Preconception workup, fertility, diabetes in pregnancy, preterm labour, premature rupture of membranes, ectopic pregnancies, persistent pelvic pain, infections in pregnancy, postpartum management, breastfeeding and neonatal examination

Housekeeping

- Toilets
- Fire exits
- Phones on silent

This presentation is available online

It will be updated as required, so may vary in appearance from the power point you viewed when you attended the alignment program

From www.materonline.org.au go to *Shared Care Alignment*, find *program resources* and look for Alignment 3 (please note we run three programs, Alignment 1, 2 and 3!)

Objectives

- To provide relevant, practical information to GPs, obstetricians and midwives about clinically relevant topics relating to best practice maternity care
- To improve the relationships and highlight the communication channels between the primary, secondary and tertiary sectors

Acknowledgments

These sessions have been put together by a wonderful team of highly committed individuals and supported by several organisations.

Special thanks are due to:

- Our speakers, who have come from various parts of our health system and our city
- All of the MMH staff who have given up their time to be with us today as well as those who have worked behind the scenes
- Caroline Nicholson, Mater UQ Centre for Primary Health Care Innovation
- Anne Williamson, GPLM
- Our program supporter, BSPHN
- Our 2018 Alignment sponsor, Mater Pathology

Online resources

Mater Guideline
Mater Brochures
National pregnancy care guidelines
RANZCOG education resources
Queensland Clinical Guidelines
Beyond Blue
Centre of Perinatal Excellence
Australian Society of Infectious Diseases
GP Learning (RACGP)
Australasian Diabetes in Pregnancy Society
Brisbane South PHN Maternity Resources
Brisbane North PHN Maternity Resources

Mater Mothers' Hospital GP
Maternity Shared Care Guideline

January 2018

Mater Mothers

Mater Mothers' Hospital

GP Maternity Shared Care Guideline

This is a 52 page summary of the essential principles underlying GP maternity shared care.

Mater Mothers' Hospital

Thyroid Disease in Pregnancy

Dr Julie Buchanan MBBS FRANZCOG

Staff Specialist, Mater Mothers Hospital

Private VMO – Obstetrics and Gynaecology

Eve Health 199 Grey Street, South Brisbane

Telephone **1300 383 432** Facsimile 07 3332 1990

Email info@evehealth.com.au

Website www.evehealth.com.au

Why is thyroid disease important?

Hyperthyroidism

- Fetal / neonatal hyperthyroidism
- Increased perinatal mortality
- Pulmonary Hypertension (uncontrolled)
- Preeclampsia
- Miscarriage
- Premature labour
- Placental abruption
- Infection

Hypothyroidism

- Infertility
- Risk miscarriage
- Reduced IQ children
- Increased risk of hypertensive disorders of pregnancy
- Placental abruption
- Preterm delivery
- Perinatal morbidity and mortality
- PPH

Hyperthyroidism – the essentials

- Most common cause suppressed TSH in first trimester is hCG mediated hyperthyroidism ~ 10 % women
- Occasionally Free T4 and Free T3 mildly elevated
- Differentiate from Grave's disease by presence TSH receptor antibody and increased CFDS on US
- Don't treat – will resolve in 2nd trimester

- Graves most common cause throughout pregnancy
- Rx with propylthiouracil 1st trimester ; carbimazole 2nd and 3rd trimester
- ~ 60 % women able to have medications weaned by end 2nd trimester – need to watch for postpartum flare
- Check TFTs every 4-6 weeks
- TSH receptor antibody titre predicts risk fetal / neonatal thyrotoxicosis

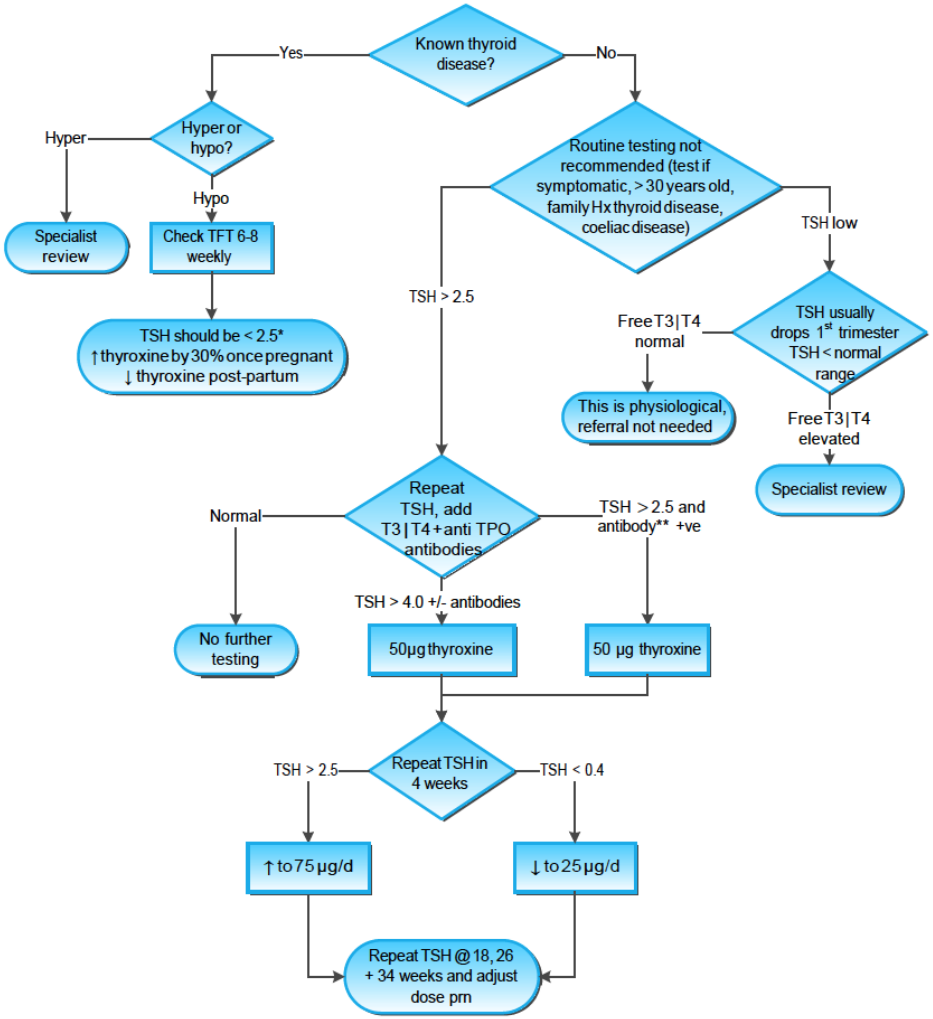
Hypothyroidism – the essentials

- Overt hypothyroidism – increase thyroxine dose by 30 % at conception
- Measure TSH at first visit ; 6/52 later; then end 2nd and 3rd trimester if normal ; reduce dose back to preconception postpartum
- Aiming for TSH < 2.5 first trimester, < 3 second trimester, < 3.5 third trimester

- 24 % of Australian women are positive for thyroid antibodies
- Studies regarding treatment of euthyroid anti-TPO antibody women with thyroxine are inconclusive with respect to reduction in miscarriage and adverse pregnancy outcomes – so I don't test

PDF available for downloading at BSPHN or page 28 of the Mater Guideline

Thyroid Management in Pregnancy



** If TSH >10 and/or Free T4 below the pregnancy reference range, arrange urgent referral to specialist in addition to commencing/ increasing thyroxine*

***Anti-thyroid peroxidase antibodies*

The NHMRC recommends that all women who are pregnant, breastfeeding or considering pregnancy, take an iodine supplement of 150 micrograms each day (available in most pregnancy multivitamins or in combination with folate) V20171205

Mater Mothers

Mater Mothers' Hospital

Asthma in pregnancy

Dr Wendy Burton, introduction

Exceptional People. Exceptional Care.

Asthma in pregnancy

- Asthma is the most prevalent chronic medical condition to affect pregnancy in Australia, affecting an estimated 12% (>37,000) of women each year, with prevalence of asthma greatest (up to 16%) among the socially disadvantaged.
- Maternal asthma is associated with significant perinatal morbidity and mortality. In Australia, conservative estimates attribute maternal asthma to absolute increases of >1,200 preterm births, >2,800 neonatal hospitalisations and >1,100 cases of low birth weight each year. This equates to one **potentially preventable** preterm birth every 7 hours due to maternal asthma.
- In Australia, approximately 40% (? Up to 60%) of women experience an exacerbation during pregnancy.

Asthma in pregnancy

- Since exacerbations contribute most significantly towards adverse perinatal outcomes, they are the ideal target for improving asthma control and subsequent morbidities.
- A research project into an antenatal asthma management service is in the pipeline, but in the meanwhile, please make sure women with asthma are correctly identified on your referrals and speak to women about the importance of good control of their asthma during pregnancy.
- It has been reported that 25% of GPs advise women to cease their preventers during pregnancy -- please make a very considered decision about the wisdom of this approach and, if in any doubt, refer to the obstetric medical team.

Mater Mothers

Mater Mothers' Hospital

Asthma in Pregnancy

Dr Janelle Nisbet

Exceptional People. Exceptional Care.

Normal Physiology During Pregnancy

- Spirometry similar to non-pregnant
- FVC, FEV1, FEV1/FVC, peak expiratory flow stable to slightly increased
- RV and FRC decrease due to diaphragm elevation from enlarging uterus
- Increased minute ventilation
  - Lower PaCO2, higher PaO2, secondary compensation with renal loss of bicarbonate
  - Blood gases show higher PaO2 and lower PaCO2 with slightly alkalotic pH than non-pregnant state

- Pre and post bronchodilator spirometry safe in pregnancy, bronchial provocation tests generally not performed

Effects of Pregnancy on Asthma

- Prospective cohort studies in Australian women:
  - 20% improvement during pregnancy
  - 20% stable during pregnancy
  - 60% worsen during pregnancy

Pre-pregnancy Counselling

- Cease smoking
- Assess asthma control and severity
- Ensure good control with appropriate asthma medication prior to pregnancy
- Reassure that most asthma medications including inhaled corticosteroids are safe and can be continued in pregnancy
- Budesonide Cat A – more data available. No data to indicate that other inhaled corticosteroids are not safe.
- Long-acting beta 2 agonists – salmeterol/eformoterol found in combination therapies category B3, if possible best avoided in first trimester. Consider changing women to inhaled corticosteroid alone. REMEMBER – benefits of asthma control outweigh any potential adverse outcome from long acting beta 2 agonist therapy.
- Identify triggers and discuss avoidance strategies
- Encourage good self-management – check technique, symptom monitoring, peak flows, asthma action plan
- Influenza vaccination

Antenatal Care

- Regular evaluation and monitoring of asthma control (every 4-6 weeks)
- Self-management education, asthma action plan
- Avoid/minimise triggers and exposure to allergens / irritants
- Doses of inhaled corticosteroids should be minimum necessary to control symptoms and maintain lung function
- Identify and manage coexisting conditions – GORD, allergic rhinitis, sinusitis
- Obstetric/respiratory physician review if moderate to severe persistent asthma, very poor control
- Manage exacerbations promptly and aggressively with inhaled beta2 agonists and increased inhaled corticosteroids / oral corticosteroids
- Anaesthetic review for women with severe / uncontrolled asthma

Asthma Medications in Pregnancy

Bronchospasm Relaxants:

- Inhaled short acting beta2-agonists – salbutamol, (Ventolin) terbutaline (Bricanyl)
  - Category A
  - No associated teratogenic risks
- Inhaled long-acting beta2 agonists – salmeterol, (Serevent) eformoterol. (in Symbicort) Usually combined with inhaled corticosteroids in combination therapies.
  - Category B3
  - Avoid in first trimester if possible
  - Do NOT withdraw in women who present after becoming pregnant if they are controlling symptoms

Asthma Medications in Pregnancy

Preventers

- Inhaled Corticosteroids
  - Budesonide (Pulmicort) category A (most evidence)
  - Others eg Fluticasone, Beclomethasone, Ciclesonide (Flixotide, Qvar, Alvesco) – Category B3. More limited experience
  - No data indicating that they are unsafe, may be used in pregnancy
- Cromones
  - Sodium cromoglycate (Intal) category A
  - Nedocromil sodium (Tilade) category B1. No teratogenic effects in animal studies
- Leukotriene Receptor Antagonists
  - Montelukast (Singulair) currently category B1. Generally thought to be safe but human data still scarce. Some reports of limb defects. Area of uncertainty with some recent recommendations to not use during pregnancy.

Asthma Medications in Pregnancy

- Oral / IV Corticosteroids
  - Necessary and life-saving for short periods of severe asthma in pregnancy
  - Benefits outweigh risks
- Omalizumab (Xolair)
  - Human IgE monoclonal Ab
  - Can be continued in pregnancy if already commenced

Mater Mothers

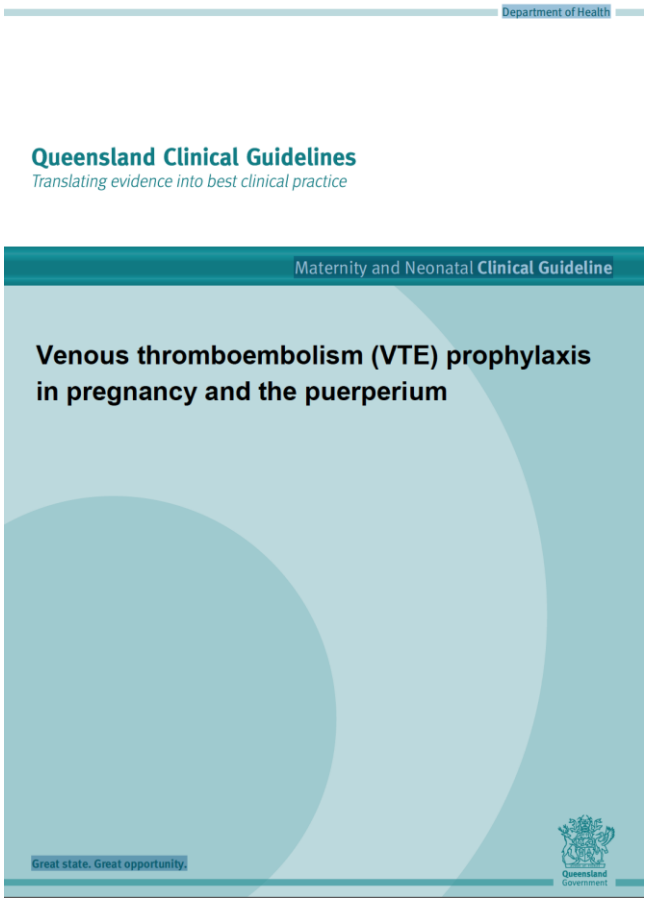
Mater Mothers' Hospital

Venous Thromboembolism Prophylaxis in Pregnancy and Puerperium

Exceptional People. Exceptional Care.

Queensland Clinical Guidelines

[Venous thromboembolism (VTE)]



VTE

- Evidence correlating risk factors and occurrence of VTE is limited
- Each woman needs to be assessed for VTE risk
- Clinical judgment is important and treatment plans should be individualised
- Liaise with obstetric medicine as required for advice

High Risk Factors

- Unprovoked VTE
- VTE in pregnancy or related to COCP
- VTE with thrombophilia
- VTE with family history of thrombophilia
- Recurrent VTE
- Family history of VTE with antithrombin deficiency

- With these risk factors LMWH prophylaxis is required. Standard, intermediate, or full therapeutic dose depends on individual circumstances.
- Full dose generally used for previous VTE with antithrombin deficiency, recurrent unprovoked DVT, VTE in current pregnancy

Other Risk Factors

- Sociodemographic – age, BMI, smoking
- Medical – SLE, cardiac or respiratory disease, inflammatory conditions, nephrotic syndrome, malignancy etc.
- Pregnancy Related – immobility, preeclampsia, GDM, multiple pregnancy, hyperemesis / dehydration etc.
- VTE – prior provoked VTE, asymptomatic thrombophilia, family history VTE, antiphospholipid antibodies

- Consider number of risk factors
- Consider LMWH prophylaxis

Postpartum

- 4-fold greater risk with CS than vaginal delivery. Increased risk with emergency CS.
- If receiving antenatal prophylaxis, continue for 6 weeks post partum
- Also – consider 6 weeks prophylaxis in
    - Previous provoked VTE
    - Significant thrombophilia on lab testing without personal or family history of DVT e.g. homozygous factor V Leiden
    - Positive family history VTE without personal history
    - Antiphospholipid antibodies
  – Assess other contributory risk factors

Pharmacological Options

- LMWH:
  - Agent of choice, does not cross placenta
  - No evidence of teratogenicity or increased risk of fetal bleeding
  - Lower rates of bleeding, heparin-induced thrombocytopenia, osteoporosis than unfractionated heparin
- Unfractionated heparin
- Fondaparinux (Arixtra) – limited to those with severe allergic reactions to heparin
- Avoid Rivaroxaban (Xarelto) and Apixaban (Eliquis)
- No evidence for aspirin in thromboprophylaxis

Mater Mothers

Mater Mothers' Hospital

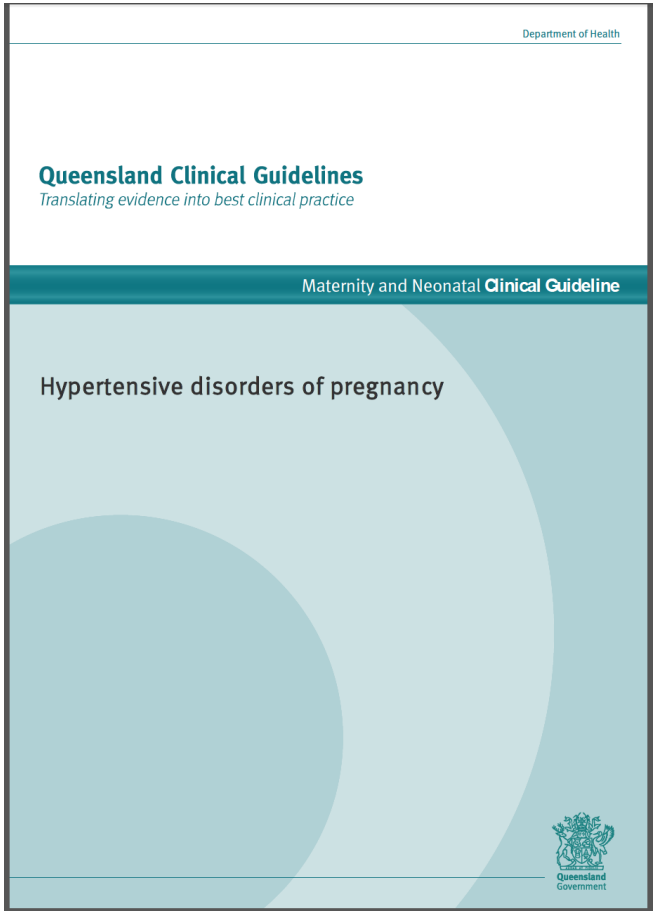
Hypertension in Pregnancy

Dr Julie Buchanan

Exceptional People. Exceptional Care.

Queensland Clinical Guidelines

Hypertensive disorders of pregnancy



Hypertension in Pregnancy

NICE 2010 combined with Queensland Health Clinical guidelines 2015

Successive confidential enquires into maternal deaths have highlighted hypertension and its complications in pregnancy as significant factors. In addition, the condition can lead to considerable mortality and morbidity for babies.

One reason for the poor outcome is uncertainty about the identification and management of hypertensive disorders in pregnancy. The key management priorities for implementation, which are:

1. Measures to reduce the risk of hypertensive disorders in pregnancy
2. Management of pregnancy with chronic hypertension, gestational hypertension and pre-eclampsia respectively
3. Appropriate assessment of proteinuria in hypertensive disorders of pregnancy
4. Appropriate advice and follow-up care at transfer to community midwifery care following birth

3.2 Summary recommendations

Summary recommendations and levels of evidence are outlined in Table 5.

Table 6. Summary recommendations

	Recommendation	Grading of evidence Quality/Strength
1.	Use the definitions and classifications of hypertensive disorders of pregnancy provided by the Society of Obstetric Medicine of Australia and New Zealand	**Consensus**
2.	Measure BP in the sitting position, with the arm at the level of the heart Use Korotokoff phase 5 to designate diastolic BP	**II-2A** Low/Strong **I-A** Moderate/Strong
3.	Suspect significant proteinuria when urinary dipstick proteinuria is greater than or equal to 1+	**II-2A** Moderate/Strong
4.	For women at increased risk of preeclampsia recommend Aspirin 100 mg before 16 weeks gestation.	**III-B** Very low/Strong
5.	Provide inpatient care for women with severe hypertension or severe preeclampsia	**II-2B** Low/Strong
6.	For women with severe hypertension, initial antihypertensive therapy in the hospital setting should be with: • Nifedipine short-acting (capsules) or • Parenteral hydralazine or • Parenteral labetalol	 **I-A** High/Strong **I-A** High/Strong **I-A** High/Strong
7.	For women with any HDP, consider vaginal birth unless a caesarean birth is required for the usual obstetric indications	**II-2B** Low/Strong
8.	Continue antihypertensive treatment intrapartum to maintain sBP at less than160mmHg and dBP at less than110 mmHg	**II-2B** Low/Strong
9.	Actively manage the third stage of labour with Oxytocin 5 units IV or 10 units IM, particularly in the presence of thrombocytopenia or coagulopathy	**I-A** Moderate/Strong
10.	$MgSO_4$ is recommended for first-line treatment of eclampsia	**I-A** High/Strong
11.	$MgSO_4$ is recommended as prophylaxis against eclampsia in women with severe preeclampsia	**I-A** High/Strong
12.	Offer formal postnatal review for preconceptual advice, counselling, screening and lifestyle advice to women whose pregnancies have been complicated by hypertensive disorders of pregnancies	**Consensus**

Queensland Health Summary recommendations

Definitions

Chronic hypertension (essential / secondary) is hypertension that is present at the booking visit or before 20 weeks or if the woman is already taking antihypertensive medication when referred to maternity services. It can be primary or secondary in aetiology.

- Chronic kidney disease, renal a stenosis, systemic disease with renal involvement (diabetes, SLE), Endocrine disease (phaeochromocytoma, Cushing's, primary hyperaldosteronism)

Gestational hypertension is new hypertension presenting after 20 weeks without significant proteinuria or other features of preeclampsia.

Pre-eclampsia is new hypertension presenting after 20 weeks with significant proteinuria abnormal renal function, IUGR or features HELLP.

Severe pre-eclampsia is pre-eclampsia with severe hypertension and/or with symptoms, and/or biochemical and/or haematological impairment.

Definitions of Hypertension

Mild hypertension

- systolic blood pressure 140–149 mmHg
  diastolic blood pressure 90–99 mmHg

Moderate hypertension

- systolic blood pressure 150–159 mmHg
  diastolic blood pressure 100–109 mmHg

Severe hypertension

- systolic blood pressure 160 mmHg or greater
  diastolic blood pressure 110 mmHg or greater

NICE key recommendations for implementation

Reducing the risk of hypertensive disorders in pregnancy

- Advise women at high risk of pre-eclampsia to take 75 mg of aspirin* daily from 12 weeks until the birth of the baby. Women at high risk are those with any of the following:
  - hypertensive disease during a previous pregnancy
  - chronic kidney disease
  - autoimmune disease such as SLE or antiphospholipid syndrome
  - type 1 or type 2 diabetes
  - chronic hypertension.

NICE key recommendations for implementation

- Advise women with more than one moderate risk factor for pre-eclampsia to take 75 - 100 mg of aspirin* daily from 12 weeks until the birth of the baby. Factors indicating moderate risk are:
  - first pregnancy
  - age 40 years or older
  - pregnancy interval of more than 10 years
  - body mass index (BMI) of 35 kg/m2 or more at first visit
  - family history of pre-eclampsia
  - multiple pregnancy.

NICE key priorities for implementation

Management of pregnancy with chronic hypertension

- ACE and ARBs – evidence is they are not teratogenic but fetotoxic
- First visit – ask about symptoms OSA; document reflexes; measure urate, urine PCR, plasma metanephrines, renal function
- ? Aldosterone:renin ratio and RADU
- Home BP monitoring
- In pregnant women with uncomplicated chronic hypertension aim to keep blood pressure lower than 150/100 mmHg
- Review monthly until 28 weeks then fortnightly
- Postpartum – no NSAIDs
- Lactation – enalapril, captopril and quinapril safe; no data re ARBs

Nice key priorities for implementation: Gestational Hypertension

Table 1 Management of pregnancy with gestational hypertension

Degree of hypertension	Mild hypertension (140/90 to 149/99 mm Hg)	Moderate hypertension (150/100 to 159/109 mm Hg)	Severe hypertension (160/110 mm Hg or higher)
Admit to hospital	No	No	Yes (until blood pressure is 159/109 mm Hg or lower)
Treat	No	With oral labetalol† as first-line treatment to keep: • diastolic blood pressure between 80–100 mm Hg • systolic blood pressure less than 150 mm Hg	With oral labetalol† as first-line treatment to keep: • diastolic blood pressure between 80–100 mm Hg • systolic blood pressure less than 150 mm Hg
Measure blood pressure	Not more than once a week	At least twice a week	At least four times a day
Test for proteinuria	At each visit using automated reagent-strip reading device or urinary protein:creatinine ratio	At each visit using automated reagent-strip reading device or urinary protein:creatinine ratio	Daily using automated reagent-strip reading device or urinary protein:creatinine ratio
Blood tests	Only those for routine antenatal care	Test kidney function, electrolytes, full blood count, transaminases, bilirubin Do not carry out further blood tests if no proteinuria at subsequent visits	Test at presentation and then monitor weekly: • kidney function, electrolytes, full blood count, transaminases, bilirubin

Gestational Hypertension

- In women receiving outpatient care for severe gestational hypertension, after it has been effectively controlled in hospital, measure blood pressure and test urine twice weekly and carry out weekly blood tests.
- In women with mild hypertension presenting before 32 weeks, or at high risk of pre-eclampsia, measure blood pressure and test urine twice weekly.

Gestational Hypertension: post-natal

In women with gestational hypertension who have given birth, measure blood pressure:

- daily for the first 2 days after birth
- at least once between day 3 and day 5 after birth
- In women with gestational hypertension who have given birth: continue use of antenatal antihypertensive treatment
- reduce antihypertensive treatment if their blood pressure falls below 130/80 mmHg.
- Change methyldopa to enalapril / captopril postpartum
- For women with gestational hypertension who did not take antihypertensive treatment and have given birth, start antihypertensive treatment if their blood pressure is >= 150/100 mmHg.
- If hypertension persists > 3/12 postpartum investigate for secondary cause

Nice key priorities for implementation: Pre-eclampsia

Table 2 Management of pregnancy with pre-eclampsia

Degree of hypertension	Mild hypertension (140/90 to 149/99 mmHg)	Moderate hypertension (150/100 to 159/109 mmHg)	Severe hypertension (160/110 mmHg or higher)
Admit to hospital	Yes	Yes	Yes
Treat	No	With oral labetalol† as first-line treatment to keep: • diastolic blood pressure between 80–100 mmHg • systolic blood pressure less than 150 mmHg	With oral labetalol† as first-line treatment to keep: • diastolic blood pressure between 80–100 mmHg • systolic blood pressure less than 150 mmHg
Measure blood pressure	At least four times a day	At least four times a day	More than four times a day, depending on clinical circumstances
Test for proteinuria	Do not repeat quantification of proteinuria	Do not repeat quantification of proteinuria	Do not repeat quantification of proteinuria
Blood tests	Monitor using the following tests twice a week: kidney function, electrolytes, full blood count, transaminases, bilirubin	Monitor using the following tests three times a week: kidney function, electrolytes, full blood count, transaminases, bilirubin	Monitor using the following tests three times a week: kidney function, electrolytes, full blood count, transaminases, bilirubin

Pre-eclampsia: Timing of Birth

- Manage pregnancy in women with pre-eclampsia conservatively (that is, do not plan same-day delivery of the baby) until 34 weeks.
- Consultant obstetric staff should document in the woman's notes the maternal (biochemical, haematological and clinical) and fetal thresholds for elective birth before 34 weeks in women with pre-eclampsia.
- Consultant obstetric staff should write a plan for antenatal fetal monitoring during birth.
- Offer birth to women with pre-eclampsia before 34 weeks, after discussion with neonatal and anaesthetic teams and a course of corticosteroids has been given if severe hypertension develops refractory to treatment

Pre-eclampsia: Timing of Birth

- Recommend birth for women who have pre-eclampsia with severe hypertension after 34 weeks when their blood pressure has been controlled and a course of corticosteroids has been completed (if appropriate).
- Offer birth to women who have pre-eclampsia with mild or moderate hypertension at 34+0 to 36+6 weeks depending on maternal and fetal condition, risk factors and availability of neonatal intensive care.
- Recommend birth within 24–48 hours for women who have pre-eclampsia with mild or moderate hypertension after 37+0 weeks.

Diagnosis of Preeclampsia

- **Proteinuria** > 30 g/mmol
- **Renal:** Serum or plasma creatinine > 90micromol or oliguria
- **Haematological:** platelets < 100x109, haemolysis (schistocytes or red cell fragments on blood film, increased bilirubin, raised LDH, decreased haptoglobin, DIC
- **Liver;** raised transaminases, severe epigastric or RUQ pain
- **Neurological:** severe headache, visual disturbance, hyperreflexia, Convulsions, CVA
- **Pulmonary:** Pulmonary oedema
- **Uteroplacental:** fetal growth restriction.

Fetal Monitoring

Chronic hypertension

- In women with chronic hypertension, carry out ultrasound fetal growth and amniotic fluid volume assessment and umbilical artery doppler velocimetry between 28 and 30 weeks and between 32 and 34 weeks. If results are normal, do not repeat at more than 34 weeks, unless otherwise clinically indicated.
- In women with chronic hypertension, only carry out cardiotocography if fetal activity is abnormal.

Fetal Monitoring

Mild or moderate gestational hypertension

- In women with mild or moderate gestational hypertension, carry out ultrasound fetal growth and amniotic fluid volume assessment and umbilical artery doppler velocimetry if diagnosis is confirmed at less than 34 weeks. If results are normal, do not repeat at more than 34 weeks, unless otherwise clinically indicated.
- In women with mild or moderate gestational hypertension, do not carry out ultrasound fetal growth and amniotic fluid volume assessment and umbilical artery doppler velocimetry if diagnosis is confirmed after 34 weeks, unless otherwise clinically indicated.
- In women with mild or moderate gestational hypertension, only carry out cardiotocography if fetal activity is abnormal.

Fetal Monitoring

Severe gestational hypertension or pre-eclampsia

- Carry out cardiotocography at diagnosis of severe gestational hypertension or pre-eclampsia.
- If conservative management of severe gestational hypertension or pre-eclampsia is planned, carry out all the following tests at diagnosis:ultrasound fetal growth and amniotic fluid volume assessment
- umbilical artery doppler velocimetry.
- If the results of all fetal monitoring are normal in women with severe gestational hypertension or pre-eclampsia, do not routinely repeat cardiotocography more than weekly.
- In women with severe gestational hypertension or pre-eclampsia, repeat cardiotocography if any of the following occur:
  - the woman reports a change in fetal movement
  - vaginal bleeding
  - abdominal pain
  - deterioration in maternal condition.

Fetal Monitoring

Severe gestational hypertension or pre-eclampsia (cont)

- In women with severe gestational hypertension or pre-eclampsia, do not routinely repeat ultrasound fetal growth and amniotic fluid volume assessment or umbilical artery doppler velocimetry more than every 2 weeks.
- If the results of any fetal monitoring in women with severe gestational hypertension or pre-eclampsia are abnormal, tell a consultant obstetrician.
- For women with severe gestational hypertension or pre-eclampsia, write a care plan that includes all of the following:
  - the timing and nature of future fetal monitoring
  - fetal indications for birth and if and when corticosteroids should be given
  - when discussion with neonatal paediatricians and obstetric anaesthetists should take place and what decisions should be made.

Fetal Monitoring

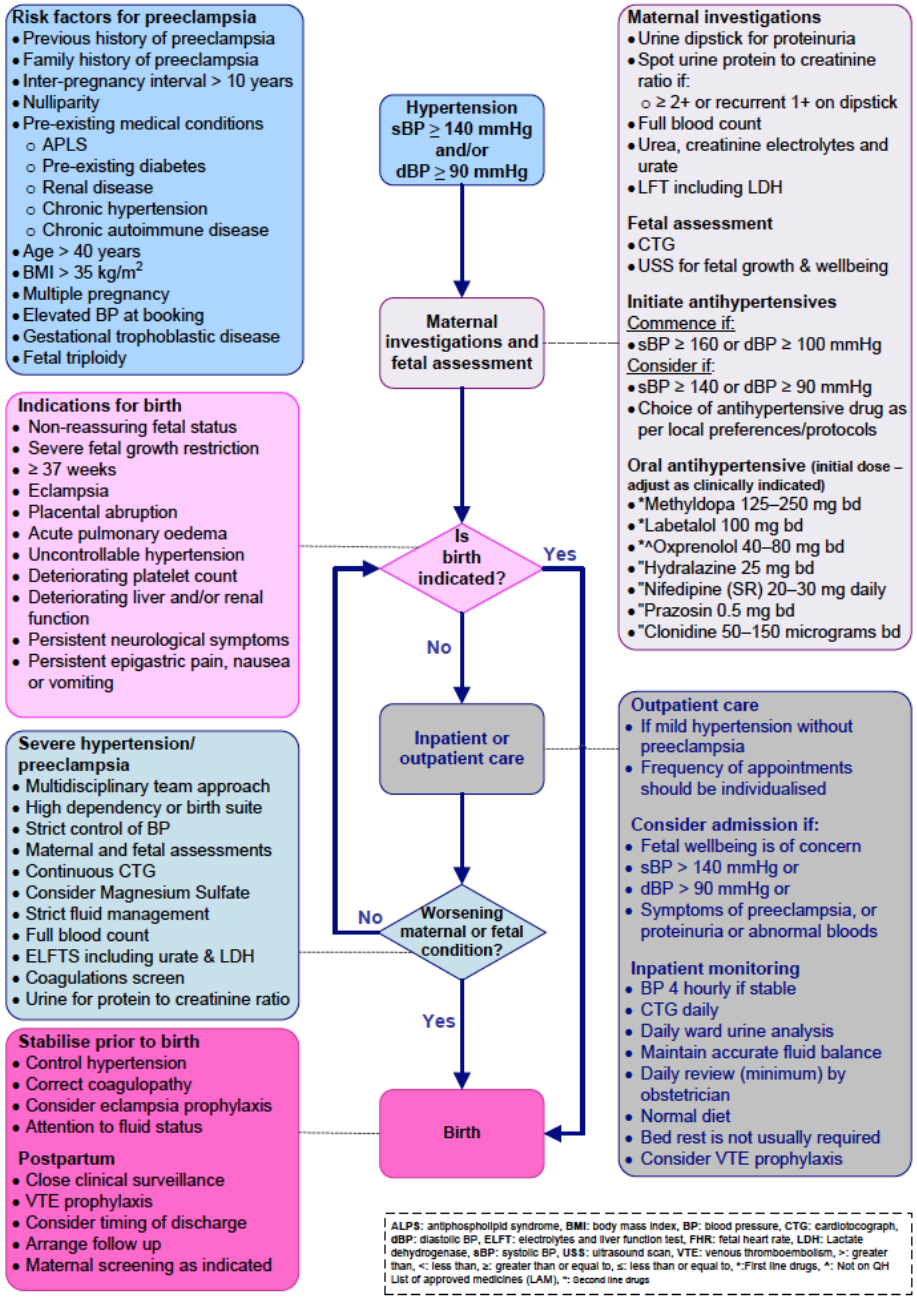
Women at high risk of pre-eclampsia

- Carry out ultrasound fetal growth and amniotic fluid volume assessment and umbilical artery doppler velocimetry starting at between 28 and 30 weeks (or at least 2 weeks before previous gestational age of onset if earlier than 28 weeks) and repeating 4 weeks later in women with previous:
  - severe pre-eclampsia
  - pre-eclampsia that needed birth before 34 weeks
  - pre-eclampsia with a baby whose birth weight was less than the 10th centile
  - intrauterine death
  - placental abruption.
- In women who are at high risk of pre-eclampsia, only carry out cardiotocography if fetal activity is abnormal.

Breastfeeding

- In women who still need antihypertensive treatment in the postnatal period, avoid diuretic treatment for hypertension if the woman is breastfeeding or expressing milk.
- Tell women who still need antihypertensive treatment in the postnatal period that the following antihypertensive drugs have no known adverse effects on babies receiving breast milk:
  - labetalol†
  - nifedipine†
  - enalapril†
  - captopril†
  - metoprolol†.

Flowchart: Management of hypertension in pregnancy



Queensland Clinical Guidelines: Hypertensive disorders in pregnancy. Flowchart version: F15.13-2-V7-R20

Any questions?

QCG

Mater Mothers' Hospital

Mater Mothers

Mater Mothers' Hospital

Gestational Hypertension

Dr Janelle Nisbit

Exceptional People. Exceptional Care.

Gestational Hypertension

- New onset arising after 20 weeks gestation without features of preeclampsia
- No clear evidence to recommend one drug therapy over another
- No clear evidence for optimal target BP
- Antihypertensive therapy does halve the risk of severe hypertension but does not alter other outcomes e.g. preeclampsia, perinatal mortality
- Aggressive BP lowering may decrease placental perfusion and jeopardize fetal well-being
- Suggested target <140/90mmHg

Oral Antihypertensives

- First Line:
  - Methyldopa – max dose 500mg QID
    - In practise, sedation / fatigue can be limiting for some women
  - Labetalol – up to 200-400mg QID
- Second Line:
  - Nifedipine SR - 60-120mg daily
  - Hydralazine - up to 50-100mg bd
  - Prazosin – up to 1mg tds
  - Clonidine – up to 150-300mcg bd

Initial Investigation

- Confirm BP
- Screen for proteinuria with dipstick, quantify if >2+ or preeclampsia suspected
- FBC, ELFT, MSU
- Other tests as indicated e.g. coags, blood film etc.
- fetal assessment
- Monitor bloods / urine weekly in PIH

Any questions?

Mater Mothers

Mater Mothers' Hospital

Obesity in Pregnancy

Dr Julie Buchanan

Exceptional People. Exceptional Care.

Obesity guidelines http://www.health.qld.gov.au/qcg/

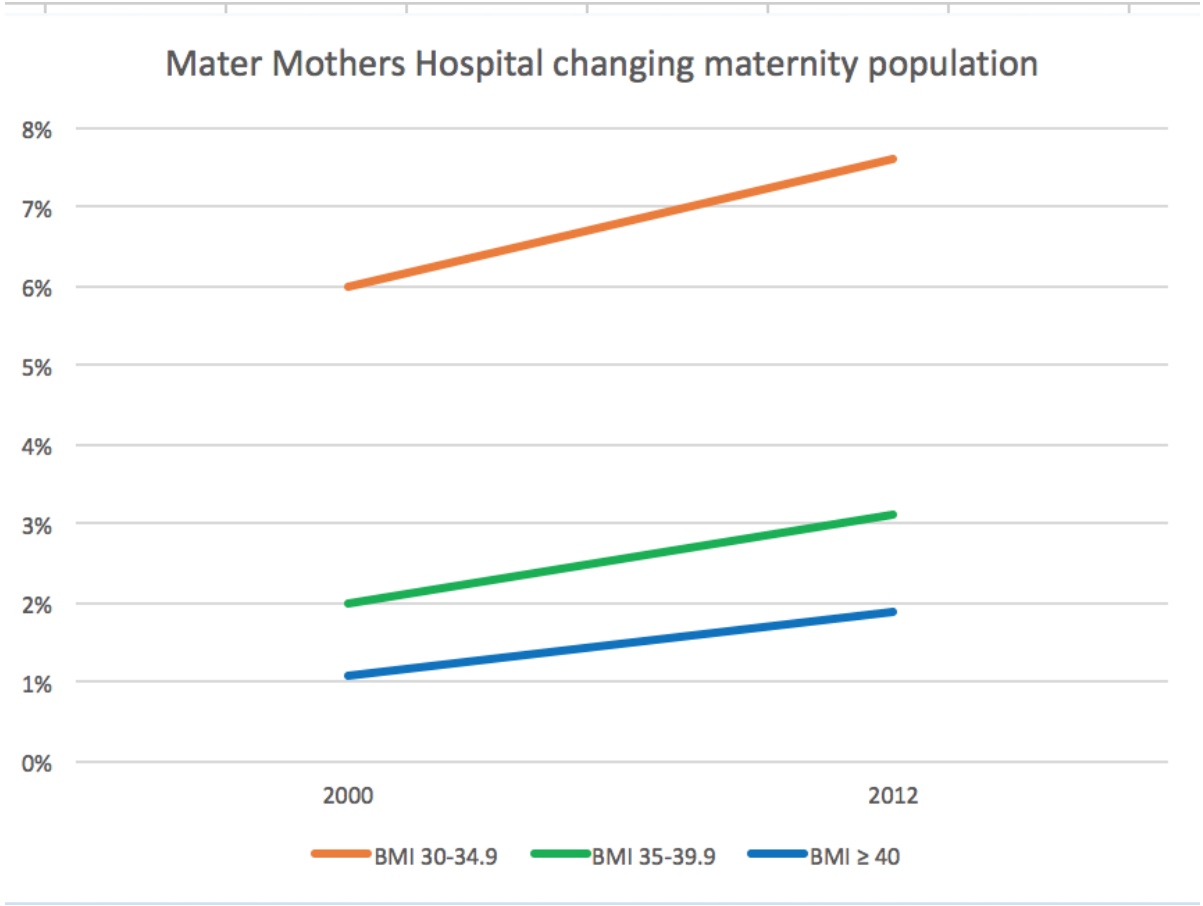
Queensland Clinical Guidelines
Translating evidence into best clinical practice

Maternity and Neonatal **Clinical Guideline**

Obesity in pregnancy

The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.



Health Risks Associated with increasing BMI

Preconception

- Infertility and new evidence that suggests that the BMI around conception affects the next two generations at DNA and mitochondrial levels.

Antenatal

- Technical difficulties with clinical assessment of fetal growth and wellbeing
- Technical limitations on ultrasound detection of fetal anomalies or growth disorders
- Antepartum stillbirth

Health Risks Associated with increasing BMI

Medical

- Maternal mortality
- Diabetes (Gestational and type 2)
- Preeclampsia
- Obstructive sleep apnoea (may be related to adverse fetal outcomes)
- Thromboembolic disease
- Hypertension
- Cholecystitis
- Depression
- Pelvic floor dysfunction (SUI , pelvic organ prolapse)
- Low back pain
- Knee osteoarthritis

Practical problems

- BP measurement
- Bed weight capacity
- Theatre trolley movement & patient shifting
- Ultrasonography – less reliable and risk of wrist/upper limb injuries for sonographers
- Listening to fetal heart/CTG
- Venous access

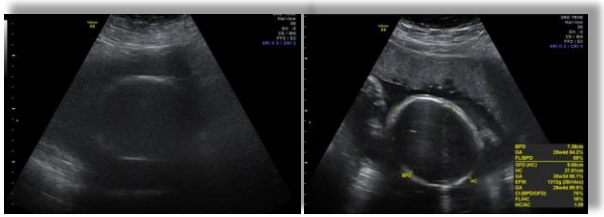
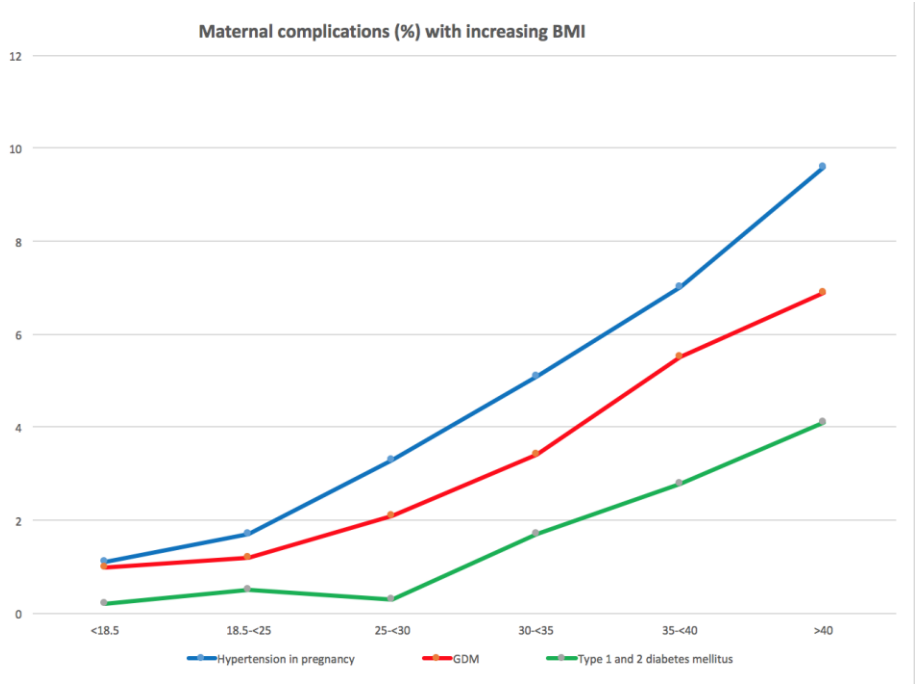


Image source: Donna Traves Sonographer, RBWH

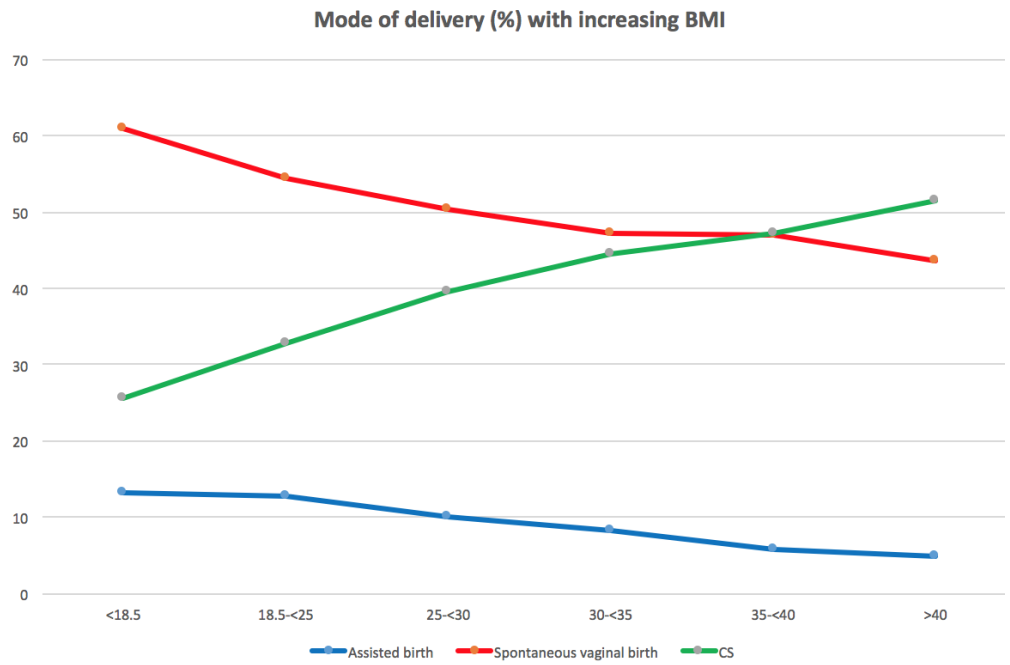
The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.



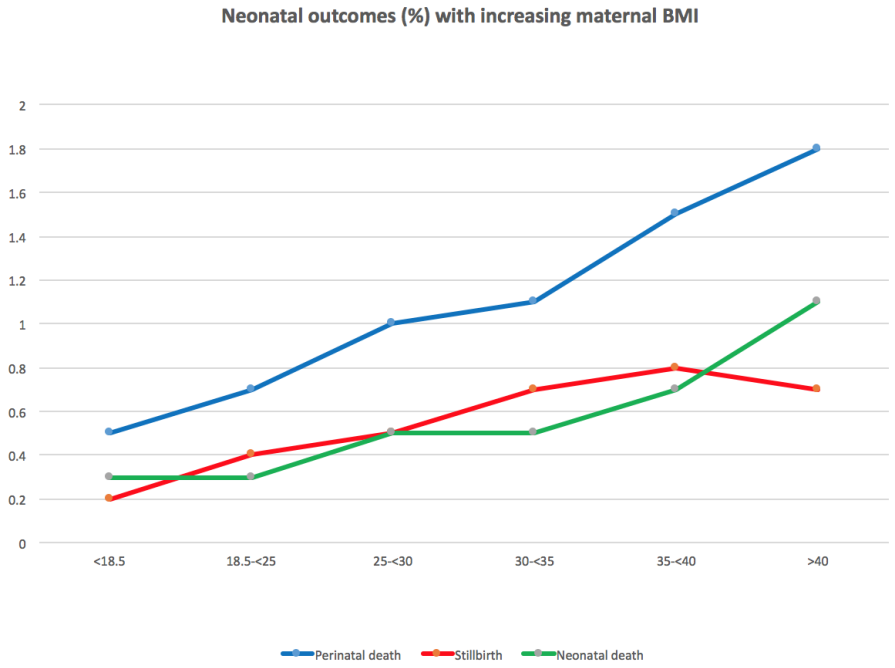
The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.



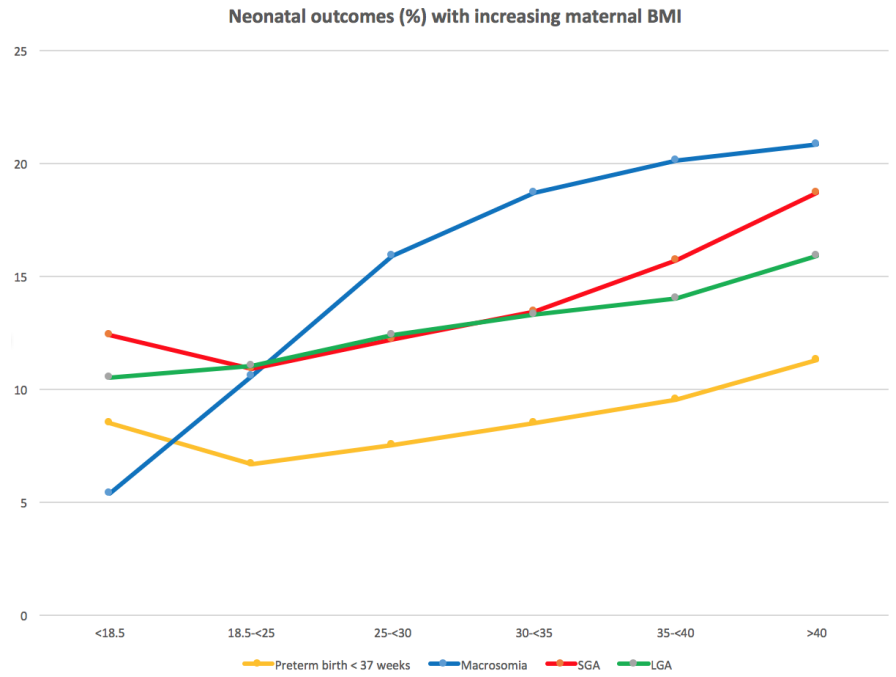
The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.



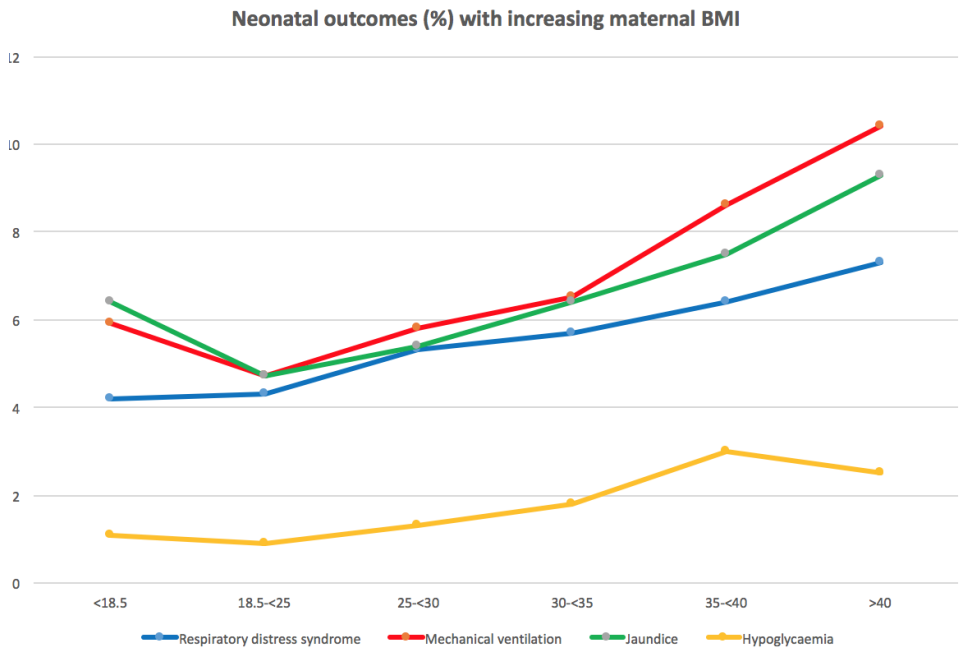
The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.

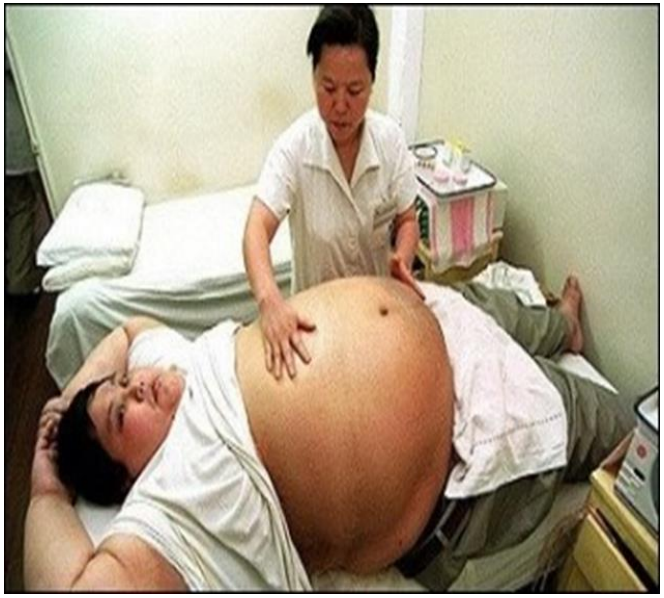


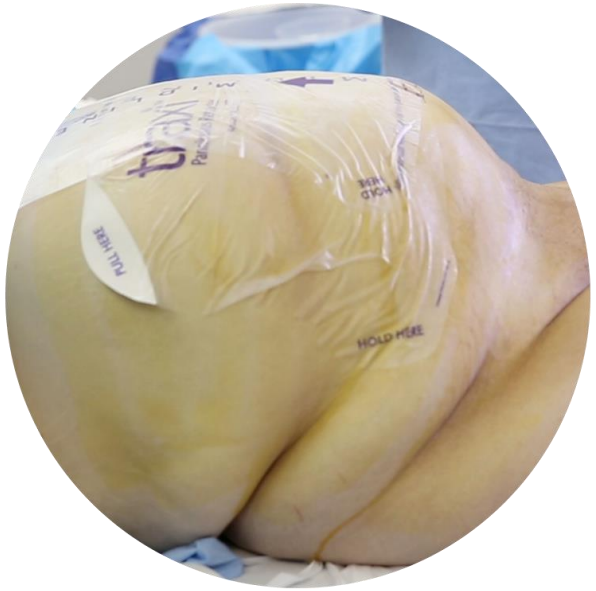
The frequency of adverse outcome increases with increasing BMI. The following charts are based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009

McIntyre HD, Gibbons KS, Flenady VJ, Callaway LK. Overweight and obesity in Australian mothers: epidemic or endemic? Med J Aust. 2012; 196(3):184-8.



SFH? Lie, presentation?





Monitoring the weight gained in pregnancy is critical if we are to manage the high rate of gestational and pre-gestational diabetes, as well as the major public health issue of obesity in pregnancy. The majority of women who died were not weighed as part of their regular antenatal care, and in some instances weight gain may have been helpful in alerting clinicians to more serious underlying pathology. Rapid weight gain may alert the clinician to conduct a careful search for features of pre-eclampsia, peripartum cardiomyopathy, fetal issues, or simply provide counselling about diet and exercise.

Good practice points

Women should be weighed regularly throughout antenatal care and have their weight gain compared to Institute of Medicine guidelines for weight gain in pregnancy.

Clinicians should be wary of inadequate weight gain or weight loss during pregnancy, especially in the presence of disturbed bowel habits and/or unexpected or poorly responsive iron deficiency. Adequate diagnosis of conditions that may cause such symptoms and signs is difficult in pregnancy.

The increase in obesity in our society means that monitoring the weight of pregnant women is essential to helping manage the high rate of gestational and pre-gestational diabetes, as well as other weight related health issues that can be exacerbated in pregnancy.

Dr Nikki Whelan, Chair Maternal Mortality Sub-Committee

Mater Mothers

Mater Mothers' Hospital

Nutrition for pregnancy post-bariatric surgery

Dr Shelley Wilkinson
Senior Research Dietitian, MMH

Exceptional People. Exceptional Care.

Issues for the pregnant bariatric patient

Baseline bariatric issues

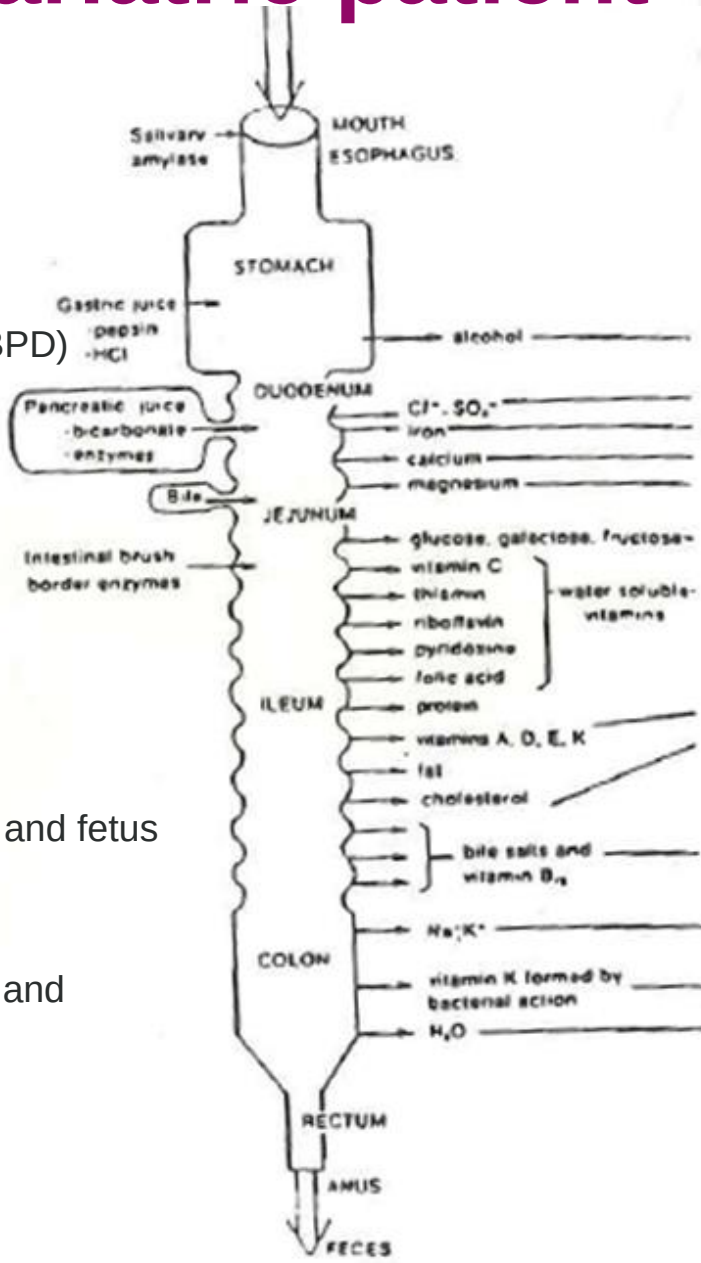
- Reduced food intake due to reduced gastric capacity +/- food intolerances (all procedures)
- Reduced efficiency of digestion/absorption
  - Decreased parietal cells and IF (RYGB + GB + BPD)
  - Bypass of key absorption sites for some nutrients (RYGB + BPD)
  - Dumping syndrome (RYGB)
- Malabsorption

Additional issues in pregnancy

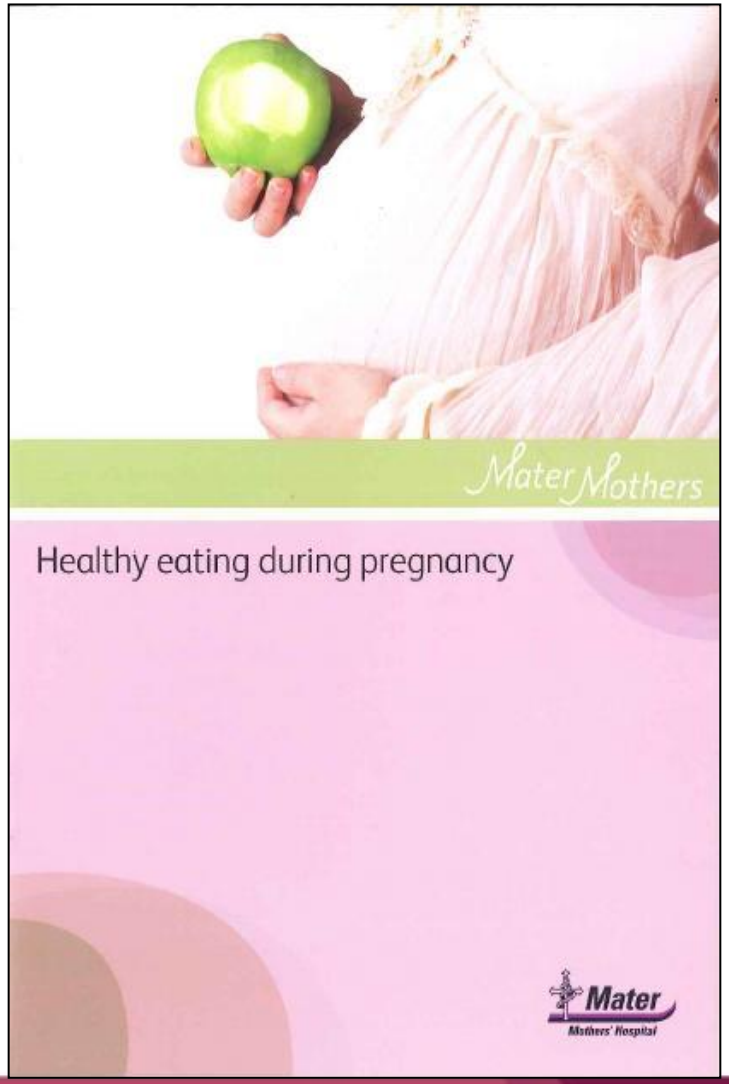
- Increased requirements for protein and most micronutrients
- Nausea, vomiting, constipation, food aversions
- Need for weight gain (2nd and 3rd trimesters)
- WEIGHT LOSS is <u>not</u> recommended, can lead to IUGR
- Nutritional deficiencies can have devastating effects on mother and fetus

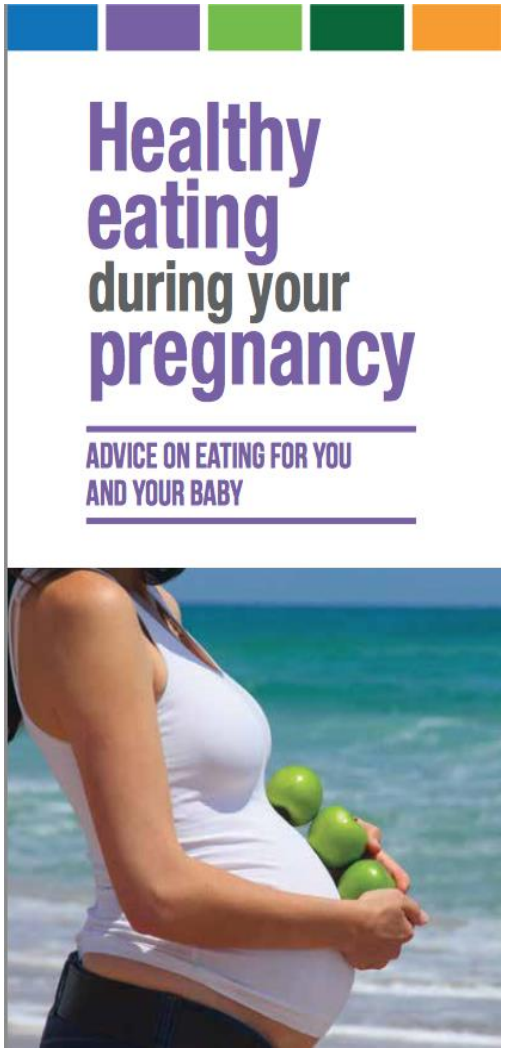
Issues in lactation

- Even higher requirements for protein and micronutrients
- Effect of poor nutrition on milk quality -> effect on infant growth and development



Dietary guidelines for pregnancy





Nine Months of Nutrition

Nine months of nutrition: nutrition for a growing baby and a glowing mum

During pregnancy the en
nutrients do change. Thi
look at what you should
possible.

Nutrition for a growing

0:00 / 11

Nine months of nutrition: the essential ingredients—your guide to the Mater Mothers' Hospital nutrition service

Introducing t
nutrition adv

The essen

He

Nine months of nutrition: pregnancy side-dishes—tips to manage common pregnancy side effects

Many women experience
feeling overfull. This pres
nourishing diet for the he

Nine months of nutrit

0:00 / 10

Nine months of nutrition: non-essential ingredients—helping you tell the difference between safe and unsafe foods in pregnancy

In pregnancy, there are food
foods and nutrients that we
presentation provides the m
safety (including Listeria), to

Non-essential ingredient

0:00 / 7:30

Nine months of nutrition: growing a baby—managing healthy weight gain

Weight gai
activity you
weight gain
Pregnancy

Growing

Nine months of nutrition: if you fail to plan, you plan to fail—quick and easy nutrition tips

When you are pregnant, you aren't eating for two, but you do need to eat twice as well. This video is about practical ways to get the best food for you and your growing baby every day.

If you fail to plan, you plan to fail—quick and easy nutrition tips.

Look for 4 or 5 star food safety ratings

Choose a la carte meals

Mater Mothers

Nutrient requirements in pregnancy post bariatric surgery

- Referral to a maternity dietitian
  - Hx of weight loss; GWG goals; expectations
  - Side effects (N&V; constipation; reflux) and management
  - Hx of dietary goal compliance; current intake; grazing; food texture
  - Ability/willingness to comply with the recommendations (follow up++)
- Supplements – change to pregnancy-specific one
- Nutritional complications

  Systematic review (Maggard et al, JAMA, 2008)
  - Nutritional problems in pregnancy after band or bypass – attributed to supplement non-adherence (Grade C)
  - 22 studies, 13 comparison studies (n=785); 9 case reports
  - Studies following BPD, severe nutritional deficiency requiring parenteral nutrition reported with many, but not all, relating to non-adherence
  - Increased incidence in NTD in some gastric bypass patients (n=6) noted as being non-adherent to supplements

Nutrient requirements in pregnancy post-bariatric surgery

(source: Fiona Sammut, APD, DAA webinar, 6/2014)

	Post-Surgery requirements (ASMBS)	RDI & UL Pregnancy (NHMRC)	NOTES
Iron	**45-60 mg (cf 200mg OD RCGP)**	27 mg/d UL = 45-70mg/d	Increased requirement due to decreased absorption (less gastric acid and bypass of sites)
B12	**1000 mcg/d (cf injections RCGP)**	2.6 mcg/d No UL	Deficiency risk is high due to decreased gastric acid and less intrinsic factor (for Bypass and GS). Estimate that patients only absorb 1% from oral form
Folate	400mcg/d **(5mg RCGP)**	**600-800 mcg/d** UL = 1000 mcg/d	Aim 600mcg/d from diet sources. Additional 400-500mcg from supplemental form
Vit D	**3000 IU/d**	2000 IU/d No UL	Use of pathology to determine if adequate levels
Calcium	**1200-1500mg/d**	1000-1300 mg/d UL = 2500mg/d	Decrease efficiency of absorption as less gastric acid and bypass of absorption sites (not in Lap Band)
Thiamin	**1-3 mg/d**	1.4 mg/d No UL	High risk deficiency if/with frequent vomiting
Iodine	**N/A**	**220 mcg/d** UL = 1100 mcg/d	Supplement 150mg/d
Vit A			Increased requirement in pregnancy, though high levels increase risk of teratogenicity. Unlikely increased risk deficiency unless malabsorption occurs. Unless a good reason to suspect deficiency, prudent to avoid supplements with Retinol or Retinyl esters. Betacarotene or mixed carotenoids are safe
Vit A, E,K			May be compromised especially in Bypass surgery - more likely if fat malabsorption present. Monitor biochem
Zinc & Copper			Increased requirement, important to ensure patients are meeting RDI

Nutrient requirements in pregnancy post bariatric surgery

Be aware of potential nutritional deficiencies and their signs & symptoms

- ***–Need to establish baseline nutritional status and correct deficiencies***
- ***–Counselling re appropriate GWG***

Protein malnutrition

- *Oedema; can be several years post surgery*

Anaemia

- *Fe, Zn, folate, B12 are all possible; also check blood loss*
- *Less common causes eg Zn, Cu, Se - Unexplained anaemia, poor wound healing, hair loss, neutropaenia, peripheral neuropathy, cardiomyopathy; note copper vs zinc absorption (check supplements)*

Calcium and vitamin D deficiency

- *May result in secondary hyperparathyroidism; replace as per previous slide*

Vitamin A deficiency

- *Suspect in patients with changes in night vision; especially if steatorrhoea or duodenal switch*

Thiamine

- *Suspect in patients with poor intake, persistent regurgitation and vomiting*
- *Early post op phase (anastomatic stricture), food intolerance, overtight band*
- *Wernicke's encephalopathy*

Pregnancy nutrient supplementation

Lap band

- Pregnancy specific supplement usually suffices

Bypass; Gastric sleeve

- Pregnancy specific multivitamin in addition to
- (most likely needing) calcium 600-1000mg (citrate form)
- B12 1000 mcg oral/day (or injections)
- Vitamin D 1500 IU (or more, depending on pathology and amount in multivitamin)
- ? + iron (depending on pathology and multivitamin)

Mater Mothers

Mater Mothers' Hospital

Pregnancy after Bariatric Surgery

Dr Janelle Nisbet
Senior Staff Specialist, Endocrinology and Obstetric Medicine
MAH, MMH

Exceptional People. Exceptional Care.

Pregnancy after Bariatric Surgery

- Reduced risk of
  - Macrosomia
  - Gestational diabetes
  - Hypertensive disorders of pregnancy
- Increased risk of
  - SGA
  - Preterm birth
- Advise women to defer pregnancy until 12-24 months post-surgery, ideally when weight has stabilised
- Increased rate of OCP failure after bariatric surgery
- Higher rates of unplanned pregnancy in adolescents after bariatric surgery – double rates of general adolescent population

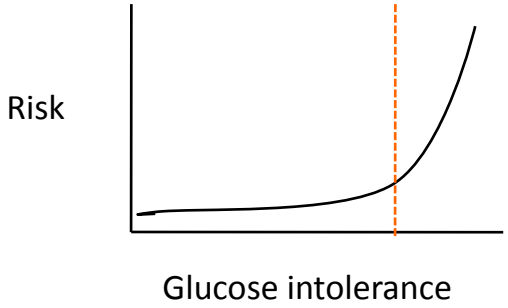
Medical Management

- Monitor for nutritional deficiencies – supplement as required
- Pregnancy multivitamin with additional calcium / Vitamin B12 / iron / folate
- FBC / iron studies / folate / thiamine / vitamin B12 / calcium / Vitamin D – check at least every trimester
- Identified deficiencies – replace and monitor monthly

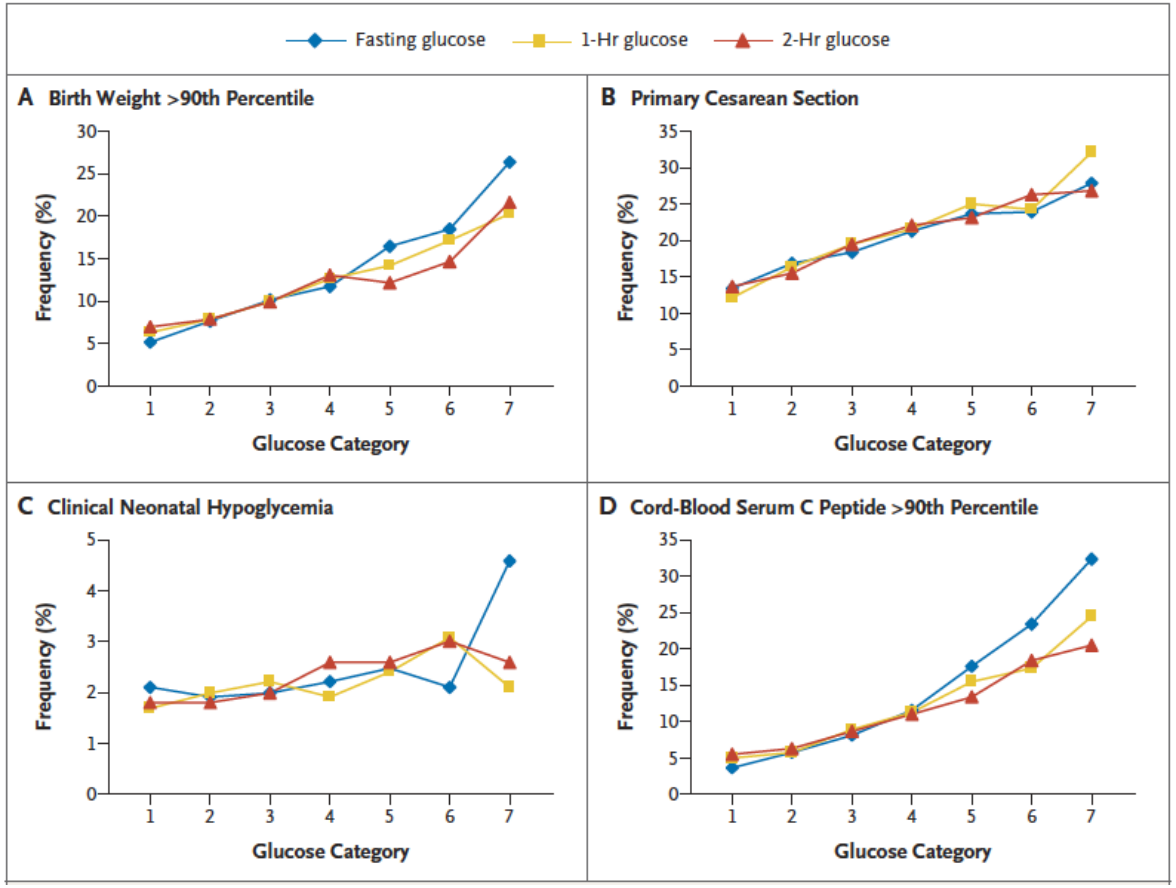
- Screening for GDM
  - Glucose tolerance test not well tolerated in women with previous Roux-en Y gastric bypass
  - Dumping syndrome – rapid fluid shifts, hyperinsulinaemic response and reactive hypoglycemia
  - Alternative testing options – HbA1c, fasting and post meal BGLs for 1 week

HAPO study

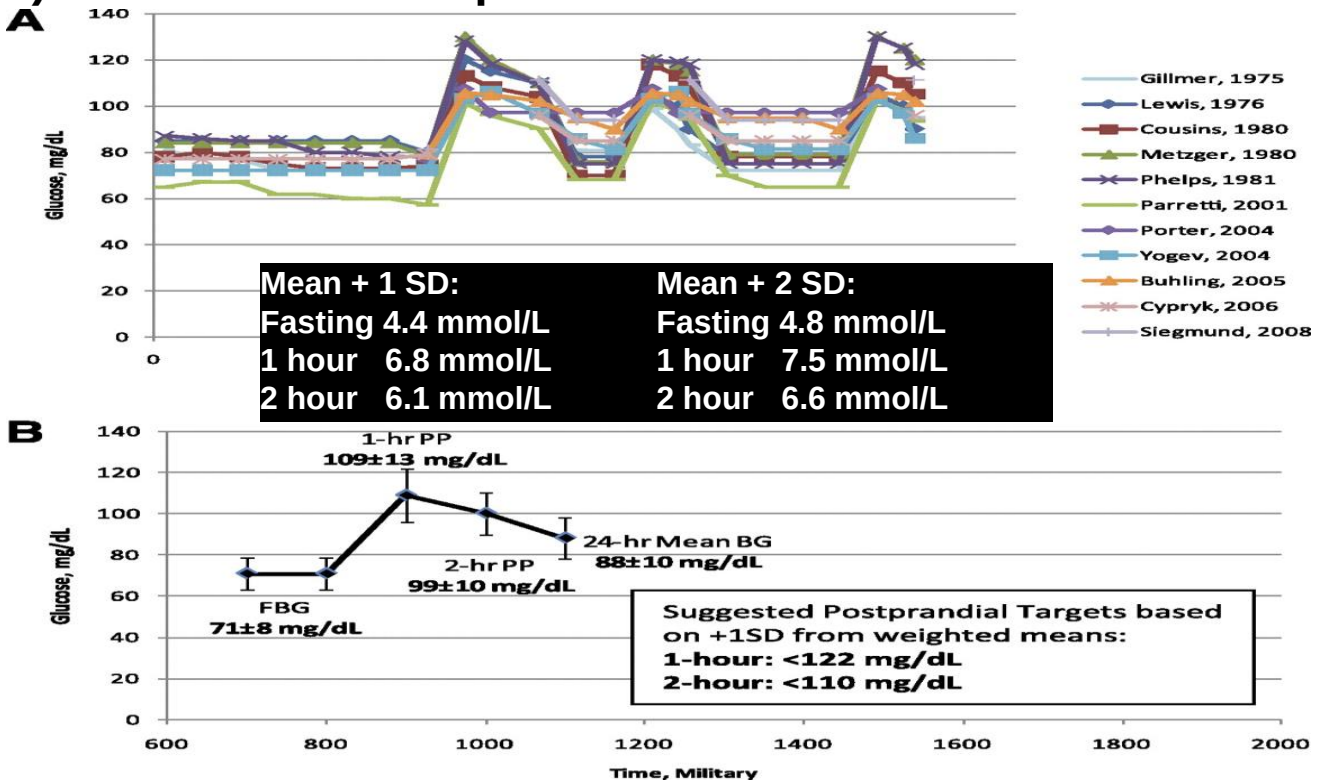
- Data from 25 000 women
- Plotted adverse outcome against GTT result
- Ideally . . .



The unfortunate reality….

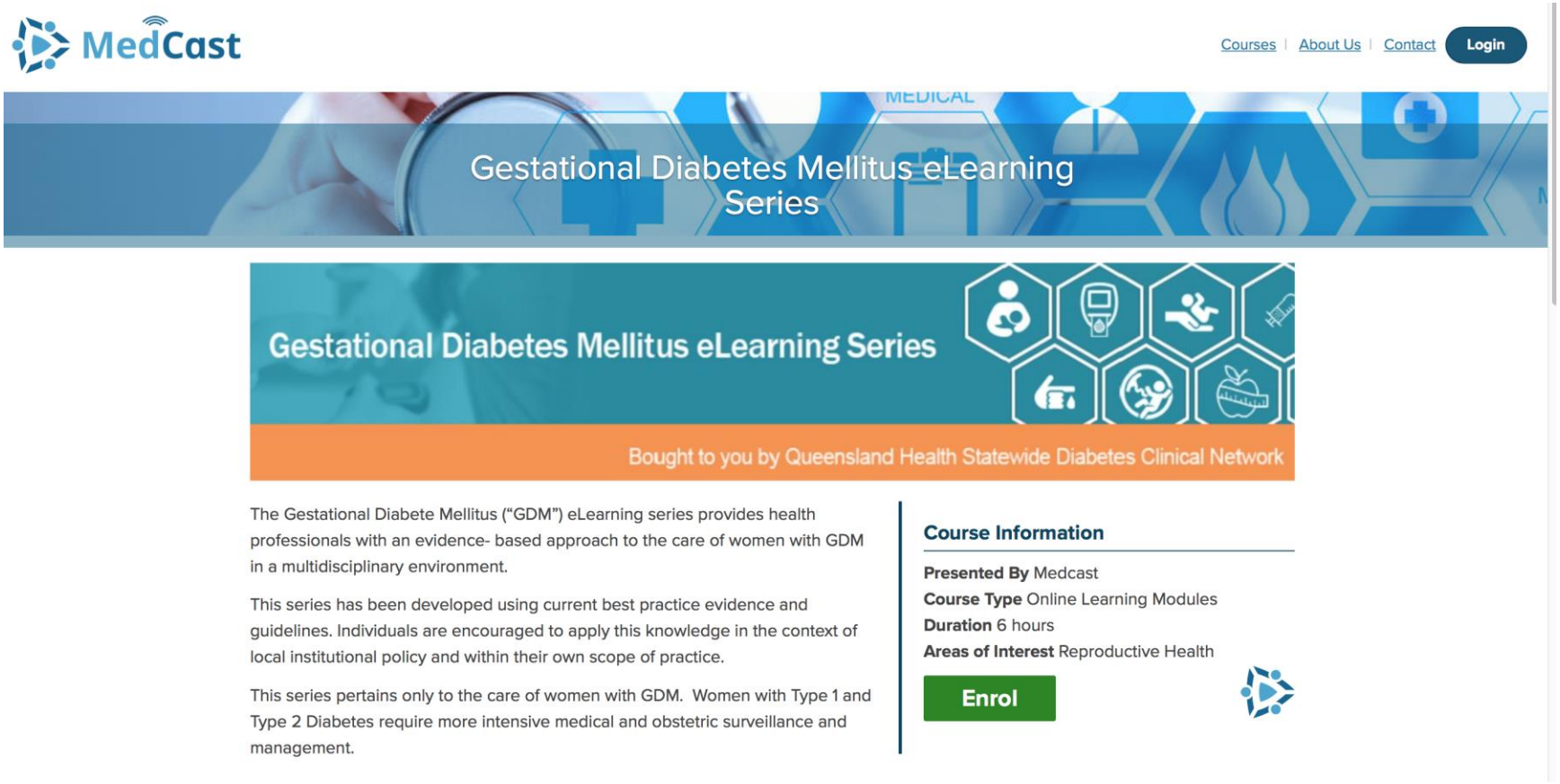


Glycemia in normal pregnancy (gestational week 33.8 ± 2.3) across 11 studies published between 1975 and 2008.



Hernandez T L et al. Dia Care 2011;34:1660-1668

GDM eLearning Series



Mater Mothers

Mater Mothers' Hospital

Maturity-onset diabetes of the young

Dr Janet Warner
Director of Mater Pathology

MODY

- Mater have been funded to evaluate the clinical, ethical and economic factors in targeted genetic testing for maturity-onset diabetes of the young (MODY) in gestational diabetes. During this study, women with GDM will be invited to have genetic testing for MODY if they are at or before the 28 weeks mark.
- The purpose of this project is to see whether all women diagnosed with GDM should be offered this testing.
- Further information is available here or by contacting the research nurse, Carolyn Bergan, at mbwhResearch@mater.org.au or 3163 7919.

The MODY in GDM project

Maturity-onset diabetes of the young

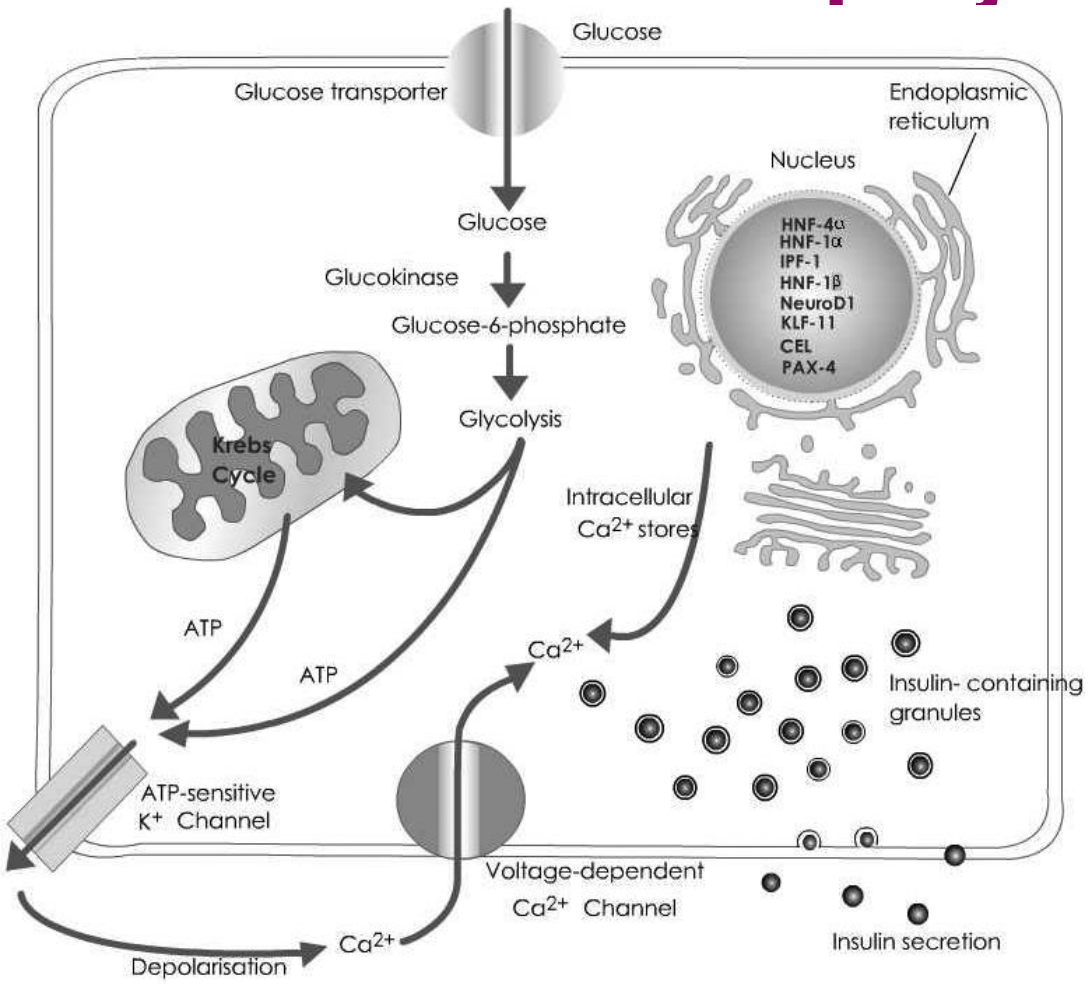
Autosomal dominant inheritance

Heterogeneous group of about 13 types

1-2% of diabetes diagnoses – prevalence probably underestimated due to lack of genetic testing

Relevance in pregnancy and lifetime treatment

The MODY in GDM project



MODY in pregnancy

GCK-MODY (30-50% of MODY)

Non-affected fetus + ‘un’treated mother = macrosomic fetus

Affected fetus + treated mother = restricted fetal growth

HNF1A-MODY (30-50% of MODY)

Low dose sulphonylurea

HNF4A-MODY (2-5% of MODY)

Low dose sulphonylurea

The MODY in GDM project

Genetic testing of 480 women with GDM
– GDM diagnosis by K28, first GTT, must consent to family testing if positive
– Delivering at Mater Mothers' (need outcomes data)
– MODY panel of 13 genes – massively parallel sequencing
– Participants do QoL questionnaires online at 3 time points
Appropriate management of MODY positive
– Serial ultrasound – GCK-MODY
– Genetic counselling at GHQ and family testing

The MODY in GDM project

Outcomes:

- Prevalence in GDM
- Is it cost effective to offer genetic testing to all women with GDM?
  - only those with a certain phenotype?
- Social acceptance of the test among women with GDM?
- Raise the clinical workforce confidence and expertise in genetic testing
  - Write some guidelines

Session two
Obstetric complications

Time	Task	Who
12:30 am	Small group work – Obstetric Complications PV Bleeding Current controversies Obstetric emergencies Multiple pregnancies	 Dr Albert Jung Dr Sarah Janssens Dr Julie Buchanan Dr Huda Safa
1:50	Group discussions/learnings	All
2:30 pm	Afternoon tea	All

So, how does this work?

- Ladies and gentlemen, you have the undivided attention of your speaker at your table for the next 20 minutes. Please listen respectfully but feel free to ask questions and seek clarification. A bell will sound at 18 minutes and your speaker will have to move to the next table at the second bell, which will sound at the 20 minute mark.
- We have 35 minutes for group discussion prior to afternoon tea, so if you think of a question after the 20 minutes is up, you will have another opportunity.
- Your time starts now!

US/S costs—clinics compared

Accurate as of March 2017—not an exhaustive list, not Mater endorsed!

Practice	NTS *($60 rebate)*	Morphology *($85 rebate)*
City Scan	*$200*	*$180 (HCC rebate, BB viability, dating and follow up scans if HCC)*
Exact Radiology	*$180 (available at Sunnybank, Chapel Hill, Ipswich N and Rochedale)**	*$150**
Oz Radiology	*$150 (Morningside and Carina)**	*$150 (HCC BB) book 2-4 weeks ahead**
Qld Xray	*$230 Women's Diagnostic $215 at Wynnum, Cleveland, Coorparoo*	*$225/$215 BB viability, dating and single follow up scan if HCC*
Qscan	*$200*	*$235 ($151 - rebate $51 for all other pregnancy scans)*
QDI	*$200 not available at all sites (book well in advance)*	*$170**
So + Gi (4D)	*$355 ($587.50 for NIPT + dating scan, $110-$120 rebate)*	*$355 ($120-$150 rebate)*

**viability, dating scans and a single third trimester/follow up scans BB*

NTS + NIPT?

- Please order NTS if you want a first trimester scan + NIPT as your early anomaly testing
- This ensures the correct, detailed scan is booked
- This provides the appropriate rebate for the woman (so long as we indicate a reason)
- Let radiology know if you have organised a NIPT and if you do or do not want the calculation of risk
- PAPPA provides some risk assessment for pregnancy complications, however it is debatable whether or not this warrants the additional testing

Snapshot

In 2012 and 2013
124,832 women gave birth to 126,881 babies:

- 30.1 per cent of mothers had not previously given birth
- 6.1 per cent of mothers identified as Aboriginal or Torres Strait Islander
- 75.8 per cent were aged 20-34 years, 19.3 per cent aged 35 years or more and 4.9 per cent under 20 years old
- 33.3 per cent of births were by caesarean section (of which 12.3 per cent of all births were emergency caesarean and 21 per cent caesarean without labour)
- 17.8 per cent of babies were admitted to a neonatal intensive care unit and/or a special care baby unit
- There were eight maternal deaths due to causes directly or indirectly related to the pregnancy. There were also four maternal deaths due to incidental causes and 28 late maternal deaths[1]
- The leading cause of death of women during pregnancy and within 365 days of the end of pregnancy was suicide
- There were 871 stillbirths and 401 neonatal deaths (the combined perinatal mortality rate is 10 per 1000 births), most commonly due to congenital abnormality, unexplained antepartum death and spontaneous preterm birth
- Congenital anomalies (one or more) were recorded in 60.7 babies per 1000 born in Queensland in 2012 and 2013. These babies were more likely to be born preterm and with a low birthweight.

1 A late maternal death is the death of the mother more than 42 and fewer than 365 days after the end of the pregnancy.

Maternal and Perinatal Mortality and Morbidity in Queensland

Queensland Maternal and Perinatal Quality Council Report 2015

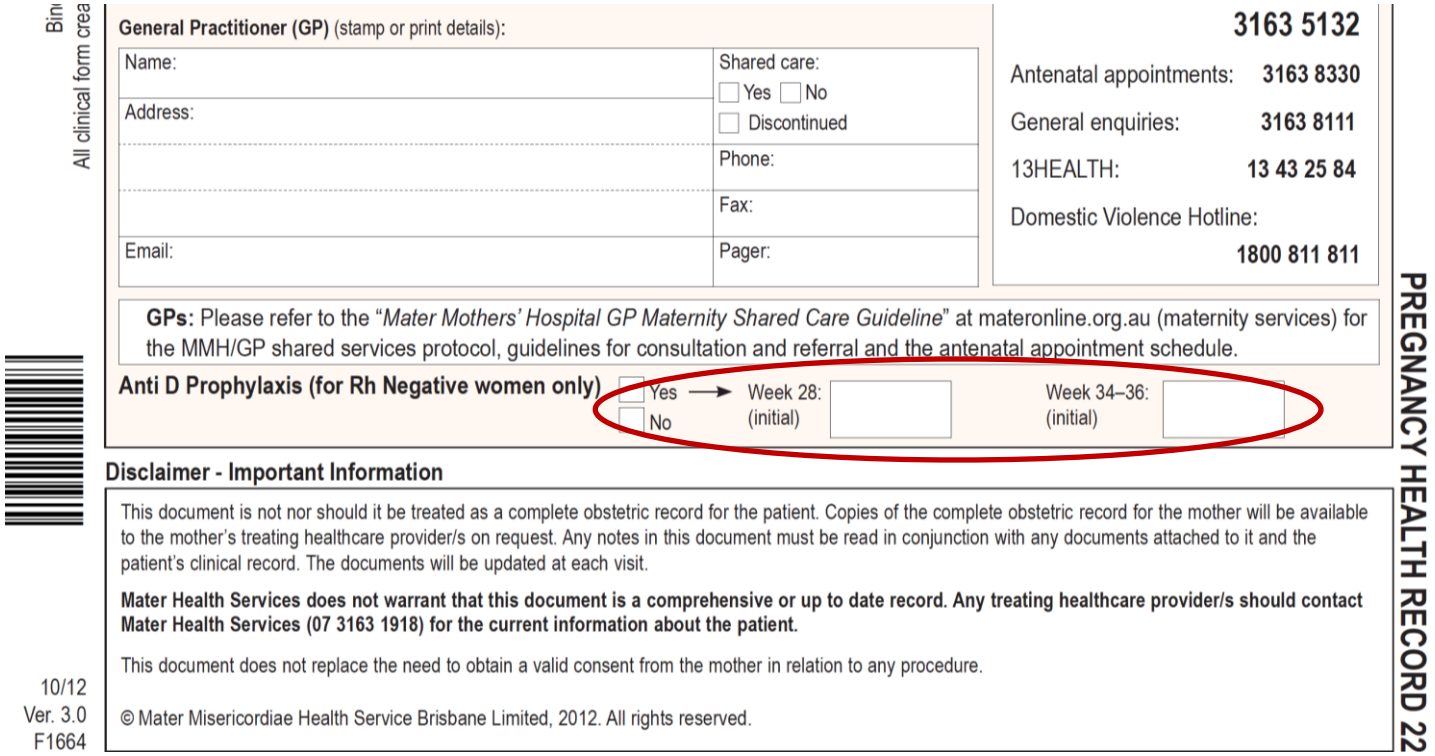
Mater Mothers' Hospital

Routine Anti-D prophylaxis

Anti-D can be ordered from the Red Cross via QML or Mater Pathology, who will deliver it to surgeries.

Please record the routine administration at 28 and 34-36 weeks on page 1 of the women's section of the PHR.

625 IU (125 µg) is recommended for ALL Rh negative women unless they are antibody positive.



Bin
All clinical form crea

General Practitioner (GP) (stamp or print details):

Name:	Shared care: ☐ Yes ☐ No ☐ Discontinued
Address:	
	Phone:
	Fax:
Email:	Pager:

3163 5132

Antenatal appointments: **3163 8330**

General enquiries: **3163 8111**

13HEALTH: **13 43 25 84**

Domestic Violence Hotline: **1800 811 811**

GPs: Please refer to the "*Mater Mothers' Hospital GP Maternity Shared Care Guideline*" at materonline.org.au (maternity services) for the MMH/GP shared services protocol, guidelines for consultation and referral and the antenatal appointment schedule.

Anti D Prophylaxis (for Rh Negative women only) ☐ Yes → Week 28: (initial) ☐ No Week 34–36: (initial)

Disclaimer - Important Information

This document is not nor should it be treated as a complete obstetric record for the patient. Copies of the complete obstetric record for the mother will be available to the mother's treating healthcare provider/s on request. Any notes in this document must be read in conjunction with any documents attached to it and the patient's clinical record. The documents will be updated at each visit.

Mater Health Services does not warrant that this document is a comprehensive or up to date record. Any treating healthcare provider/s should contact Mater Health Services (07 3163 1918) for the current information about the patient.

This document does not replace the need to obtain a valid consent from the mother in relation to any procedure.

10/12
Ver. 3.0
F1664

PREGNANCY HEALTH RECORD 22

Routine Anti-D prophylaxis QHealth

Please record the routine administration on page 7 of the clinician's section of the PHR.

Immunisation

Anti D Prophylaxis (Rh D negative women only)	☐ Not required ☐ 28 weeks If *no*, reason: Batch number: ☐ 34–36 weeks If *no*, reason: Batch number:	Print name: Designation: / Signature: Print name: Designation: / Signature:	
dTpa (diphtheria, tetanus and whooping cough) vaccine	☐ Yes ☐ No Date given: / / Gestation: weeks Batch number:	Print name: Designation: / Signature:	
Influenza vaccine	☐ Yes ☐ No Date given: / / Gestation: weeks Batch number:	Print name: Designation: / Signature:	
Other (specify)	Date given: / / Gestation: weeks Batch number:	Print name: Designation: / Signature:	

Administration of Anti-D

- Rh D immunoglobulin should be given slowly by deep IMI, using a 20 gauge needle within 72 hours of a sensitising event
- Document in PHR
- RhD immunoglobulin can be ordered upon receipt of a signed and completed request form and delivered via 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.

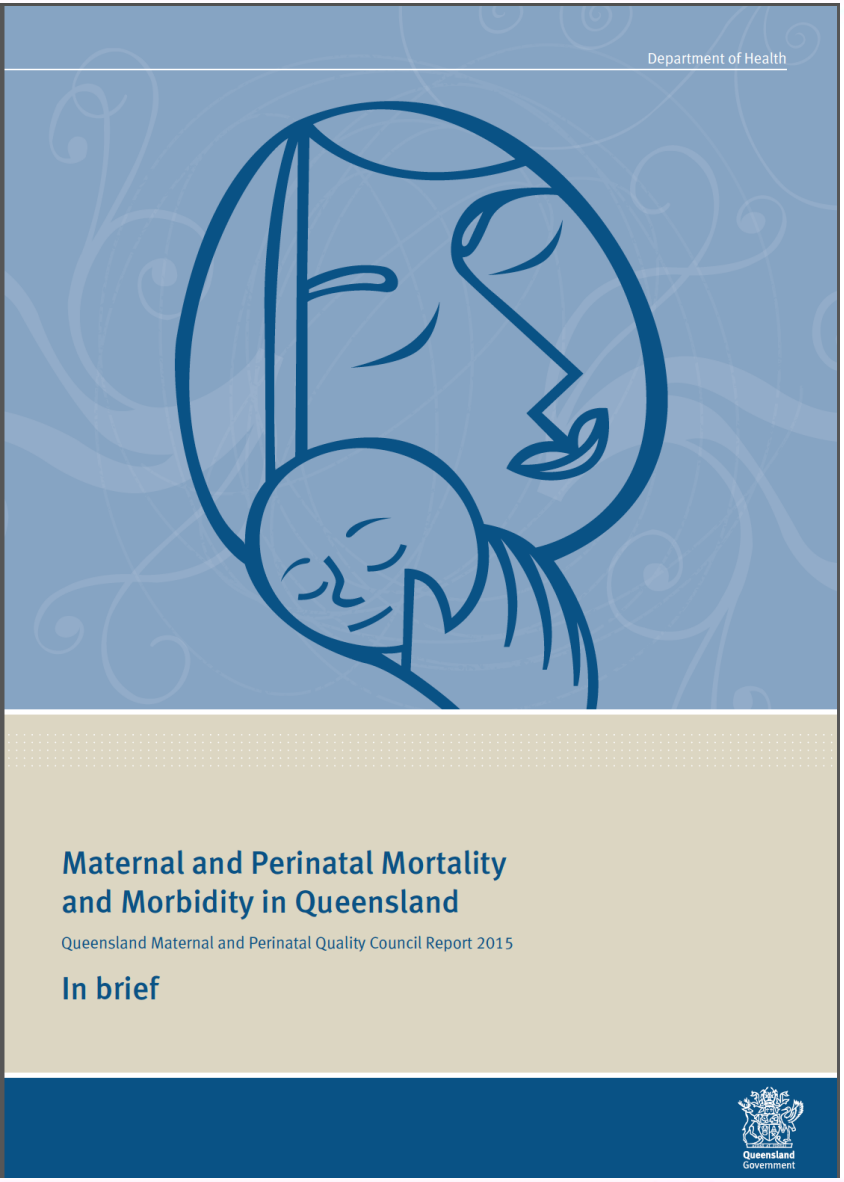
Mater Research

- A RSV immunisation study is being conducted by the Mothers', Babies and Women's Health Research Team for women with an EDC before 1/8/18, who are 28-36 weeks gestation and with at least a 2/52 gap between flu/pertussis vaccination and RSV
- Funding of $100 per successful referral is available to GPs who refer eligible patients to this study
- If you are interested, please follow up as per the information in your packs, and you will be provided with more information via a follow up contact

Afternoon Tea

Welcome to our final session
Perinatal Mental Health

Time	Task	Who
3 pm	Small group work—Perinatal Mental Health The consumer perspective Mental illness in the perinatal period Screening, referral pathways Medication use in pregnancy and breastfeeding	All Debbie Spink Dr Lyndall White Dr Wendy Burton Dr Treasure McGuire
4:20	Group discussion/learnings, Q & A	All
4:45	Wrap up	All
5 pm	Finish!	All



Link

Women giving birth

30.1% of mothers had not previously given birth

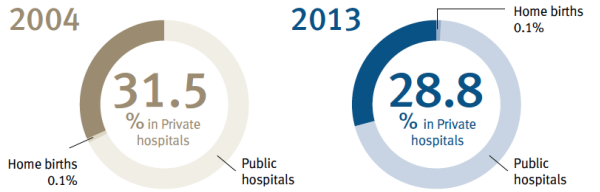
4.9% mothers were ‹ 20 years

75% mothers were 20-34 years

19.3% mothers were 35 › years

6.1% of mothers identified as Aboriginal or Torres Strait Islander

The percentage of women accessing private hospitals to give birth has fallen from 31.5 per cent since 2004 to 28.8 per cent in 2013.

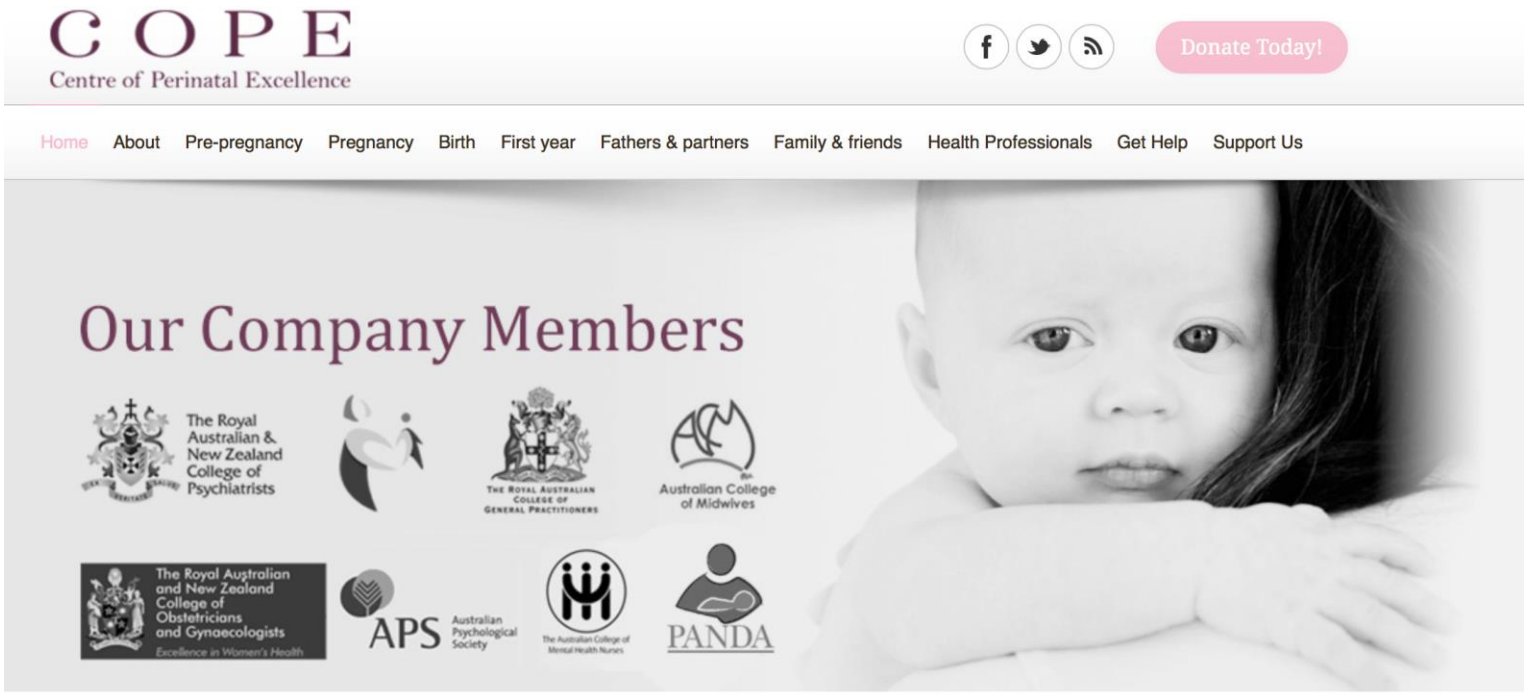


Women giving birth in private hospitals has fallen from **31.5%** to **28.8%**

Between 2004-2013 the majority of women gave birth at gestations between 37 and 42 weeks (91.2 per cent to 91.9 per cent).

Women giving birth in private hospitals were more likely to have a caesarean without labour or induction of labour, and to give birth in the 37 to 39 week gestation period.

COPE



Ready to cope

Ready to COPE

Motherhood is many things...
and easy isn't always one of them.

Be informed and feel reassured.

Sign up to receive **free** supportive emails as you travel through the emotional journey of pregnancy and early motherhood.

Name | Your email address

Postcode | Expected / actual date of birth *

How did you hear about Ready to COPE?

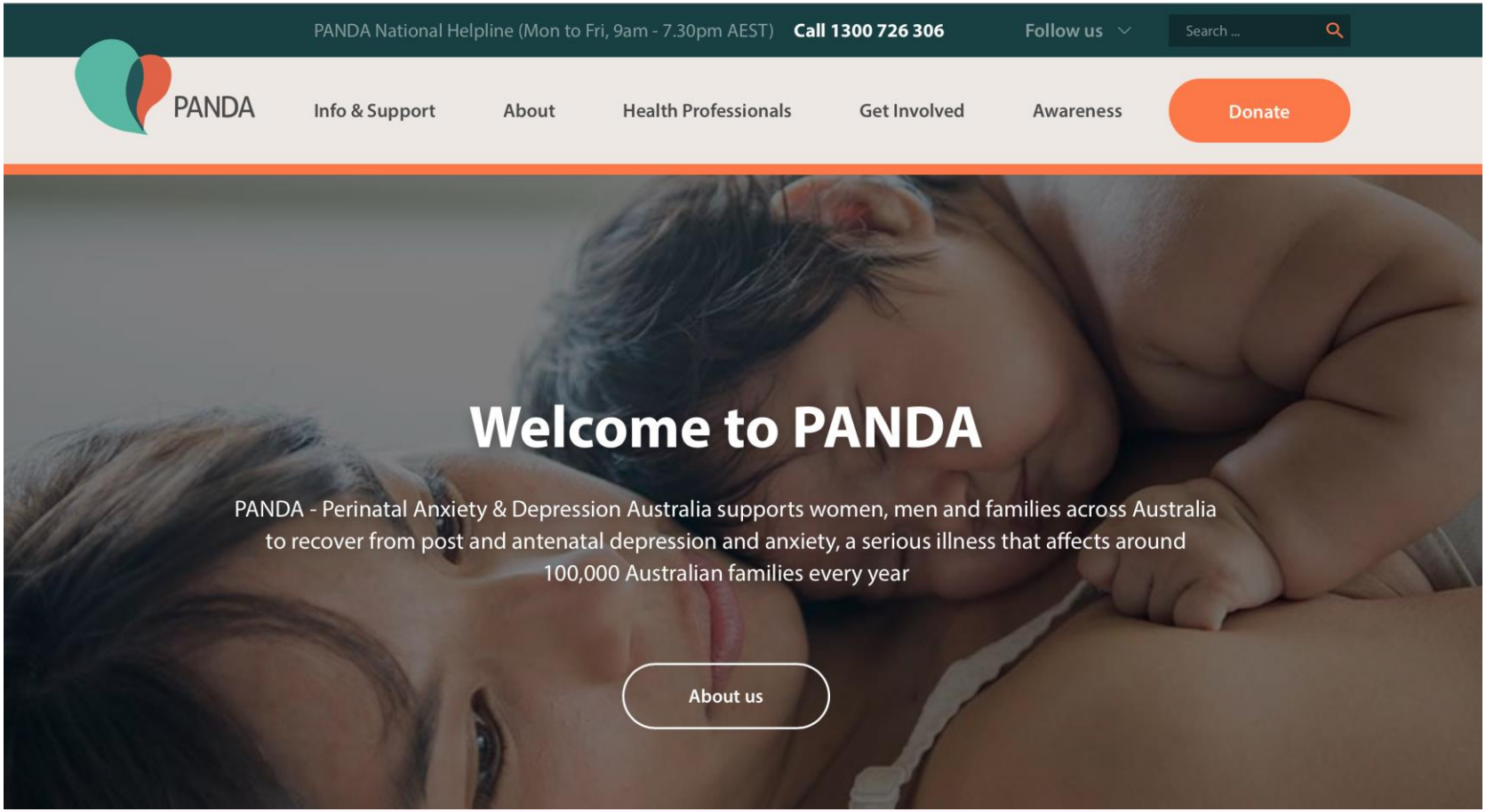
I have reviewed and agree to the terms of COPE's Privacy Policy

Yes, Sign me up! | FAQs about Ready to COPE

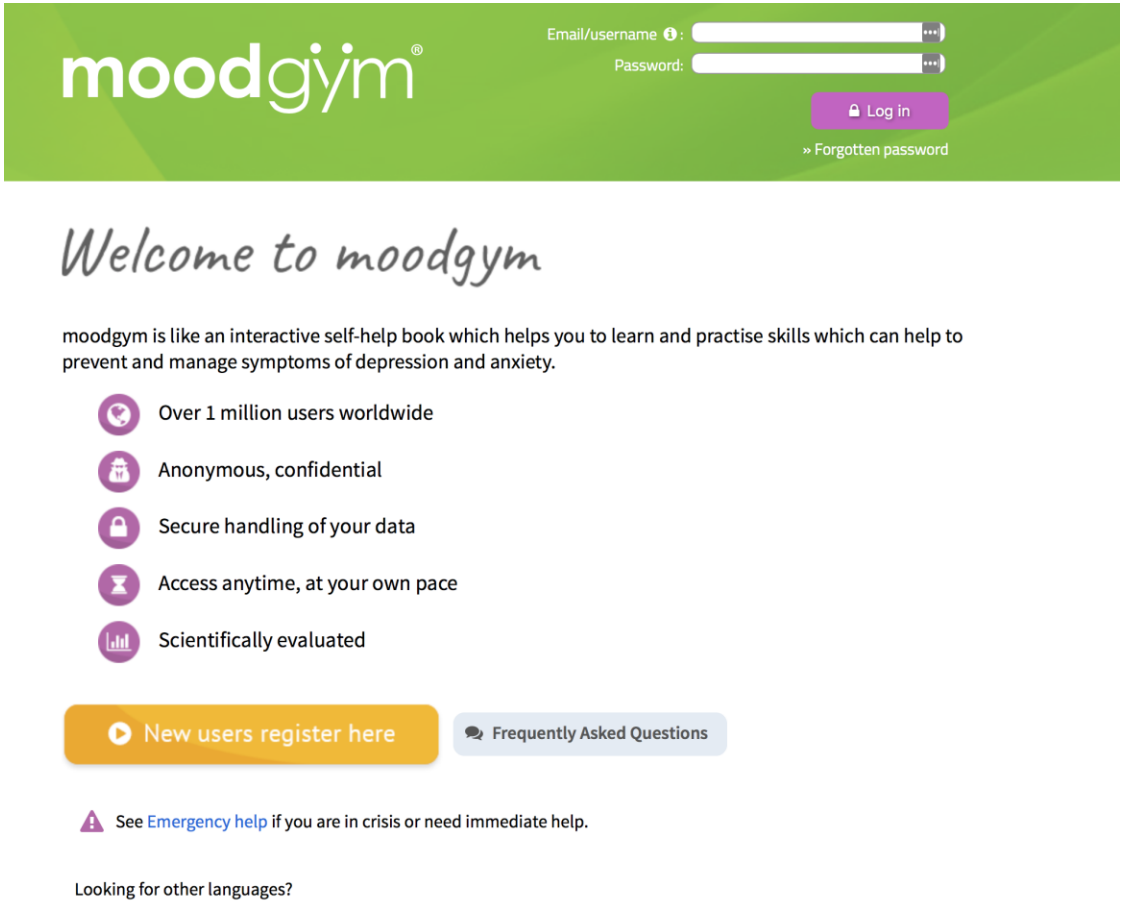
* We ask you to share your baby's due/birth date so that the information in our emails will arrive when you need it the most.

Resources for healthcare providers | Resources for other service providers

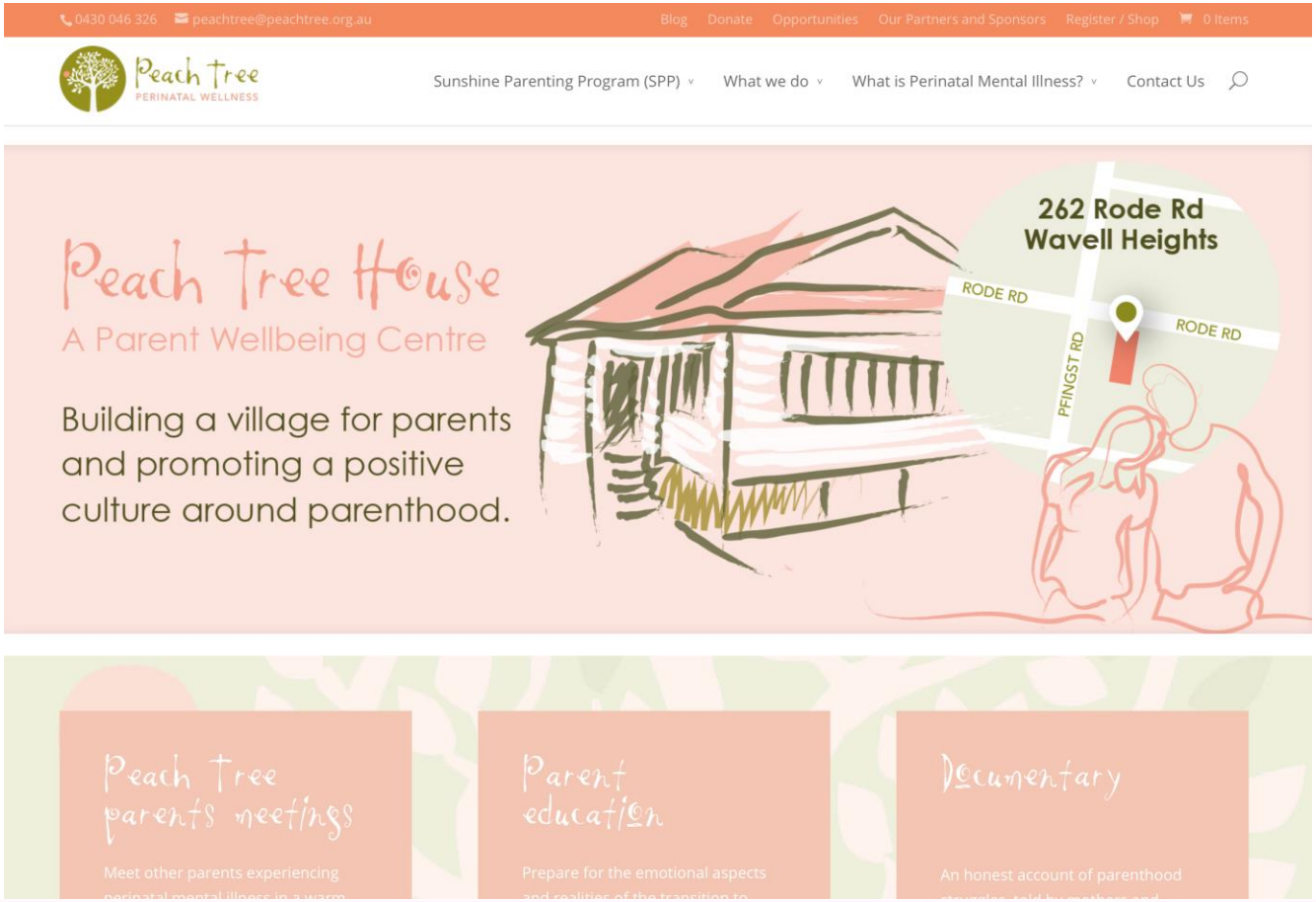
PANDA



moodgym



Peach Tree



Mind the Bump

What Were We Thinking

Medicare items

16500 or 16591 can be combined with

- 3, 23, 36 or 44 (so long as each item number requirements are met)
- 2713 Professional attendance in relation to a mental disorder, at least 20 minutes in duration, involving taking relevant history, identifying the presenting problem, providing treatment and advice and, if appropriate, referral, and documenting
- 2700, 2701, 2715, 2717 (MHAP with or without training)
- 2712 (MHAP Review)

Must be for separate issues and noted as such when billing. For auditing purposes, I suggest you itemise the consultation e.g. Issue 1 xyz; Issue 2 antenatal care

Management of mental illness in the perinatal period

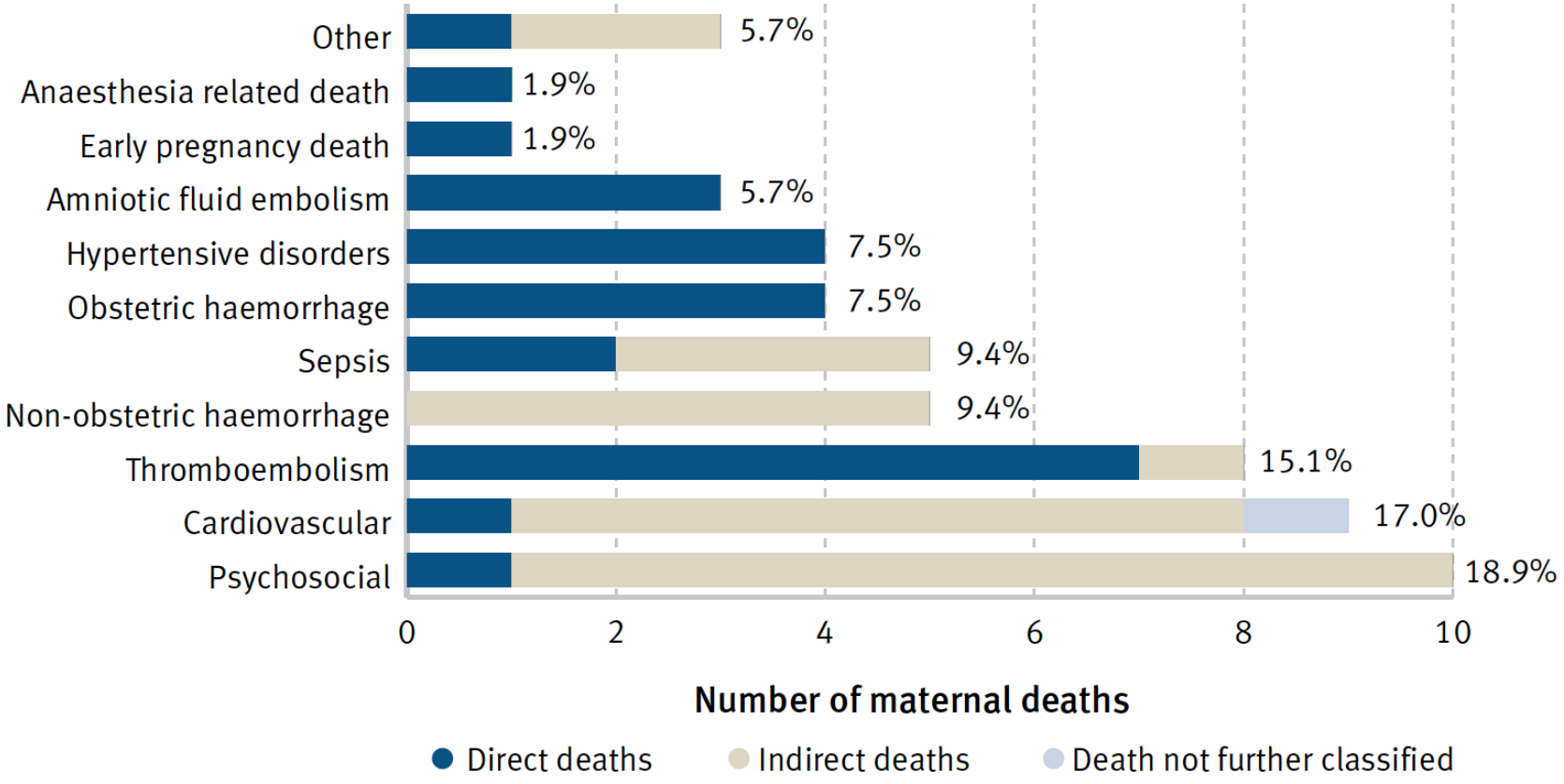
If public specialist assessment is required:

Metro South Acute Care Services (1300 MH CALL = 1300 64 22 55) offer initial triage and assessment for severe or complex presentations. They can also provide expert advice on management and advice around medications

Maternal and Perinatal Mortality and Morbidity in Queensland

Queensland Maternal and Perinatal Quality Council Report 2015

Figure 2: Causes of maternal deaths (direct and indirect deaths), Queensland 2004 to 2013



It is concerning to note that suicide was, and continues to be, the leading cause of death in women during pregnancy and within 365 days of the end of pregnancy.

We believe that the reported number of mothers who suicide in association with pregnancy is underestimated and is actually greater than is counted in these figures, as there is a lack of available information regarding the number of miscarriages and terminations of pregnancy in Queensland.

It is essential that we identify pregnant women and new mothers who might benefit from appropriate care from mental health professionals.

It is particularly important that we show a greater appreciation for the potential for depression and other mental health issues, particularly in association with the termination of pregnancy. Practitioners referring women for termination of pregnancy or undertaking termination of pregnancy need to ensure adequate follow-up for these women, especially if the procedure is undertaken due to mental health concerns.

Equally, active follow-up of the women known to be at risk of depression from prenatal and postnatal screening needs to be universal and effective.

> The rate of suicide of new mothers is alarming to the QMPQC and, as health professionals, we need to work together with our colleagues and the broader community so we can reduce this leading cause of death.
>
> *Professor David Ellwood, Chair QMPQC*

Good practice points

Women with a history of serious mental illness (e.g. schizophrenia, bipolar affective disorder, schizoaffective disorder) should routinely be offered mental health follow-up for at least the first twelve months post-partum. The woman's GP would be the most appropriate health practitioner to undertake such follow-up in most circumstances.

Mental health screening is performed almost universally in the public sector but less so in the private sector. Use of the Edinburgh Post Natal Depression Score in the private sector may help to identify women who warrant further follow-up.

RACGP White Book

Specific populations

Pregnant women

GPs involved in obstetric or shared antenatal care need to be aware that pregnancy is a risk factor for intimate partner abuse. Evidence suggests that four to nine women in every 100 pregnant women are abused.[44]

We ask pregnant patients about smoking, alcohol and breastfeeding, and we also need to screen for intimate partner abuse.[3,2]

For many women, pregnancy and the post partum period exacerbates the violence and threats within their relationship.[45] For some, pregnancy may even provoke it. A violent and jealous partner may resent the pregnancy because he is not prepared to 'share' her. There may be financial or sexual pressures, which are compounded by the pregnancy.

Abused pregnant women are twice as likely to miscarry than non-abused pregnant women. An abusive partner will often target the breasts, stomach and genitals of their pregnant partner.[3] Often the abuse will start with the first pregnancy, and as a result the woman may avoid prenatal check-ups. Women who do not seek antenatal care until the third trimester should raise suspicion.

Consider asking about intimate partner abuse in the antenatal period.[3]

How do you ask women about mental illness or DV?

"In addition to the blood tests and ultrasound scans we recommend in pregnancy, we ask every woman questions about how she is feeling and if she is safe. Anxiety, depression and domestic violence are common conditions and they may occur for the first time or get worse in pregnancy."

R u ok?

"Are you safe?"

Table 3. Questions and statements to make if you suspect intimate partner abuse

- Has your partner ever physically threatened or hurt you?
- Is there a lot of tension in your relationship? How do you resolve arguments?
- Sometimes partners react strongly in arguments and use physical force. Is this happening to you?
- Are you afraid of your partner? Have you ever been afraid of any partner?
- Have you ever felt unsafe in the past?
- Violence is very common in the home. I ask a lot of my patients about abuse because no-one should have to live in fear of their partners.

Table 5. Possible validation statements if a patient discloses intimate partner abuse

- Everyone deserves to feel safe at home
- You don't deserve to be hit or hurt and it is not your fault
- I am concerned about your safety and wellbeing
- You are not alone; I will be with you through this, whatever you decide. Help is available
- You are not to blame; abuse is common and happens in all types of relationships
- Abuse can affect your health (and that of your children).

Evidence for screening?

Depression appears to be one of the strongest clinical predictors of intimate partner abuse. One in five currently depressed women attending Victorian general practices has experienced severe physical, emotional and sexual abuse by a partner or ex-partner in the past 12 months.[36] Multiple physical symptoms are also a key indicator of abuse.[28]

Studies show that there is a need for patients to be encouraged to discuss abuse and to see it as affecting their health. We need to have a high level of suspicion and to be able to ask direct questions in a sensitive way. There is insufficient evidence for screening in clinical settings,[3,2] with the possible exception of antenatal care. However, there should be a low threshold for asking about abuse, particularly when underlying psychosocial problems are suspected. Possible questions to ask and statements to make are listed in *Table 3*.

Mater Mothers

Mater Mothers' Hospital

The last minute, extra bits!

Exceptional People. Exceptional Care.

Digital preconception tool

- Mater are working on the development of a digital preconception tool for women with diabetes.
- Testing has begun on a platform which collates patient data and generates a digital referral. It also integrates treatment guidelines, provides meaningful graphic representation for patients and alerts the clinician to missing essential investigations. The aim of this "platform" will be to provide GPs with tools to prepare/track and refer patients, digitally, for specialist review.
- The initial beta testing will occur in the Mater preconception clinic
- If you are interested in doing some beta testing (with dummy or de-identified data) from the referrers perspective, please contact Dr Jo Laurie on Josephine.Laurie@mater.org.au There would some re-numeration for your time.
- The eventual aim is to pair the Auxita system with our electronic medical records to allow automated population of data fields.

Preconception (or early pregnancy) genetic testing

- There are a number of commercial options, from testing for individual components such as Fragile X, Cystic Fibrosis and spinal muscular atrophy (which together have an incidence rate similar to that of Trisomy 21) to combinations of these 3 (such as the Prepair test) through to the Preconception screen, which tests for 590 separate genetic conditions.
- SNP, QML and Mater offer the Fragile X/CF/SMA testing for ~$400 for all three, single testing is less (no Medicare rebate) and GPs can follow the links in the Prepair website for consumer and clinician resources, as well as referral forms.
- Mater is partnering with the Victorian Clinical Genetics Service (VCGS) to bring the Prepair option to Brisbane. In addition to the online resources, women can call a genetic counsellor at VCGS to discuss their options.
- The Preconception Screen costs $750 per person or $1400 for a couple.

New private MOC 2017

- Continuity of midwifery carer, Kaitlyn Reid RM, working with Dr Will Milford, Obstetrician at Kindred Rooms will be at East Brisbane. Out of pocket expenses for care ~ $1 500*
- Known gap model with mix of private midwifery and obstetric care (but not a continuity of care model) Hatch Maternity ~ $990* Rooms at South Brisbane

* excluding pathology/radiology, extra visits, PAC etc and assuming private obstetric cover

Self insurance

- Women who wish to self fund private maternity care can get a quote from the Mater Mother's Finance Department by ringing switch on 3163 8111 and asking to be put through
- They should expect to be asked to put a $10 000 deposit down and if there are complications, this can escalate rapidly (e.g. NICU admissions)
- For obvious reasons, this is not actively recommended

Choosing your maternity care

Mater Mothers' Hospital acknowledges that pregnancy is an exciting time for you and your family, and offers several options for maternity care to meet your individual needs.

When your GP confirms your pregnancy, they will send a referral to Mater Mothers Hospital's Antenatal Clinic. We aim to process referrals within two weeks; however, this can take several weeks depending on how many weeks pregnant you are at the time of referral and whether or not you have any medical issues.

You will then receive a letter providing details of your first antenatal clinic appointment which is usually scheduled when you are about 12 to 14 weeks pregnant. At this initial appointment you can discuss your preferred option for maternity care with the midwife.

Often, due to demand, there can be delays to our processes. Please contact your GP if you have any concerns about your referral.

Your choice of care will be affected by:

- your wishes
- complications that arose in a previous pregnancy
- any medical conditions that you now have
- conditions that may arise in this pregnancy
- where you reside.

Mater Mothers' Hospital provides the following choices for your maternity care:

- General Practitioner (GP) shared care
- public obstetric care
- midwifery care

Models of care information

Read more information about Mater Mothers' Hospital choices for maternity care.

General Practitioner (GP) shared care

If there are no complications with your pregnancy, your GP can provide your antenatal care from their practice. This is beneficial if your GP will be the main healthcarer for you and your family after your baby is born.

Developing a birth plan
Shared Care GPs
Specialists

Visiting Hours

10 am to 1 pm
3 pm to 8 pm
Rest period 1 pm to 3 pm

Contact Details

Raymond Terrace,
South Brisbane QLD 4101

For general enquiries phone:
07 3163 1918 or **07 3163 1919**

Location & Parking

Midwifery Group Practice

Quick Links

Pregnancy—Midwifery Group Practice

Mater's Midwifery Group Practice (MGP) is designed to ensure that you receive dedicated, consistent care throughout your pregnancy, labour and birth, and during the early weeks after your baby is born. Your partnership with your 'named' midwife will mean that you will get to know each other very well, along with other MGP midwives

The program cares for women who are generally well, and have little risk of complications. If complications do arise, the midwives liaise with Mater Mothers' Hospital's obstetric team, so that you and your baby will receive the specialist care you need, while still being supported by your midwife.

How to book into the program

If you wish to participate in Mater's MGP you should be:

- planning to have a natural birth with no unnecessary interventions

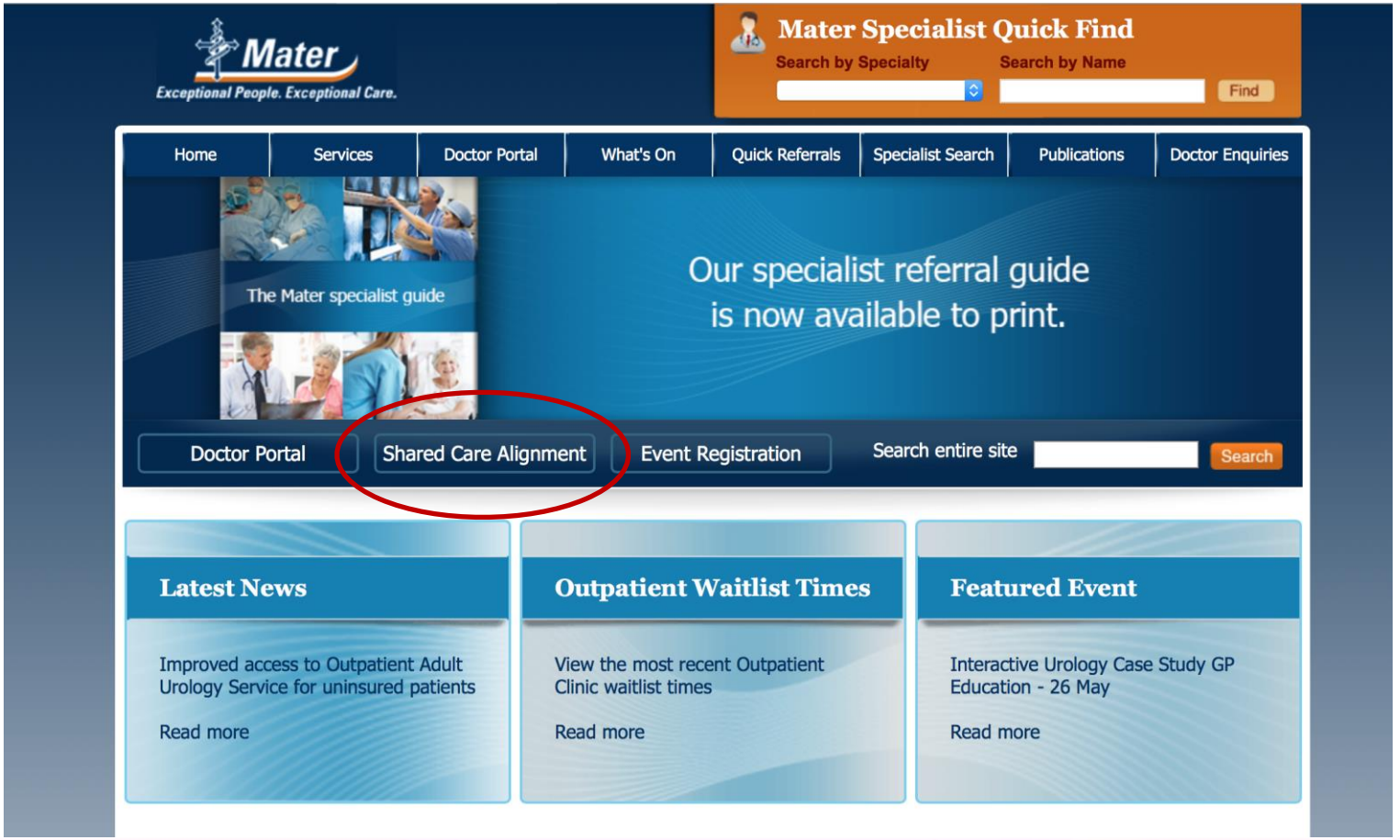
PDF available for downloading at BSPHN or page 48 of the Mater Guideline

Pregnancy Checklist

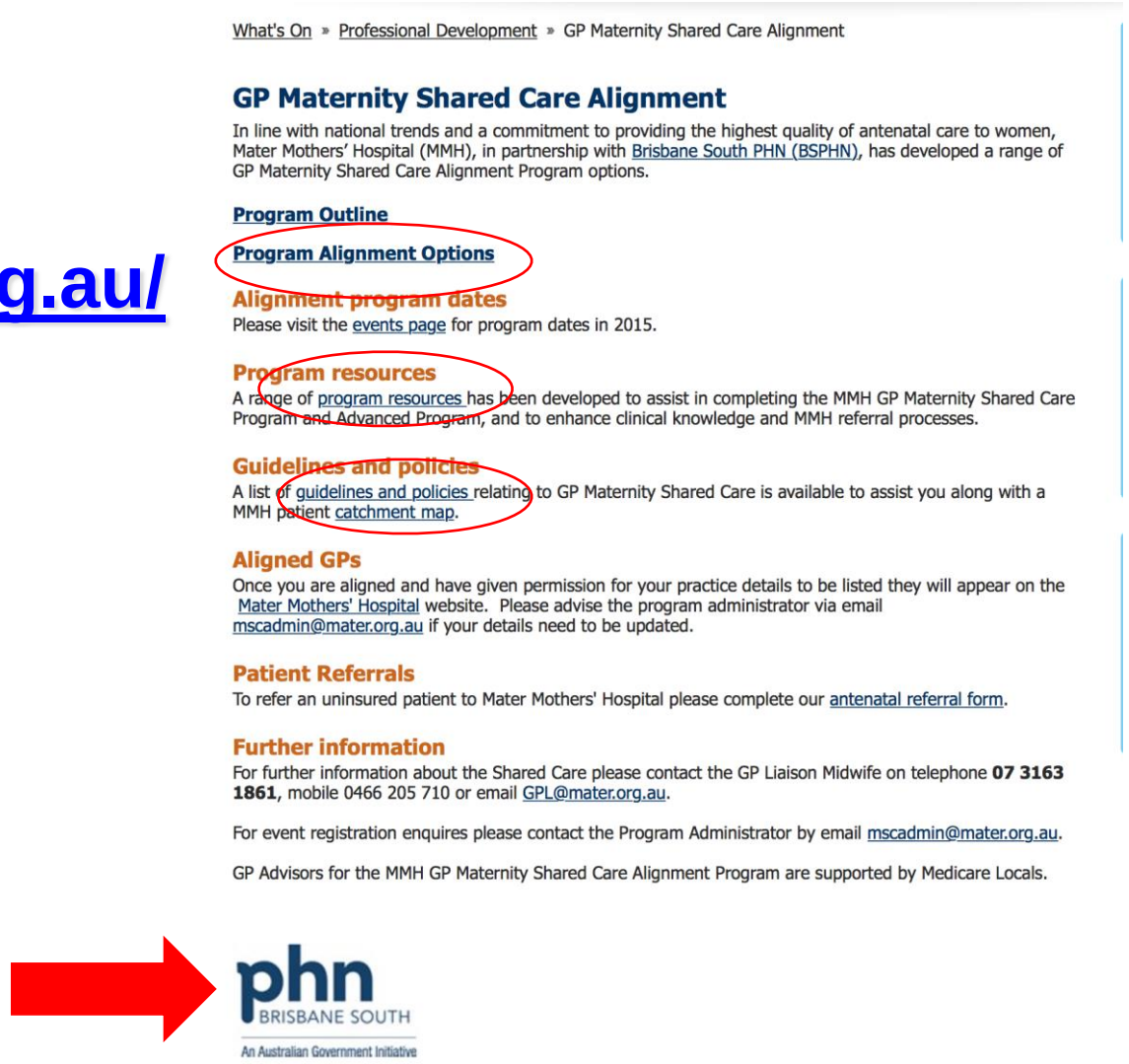
- [ ] Decide on where and how you wish to have your child—do you wish to be looked after privately or a publicly? Do you wish to have midwifery, general practitioner (GP) or obstetric care?
- [ ] Screening for depression during and after pregnancy is recommended for all women. Depression is a common, significant complication both during pregnancy and after baby is born.
- [ ] When was your last Pap Smear—it should be up to date.
- [ ] The following tests are recommended: Full Blood Count (for anaemia); Blood Group and antibodies; Rubella immunity, Hepatitis B, Hepatitis C, HIV and Syphilis serology and a urine test for kidney disease and infections. If you have a high risk of diabetes, you are advised to have a first trimester glucose tolerance test or HbA1c.
- [ ] Chicken Pox, thyroid, chlamydia, iron stores or vitamin D levels may need to be checked, depending upon your history.
- [ ] Supplements of folic acid and iodine are recommended.
- [ ] Reliable information on safe use of drugs and alcohol, diet, exercise and lifestyle activities in pregnancy can be found on the following websites: www.matermothers.org.au/journey www.thewomens.org.au/health-information/pregnancy-and-birth/ and http://healthinsite.gov.au (follow the links to pregnancy and parenting) which has a useful link to Listeria information as well as a multitude of other useful articles/information.
- [ ] Smoking during pregnancy is associated with significant health problems and if you are a smoker, we would like to work with you to help you to stop during this pregnancy.
- [ ] It is recommended that alcohol be stopped as it is known to cause problems for your baby. If you are having difficulty stopping, we would like to work with you to help you to stop drinking alcohol.
- [ ] It is recommended that you have a free* influenza vaccine from your GP when they are available, regardless of your stage in pregnancy.
- [ ] There is a blood test (B HCG and PAPPA-A) and an ultrasound test (the Nuchal translucency scan) that can be done between 11 and 13 weeks of pregnancy. This test assists to determine your risk of having a child with conditions including Down's Syndrome, as well as dating the pregnancy and providing other useful information. There is also a newer blood test, the NIPT, which gives information about a limited range of chromosomal abnormalities, including Down's Syndrome. It does not have any Medicare funding and costs ~ $500. This should be discussed further and these or other tests may be recommended.
- [ ] An ultrasound test, the morphology scan, is recommended and usually done between 18 and 20 weeks of pregnancy to check on well being, size and development of the baby.
- [ ] It is recommended that you have a visit with your GP, midwife or obstetrician to follow up the results of any blood test, ultrasound scan or the NIPT as soon as practical after the test. Don't just assume everything is OK if you have not been contacted.
- [ ] If you have a Rhesus negative blood group, it is recommended that you have an injection, commonly called AntiD, if you have vaginal bleeding during pregnancy and routinely at 28 and 34 weeks. If you have any vaginal bleeding, you must let us know as soon as possible and you may need to have an injection within 72 hours of the bleeding commencing. This significantly reduces the risk of you developing antibodies which could harm your baby.
- [ ] At 26-28 weeks of pregnancy there are four recommended blood tests: a repeat test for anaemia and blood group antibodies, a glucose tolerance test, unless it is already known that you have diabetes and a repeat syphilis test, if you are at high risk.
- [ ] It is recommended that you have a free* whooping cough booster from your GP from 28 weeks gestation in each and every pregnancy, even if the pregnancies are less than two years apart.
- [ ] Visits are generally done as per the following schedule—every four weeks from week 12 until 28 weeks, every three weeks until 34 weeks and every two weeks until 40 weeks, with follow up at 41 weeks if you have not yet had your baby. If you have special needs or other health concerns, you may be asked to come in more often or you can choose to be seen more often.
- [ ] If you choose to have Shared Antenatal Care with your GP, you will usually be seen at the hospital for a booking in appointment at 16-20 weeks (earlier if you are at higher risk) and 36 weeks.
- [ ] A blood test for anaemia is recommended at 36 weeks of pregnancy.

**There may be a fee to see your GP*

www.materonline.org.au



www.materonline.org.au/



What's On » Professional Development » GP Maternity Shared Care Alignment

GP Maternity Shared Care Alignment

In line with national trends and a commitment to providing the highest quality of antenatal care to women, Mater Mothers' Hospital (MMH), in partnership with Brisbane South PHN (BSPHN), has developed a range of GP Maternity Shared Care Alignment Program options.

Program Outline

Program Alignment Options

Alignment program dates

Please visit the events page for program dates in 2015.

Program resources

A range of program resources has been developed to assist in completing the MMH GP Maternity Shared Care Program and Advanced Program, and to enhance clinical knowledge and MMH referral processes.

Guidelines and policies

A list of guidelines and policies relating to GP Maternity Shared Care is available to assist you along with a MMH patient catchment map.

Aligned GPs

Once you are aligned and have given permission for your practice details to be listed they will appear on the Mater Mothers' Hospital website. Please advise the program administrator via email mscadmin@mater.org.au if your details need to be updated.

Patient Referrals

To refer an uninsured patient to Mater Mothers' Hospital please complete our antenatal referral form.

Further information

For further information about the Shared Care please contact the GP Liaison Midwife on telephone **07 3163 1861**, mobile 0466 205 710 or email GPL@mater.org.au.

For event registration enquires please contact the Program Administrator by email mscadmin@mater.org.au.

GP Advisors for the MMH GP Maternity Shared Care Alignment Program are supported by Medicare Locals.

phn BRISBANE SOUTH
An Australian Government Initiative

South Brisbane Antenatal Shared Care

Process

Pre-Conception Unique role for GPs!

- Folate and iodine supplementation for all
- Rubella serology +/- vaccination
- Varicella serology if no history +/- vaccination
- Cervical screening if due
- Chlamydia test/treat <25yr
- Smoking cessation
- Alcohol cessation
- Consider referral to preconception clinic e.g. Mater

First GP Visit(s)
(May take more than one consultation)

- Confirm pregnancy and dates
- Review medical, surgical, psych, family history, medications, allergies etc. – delete old medications, update GP records ± My Health Record shared health summary
- Identify risk factors
- Scan if dates uncertain ***or*** risk of ectopic (previous ectopic, tubal surgery)
- Folate and iodine supplementation
- Discuss aneuploidy screening vs diagnosis
- Discuss models of care
- BP, weigh, calculate BMI
- Discuss SNAP; dietary advice (listeria) and drug avoidance – smoking, alcohol, other drugs
- Offer influenza vaccination

First Trimester Screening Tests
(cc to ANC on all request forms please)

- FBC, blood group and antibodies, rubella, Hep B, Hep C, HIV, syphilis serology, MSU (treat asymptomatic bacteruria)
- Discuss and offer aneuploidy screening:
  1. Nuchal Translucency Scan + First Trimester Screen (free hCG, PAPPA) K11-13^{+6} ***OR***
  2. Triple Test (AFP, Oestriol, hCG) K15-18 if desired or if presents too late for first trimester testing. Not if twins or diabetes ***OR***
  3. Non-Invasive Prenatal Testing > K9 (Not if multiple pregnancy, not Medicare funded, first trimester scan still recommended)
- Cervical screening test if due
- Varicella serology (if no history of varicella or vaccination)
- OGTT (or HbA1c) if high risk for Diabetes ***(see box below)***
- ELFT, TFTs, Vit D, chlamydia ***for at risk women (see over)***

Uncomplicated pregnancy

- Refer privately for detailed scan (placenta, morphology) at 18-20 weeks
- First Midwifery Booking visit is at 16-18/52 with a Medical visit at 20/52 (18-20/52 combined RM/doctor visit MMH)
- **You are responsible for her care until she is seen by the hospital, after which the responsibility is shared**
- GP visits to be scheduled around hospital appointments to ensure timely review of results
- **All investigations to be reviewed by referring clinician and required follow up taken or referrals made**

GP Visits: 14, 24, 28, 31, 34, 38, 40 weeks

- Record or place printed copy of notes and results in Pregnancy Health Record (PHR)
- Schedule, education and assessment as per the PHR
- More frequent visits if clinically indicated
- K26-28 GTT, FBC, Blood group and antibody screen
- K36 FBC
- Offer influenza and pertussis vaccination (pertussis funded from 28 weeks, both safe to use in pregnancy)
- **Routine hospital review** at 36 and at 40-41 weeks
- ***Be sure to cc pathology and radiology to the ANC***

General Information

High Risk for Diabetes in Pregnancy?

- Previous GDM or baby > 4500g, polycystic ovarian syndrome, strong family history, glycosuria, BMI > 30, maternal age ≥ 40, ethnicity
- **OGTT by 12 weeks (or HbA1c if OGTT not tolerated.) Urgent Hospital ANC referral if abnormal (Fasting ≥ 5.1 mmol or 1-hr ≥ 10 mmol or 2-hr ≥ 8.5 mmol)**
- Please specify reason and include a copy of the results in the referral letter **to your local service**.

Medical Disease or Obstetric Complications? EARLY or URGENT Hospital ANC referral:

- GP referral letters are triaged by consultant within same week
- Please specify urgency and reasons in the referral letter
- Refer to local service who will liaise or make further referrals if required
- ***Be sure to cc pathology and radiology and give women a copy of their results***

Rh Negative Mothers

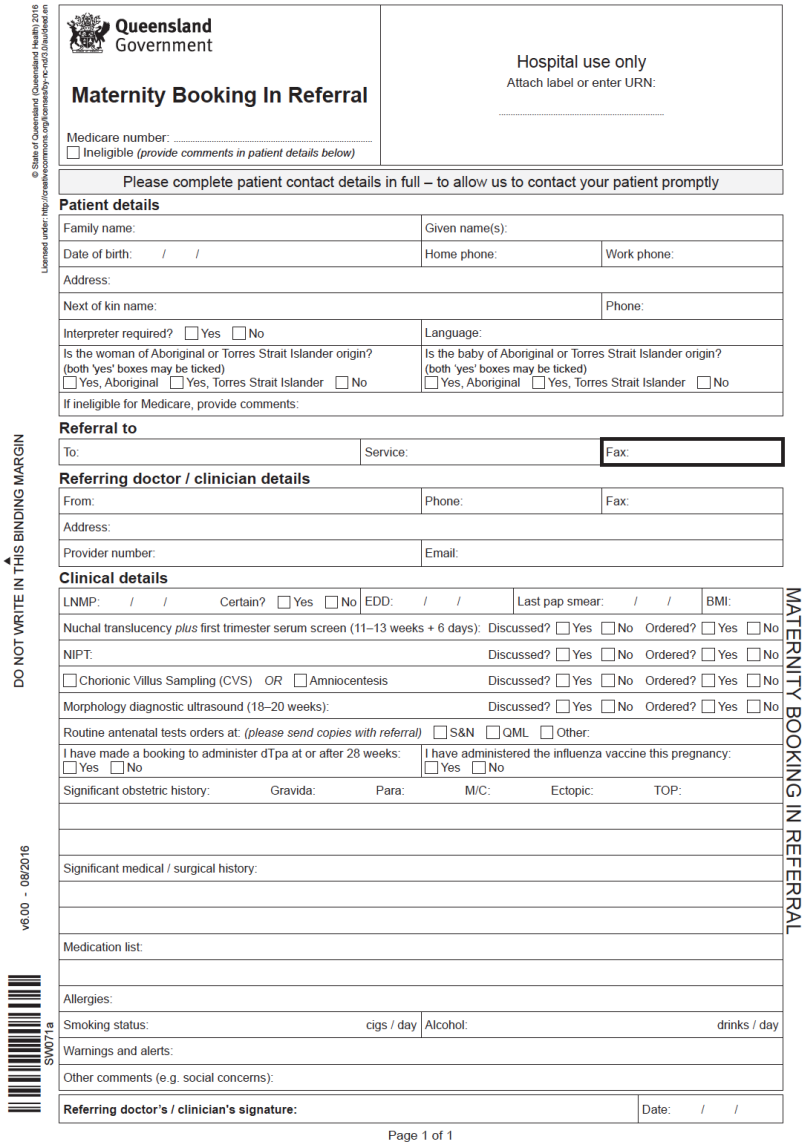
- If antibody negative, offer 625 IU anti-D at 28 and 34 weeks and for sensitisng events
- Dose can be given at local Hospital; or
- Dose can be given by GP--order from QML blood bank, delivered via QML to surgery
  Ph. **3146 5122**

CONTACTS	Beaudesert	Logan	Redland	Mater
Contact Details for Referrals, Pathology				
ANC fax	**Central Referral Hub: 1300 364 248**			**3163 8053**
Secure e-Referral	**Medical Objects or HealthLink available for all centres**			
ANC phone	**5541 9144**	**3299 8524**	**3488 3434**	**3163 1861**
For Urgent Referral or Advice				
O&G Registrar/GP Obs on Call	**5541 9111**	**3299 8027**	**3488 3758**	**3163 6611**
Obstetrician on call	**-**	**3299 9097**	**3488 3111**	**3163 6009**
Triage Midwife	**5541 9144**	**3299 8811**	**3488 3044**	**3163 1861**
Mental Health Services	**3089 2734**	**3089 2734**	**3825 6000**	**3163 1755**
Pregnancy Complications				
Complications, e.g. bleeding, pain, threatened or incomplete miscarriages, phone 24/7 ***Haemodynamically unstable women to be directed to ED/PAC***	**On-Call GP Obstetrician 5541 9111**	**<20 3299 8456** **>20 3299 8811** **ED: 3299 8899**	**On-Call Obstetrician 3488 3111**	**Pregnancy Assessment Centre (PAC) 3163 6577**

Modified by BSPHN and MMH from an original created by Drs Michael Rice, Mano Haran and Heng Tang Version 20180128 www.materonline.org.au | www.bsphn.org.au

QHealth referral template

This is a helpful document, with decision support built in. An electronic version is available for MD3 on www.bsphn.org.au and is a supplied template on BP (QHealth Maternity). You can download a paper copy



Queensland Government

Maternity Booking In Referral

Medicare number:
☐ Ineligible *(provide comments in patient details below)*

Hospital use only
Attach label or enter URN:

Please complete patient contact details in full – to allow us to contact your patient promptly

Patient details

Family name:	Given name(s):	
Date of birth: / /	Home phone:	Work phone:
Address:		
Next of kin name:		Phone:
Interpreter required? ☐ Yes ☐ No	Language:	
Is the woman of Aboriginal or Torres Strait Islander origin? (both 'yes' boxes may be ticked) ☐ Yes, Aboriginal ☐ Yes, Torres Strait Islander ☐ No	Is the baby of Aboriginal or Torres Strait Islander origin? (both 'yes' boxes may be ticked) ☐ Yes, Aboriginal ☐ Yes, Torres Strait Islander ☐ No	
If ineligible for Medicare, provide comments:		

Referral to

To:	Service:	Fax:

Referring doctor / clinician details

From:	Phone:	Fax:
Address:		
Provider number:	Email:	

Clinical details

LNMP: / / Certain? ☐ Yes ☐ No	EDD: / /	Last pap smear: / /	BMI:	
Nuchal translucency *plus* first trimester serum screen (11–13 weeks + 6 days):	Discussed? ☐ Yes ☐ No	Ordered? ☐ Yes ☐ No		
NIPT:	Discussed? ☐ Yes ☐ No	Ordered? ☐ Yes ☐ No		
☐ Chorionic Villus Sampling (CVS) *OR* ☐ Amniocentesis	Discussed? ☐ Yes ☐ No	Ordered? ☐ Yes ☐ No		
Morphology diagnostic ultrasound (18–20 weeks):	Discussed? ☐ Yes ☐ No	Ordered? ☐ Yes ☐ No		
Routine antenatal tests orders at: *(please send copies with referral)* ☐ S&N ☐ QML ☐ Other:				
I have made a booking to administer dTpa at or after 28 weeks: ☐ Yes ☐ No	I have administered the influenza vaccine this pregnancy: ☐ Yes ☐ No			
Significant obstetric history: Gravida:	Para:	M/C:	Ectopic:	TOP:
Significant medical / surgical history:				
Medication list:				
Allergies:				
Smoking status: cigs / day	Alcohol: drinks / day			
Warnings and alerts:				
Other comments (e.g. social concerns):				
Referring doctor's / clinician's signature:	Date: / /			

DO NOT WRITE IN THIS BINDING MARGIN

MATERNITY BOOKING IN REFERRAL

v6.00 - 08/2016

SW071a

Page 1 of 1

Online education resources

QHealth has a range of power points, video conferences, knowledge assessments and flowcharts available online which flow from their Maternity and Neonatal Guideline work. GP relevant topics include Obesity, Early Pregnancy Loss, Vaginal Birth after caesarean section (VBAC), Breastfeeding initiation, Neonatal Examination and Neonatal Jaundice

QCG Maternity

Maternity

- Analgesia in labour *(New Nov 2017)*
- Early Pregnancy Loss
- Early onset Group B Streptococcal disease *(New videoconference)*
- Gestational diabetes mellitus
- Hypertensive disorders of pregnancy
- Induction of labour
- Intrapartum fetal surveillance
- Normal birth *(Updated Nov 2017)*
- Obesity in pregnancy
- Perinatal substance use: maternal
- Perineal care *(Under review)*
- Preterm labour and birth
- Primary postpartum haemorrhage *(Under review)*
- Stillbirth care *(Under review)*
- Therapeutic termination of pregnancy
- Trauma in pregnancy
- Vaginal birth after caesarean section (VBAC)
- Venous thromboembolism (VTE) prophylaxis in pregnancy and the puerperium

Neonatal

- Assessment - Routine Newborn
- Breastfeeding - Establishing breastfeeding
- Hypoglycaemia - Newborn

Who is responsible for abnormal results?

The clinician who orders the test is responsible for the follow up and prompt referrals when appropriate

- Although a copy of the result is sent to MMH, it is entered into their system *without* being seen and is only reviewed when the woman comes for an appointment or contacts the hospital for advice
- There are guidelines for consultation and referral and managing abnormal results available in sections 6 (page 8) and 13 (p 27) of the MMH GP Maternity Shared Care Guideline

Referral process

- Endocrinologists and obstetric medicine specialists work within the Mater Mothers antenatal team
- Separate referral to Mater Specialist Clinics is not required from the GP for women with *pre-existing* medical conditions identified in the antenatal referral. The obstetrician will assess the woman at the first appointment and refer if necessary
- If a woman *develops* a medical condition after referral to antenatal clinic, a new referral (using a standard referral letter, not an antenatal referral) should be faxed to **antenatal clinic (3163 8053)** including a copy of the results

Retinoblastoma

- Retinoblastomas are due to a faulty *RB1* gene
- Researchers estimate that 40 percent of all retinoblastomas are germinal, which means that RB1 mutations occur in all of the body's cells, including reproductive cells (sperm or eggs) and appears to be inherited in an autosomal dominant pattern
- The other 60 percent of retinoblastomas are non-germinal, which means that *RB1* mutations occur only in the eye and cannot be passed to the next generation
- 2/3 are unilateral
- 1/3 are bilateral
- Diagnosed early, is often treatable
- When germinal, it is often associated with other types of cancer
- These families need genetic counselling and close follow up

Who can you call?

For clinical advice or if a woman requires urgent review:

- Obstetric Registrar: 3163 6611
- Obstetric consultant: 3163 6009
- Obstetric Medicine registrar via switch 3163 8111

The GP Liaison office is open Mon - Fri 0730 - 1600 for general advice and assistance.

- Telephone 07 3163 1861 (you can leave a message) email GPL@mater.org.au or mobile 0466 205 710

The referral pathway

- All women, regardless of their medical or obstetric risk, should to be referred to their local obstetric hospital. A comprehensive referral will allow the hospital staff to triage appropriately and where necessary, the local obstetricians will liaise with or refer women onto MMH
- Should a woman booked with another hospital develop a complication, contact her local obstetric service so that they can make the appropriate arrangements

Immunisation Handbook 10

- By immunising women during pregnancy, the infant benefits from in utero transfer of antibodies
- Pertussis antibodies peak a couple of weeks after immunisation and then fall rapidly, while transplacental antibody transfer is most efficient from 30 weeks onwards
- Immunising women from 28-32 weeks gestation is recommended, however immunising any time in the third trimester is beneficial
- Vaccination of mothers at least 7 days before delivery reduced pertussis disease by 91% in infants <3 months of age

Pertussis issues for baby

What about blunting?

- Studies have shown lower levels of anti-pertussis antibodies at 7 months of age in children born to women vaccinated with dTpa during pregnancy, compared to children of mothers who were not vaccinated. However, when children were given a booster dose of DTPa-containing vaccine at 12–18 months of age, levels of anti-pertussis antibodies 1 month later were similar irrespective of whether the child's mother was vaccinated during pregnancy or not.
- From March 2016, an extra DTPa booster dose has been funded by the Queensland Immunisation Program for children aged 18 months

Pertussis immunisation

- Qld Health is no longer funding Pertussis vaccination for fathers or extended family members/household contacts of newborns
- The Australian Technical Advisory Group on Immunisation recommends vaccination ***every 10 years*** for the following groups:
  - fathers
  - extended family members
  - household contacts
  - medical staff

Serological testing for varicella immunity from infection and/or vaccination

- Screening for varicella immunity (from natural infection) or a past history of vaccination should be undertaken as part of pre-pregnancy planning and varicella vaccine given to non-immune women prior to conception.
- Testing to check for seroconversion after varicella vaccination is *not* recommended. Commercially available laboratory tests are not usually sufficiently sensitive to detect antibody levels following vaccination, which may be up to 10-fold lower than levels induced by natural infection.
- Protection (commensurate with the number of vaccine doses received, see 4.22.4 *Vaccines* above) should be assumed if a child or adult has documented evidence of receipt of age-appropriate dose(s) of a varicella-containing vaccine.

Reference

Contact details

Maternity Share Care issues?

- GP Liaison Midwife Phone: 3163 1861
- E-mail: GPL@mater.org.au
- Mobile: 0466 205 710

If you are uncertain about the best approach to take in caring for or referring a woman, or if she requires urgent review, phone the on call consultant (3163 6009), registrar (3163 6611) or the GPLM

Contact details

Alignment status, contact details & evaluation enquiries?

- Phone 3163 1967
- Email mscadmin@mater.org.au

Training & RACGP enquiries?

- Mater Marketing
- Phone: 07 3163 1524
- Email: marketing@mater.org.au

Available now!

Online options to realign

- Bridging option (or refresher!) for GPs who complete an Alignment event at an allied hospital (Redland, Logan, Beaudesert, RBWH and Redcliffe/Caboolture, Ipswich and Nambour!)
- VOPP of MFM and infections in pregnancy presentations from Alignment 1 and 2
- Video clips with Dr Treasure McGuire, pharmacologist (go to the Realignment option)

GPs referring to MSHHS?

Online resources including power points with information on local referral pathways are hosted at Brisbane South PHN

GPs referring to MNHHS?

- **Contact information for the MNHHS Alignment:** Brigid Wheaton Program Coordinator Metro North Maternity GP Alignment Program

Phone: (07) 3646 4421

Email: mngpalign@health.qld.gov.au

Online resources are currently being hosted at Brisbane North PHN

Item numbers for MSC

16500 Rebate $40.10 ($47.15) Antenatal Attendance

16591 Rebate $121.30 ($142.65)

Planning and management, by a practitioner, of a pregnancy if:

(a) the pregnancy has progressed beyond 28 weeks gestation; and

*(b) the service includes a **mental health assessment (including screening for drug and alcohol use and domestic violence**) of the patient; and*

(c) a service to which item 16590* applies is not provided in relation to the same pregnancy

Payable once only for a pregnancy

*16590 = planning to undertake the delivery for a privately admitted patient

Postnatal item numbers

Postnatal consultation	New item (16407)	A new item will be introduced for a postnatal attendance lasting at least 20 minutes between 4 and 8 weeks after birth. The item will also include a requirement for a mental health assessment of the patient to be performed, including screening for drug and alcohol use and domestic violence. This item can only be claimed once per pregnancy. **Fee: $71.70** Benefit: 75%=$53.80 85%=$60.95
Postnatal home visit	New item (16408)	A consultation at the patient's home between 1 and 4 weeks after birth, by an obstetrician, GP or registered midwife (if midwife, it will be on behalf of, and under the supervision of the medical practitioner who attended the birth). This item can only be claimed once per pregnancy. **Fee: $53.40** Benefit: 85%=$45.40

Funding options for antenatal appointments bulk billed under Medicare assuming a 10 min appointment schedule

Visits/hr	Item numbers	Medicare Rebate	Hourly income (gross)
6	23 x 6	$37.05 x 6	$222.30
6	23 x 5, 16500 x 1	$37.05 x 5, $40.10 x 1	$225.35
5	23 x 3, 16500 x 2	$37.05 x 3, $40.10 x 2	$191.35
5	23 x 4, 36 x 1	$37.05 x 4, $71.70 x 1	$219.90
4	23 x 3, 36 x 1	$37.05 x 3, $71.70 x 1	$182.85
4	23 x 3, 16591	$37.05 x 3, $121.30 x 1	$232.45
3	23 x 2, 16591	$37.05 x 2, $121.30 x 1	$195.40
3	36 x 3	$71.70 x 3	$215.10

GOOD AFTERNOON AND THANK YOU!