Metro North Maternity
GP Alignment Program Workshop

Women’s and Newborn Services
Part 1 Redcliffe Hospital

23 July 2015
## Good evening & welcome

<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Presenter/Facilitator</th>
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<tbody>
<tr>
<td>6.30 pm</td>
<td>Welcome address</td>
<td>Graeme Jackson</td>
</tr>
<tr>
<td>6.35 pm</td>
<td>Housekeeping</td>
<td>Learning</td>
</tr>
<tr>
<td>6.40 pm</td>
<td>Models of care</td>
<td>Julie Cox, Belinda Barnett</td>
</tr>
<tr>
<td>6.50 pm</td>
<td>Case work: Task 1</td>
<td>All</td>
</tr>
<tr>
<td>7.05 pm</td>
<td>Present task 1</td>
<td>Davina Miller</td>
</tr>
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<td></td>
<td>Feedback &amp; Discussion</td>
<td></td>
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<tr>
<td>8 pm</td>
<td>Antenatal testing for chromosomal abnormality</td>
<td>Pauline McGrath</td>
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## Moving on....

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<tr>
<th>Time</th>
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<tr>
<td>8.30 pm</td>
<td><strong>Case work: Task 2</strong></td>
<td>All</td>
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<tr>
<td>8.45 pm</td>
<td>Present task 2 Feedback &amp; Discussion</td>
<td>Davina Miller</td>
</tr>
<tr>
<td>9.30 pm</td>
<td>Close</td>
<td>All</td>
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Introducing tonight’s team
*(in order of appearance)*

Speakers

- Graeme Jackson – Director Obstetrics & Gynaecology, Redcliffe
- Davina Miller – Workshop Facilitator, GP Bribie Island Medical Centre
- Julie Cox – NUM Maternity Services
- Belinda Barnett – Maternity Choices Australia (MCA)
- Pauline McGrath – Senior Genetic Counsellor, Genetic Health Queensland
- Johanna Laporte – Staff Specialist MFM, RBWH
Introducing tonight’s team

(in order of appearance)

Case Work Facilitators

• Mamta Vyas – O & G Consultant Redcliffe
• Louise Cole – Clinical Midwife Ngarrama
• Katharine Louey – O & G Consultant Redcliffe
• Moemon Morris – Staff Specialist Redcliffe
• Annabel Biven – Dietitian
• Sally O’Farrell – Clinical Midwife ANDAS & EPAU
• George Bruxner – Consultant Psychiatrist
• Vanessa Collins – Social Worker
Introducing tonight’s team

Program team

- Jeanette Tyler – Program Coordinator, Midwife/Lactation Consultant
- Brigid Wheaton – Program Coordinator, Administration Officer
- Kim Billington – Administration Officer
Objectives

- Strengthen partnerships between GPs and the hospital system
- Improve efficiencies in maternity care

*Improve health outcomes for women and babies*
Learning outcomes

• At the end of this program, and in relation to maternity care provided to women and babies, the participant will be able to:
  – apply evidence based practice to assess and manage care
  – list requirements to enable an efficient hospital booking in process
  – identify high risk factors and common complications
  – identify the indications and process for consultation and referral of high risk presentations
  – locate relevant support services within the birthing facility and the local community
Acknowledgements

• Metro North Hospital and Health Service
• Brisbane North Primary Health Network (PHN)
• RBWH, Caboolture and Redcliffe Hospitals
• The Metro North GP Alignment team
• The Mater Mothers Hospital (MMH) GP Alignment Team
• UQ Centre for Clinical Research
• Our sponsors…. 
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

- When this presentation transitions to the MNHHS website you will be notified
Online resources

- www.ranzcog.edu.au
Online resources

- www.beyondblue.org.au
- www.asid.net.au
- gplearning.racgp.org.au
- www.adips.org
National Guidelines

• Comprehensive & evidence based
• Focuses primarily on first trimester care
• 8 page summary particularly helpful
• Specific chapters on care for ATSI & rural and remote women

National Guidelines

- Module 2 addresses care in the second and third trimesters of pregnancy and provides guidance on core practices
  - lifestyle considerations
  - clinical assessments
  - common conditions
  - maternal health tests for healthy pregnant women

# RANZCOG Statements & Guidelines

<table>
<thead>
<tr>
<th>Clinical: Obstetrics</th>
<th>Name</th>
<th>Size</th>
<th>Current</th>
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<tr>
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<td>Pre-pregnancy Counselling</td>
<td>120 kB</td>
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<tr>
<td>Antenatal Care &amp; Pregnancy</td>
<td>Routine Antenatal Assessment in the Absence of Pregnancy Complications</td>
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<td>Antenatal Care &amp; Pregnancy</td>
<td>Prenatal screening tests for trisomy 21, trisomy 18 and neural tube defects</td>
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<td>Antenatal Care &amp; Pregnancy</td>
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<td>GBS Soap Sheet</td>
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<td>Use of Cervical Fetal Fibronectin and Phosphorylated Insulin-Like Growth Factor</td>
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<td>Progesterone: use in the Second Trimester and Third Trimester of Pregnancy</td>
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<td>Antenatal Care &amp; Pregnancy</td>
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<td>Testing of serum TSH levels in pregnant woman</td>
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<td>Management of Obesity in Pregnancy</td>
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<td>The use of misoprostol in obstetrics</td>
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<td>Umbilical cord blood banking</td>
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<td>Maternal and Perinatal Data Collection</td>
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<td>Vasa Praevia</td>
<td>142.16 kB</td>
<td>Jul, 2012</td>
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<td>Perinatal Anxiety and Depression</td>
<td>118.33 kB</td>
<td>Mar, 2012</td>
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Learning objectives

The learning objectives of this unit are to:

- display increased confidence in managing women with early pregnancy bleeding including excluding ectopic pregnancy, interpreting the significance of quantitative β human chorionic gonadotrophin concentrations and pelvic ultrasound findings and discussing the treatment options available where appropriate.

- demonstrate increased knowledge of how to differentiate between gestational hypertension and pre-eclampsia, and when to refer and how to treat these conditions.

- develop increased confidence in the diagnosis and management of antenatal depression, including discussion of the benefits and risks of antidepressants and the risks of untreated depression.

- demonstrate an increased knowledge of the risks of obesity in pregnancy, advise patients with obesity regarding appropriate weight gain in pregnancy, nutritional supplementation and investigations.

- confidently advise patients in their first antenatal consultation about lifestyle issues to maintain good health, models of care and nutritional supplementation and request appropriate antenatal investigations.

- develop increased confidence in the diagnosis and management of pelvic girdle pain in pregnancy.

Gplearning

gplearning.racgp.org.au
Queensland Clinical Guidelines

An operational framework to support effective communication & clear understanding of roles and responsibilities of HCP involved in maternity shared care

Queensland Clinical Guidelines

An operational framework to complement existing consultation and referral guidelines

MATERNITY & NEONATAL

Queensland Maternity and Neonatal Operational Framework

Non-urgent referral for antenatal care

In addition to guidelines:

- Education resources
  - flowcharts
  - power points*
  - knowledge assessments*
  - videos*
  - live videoconferences*
- Consumer information
- Useful links

*Accredited with the Australian College of Rural and Remote Medicine, points also available from RACGP
Metro North Guidelines

A tool to provide General Practitioners with relevant information to support their delivery of safe and effective maternity care

Decision Support Tool

Metro North Antenatal Shared Care

Process

**Pre-conception**
- Folic acid and iodine supplementation
- Rubella serology +/- vaccination
- Varicella serology if no history of +/- vaccination
- Pertussis vaccination if due
- Influenza vaccination in season
- Pap smear if due
- Chlamydia age < 25
- Smoking cessation
- Alcohol cessation
- Consider perinatal clinic at hospital if medical condition

First GP visit(s) (they require more than one consultation)
- Confirm pregnancy and dates
- Review medical/surgical options (PTA, gestational diabetes, allergies and update GP records)
- Identify risk factors for pregnancy
- Diagnose maternal and/or fetal complications
- Order initial screening tests
- Perform physical examination as per Pregnancy Health Record (PHR)
- Weigh, calculate BMI and discuss weight gain, nutrition and physical activity
- Discuss breast changes, smoking, alcohol, other drugs, ultrasound, hospitalisation, etc.
- Perform breast examination
- Instruct women in breast care
- Complete referral: indicate if high risk, you wish to share care or preferences is for Birthing Centre RSNH
- Send referral to Central Patient Intake (CPI) if ask woman to complete online registration (QHIN and CalciScreen)

Initial screening tests (GP) (no ANC on all request forms)
- FBS, blood group and antibodies, rubella, hep B, hA1C, HIV, hepatitis serology, random glucose, MUS (or asymptomatic bacteraemia). (ELFT, TSH, Vit D. and early GGT K15-17 if applicable)
- Discuss and offer anaemality screening:
  1. Nuchal translucency scan + first trimester screen (free NDS, 13-14 weeks)
  2. Triple test (AFP, vestox, NOG) K15-17
- Offer antenatal follow-up visit
- Offer ultrasound if required
- All investigations to be reviewed and followed up by referring clinician
- Referrals made if applicable

Uncomplicated pregnancy
- Refer privately for detailed care (dieting, morphology) at 16-20 weeks
- Arrange to see woman after care
- First ANC visit with module K16-20
- Obstetric review if required
- All investigations to be reviewed and followed up by referring clinician
- Referrals made if applicable

Additional information

Rh negative?
- Other Anti-D
- 20 and 34 weeks:
  - Screening events
  - Refer to blood transfusion
- Intrauterine growth: increase in amniotic fluid
- Gestation K15-17

High risk for diabetes in pregnancy?
- Previous GDM diabetes > 450mg or > 90th centil (POCG)
- BMI > 35, maternal age > 40, high risk ethnicity, medications: anticonvulsants, antipsychotics
- GGT by 16 weeks: Urgent hospital ANC referral if abnormal
- Referrals made if required

Medical disease or obstetric complications? EARLY URGENT hospital ANC referral
- GP referral letters are triggered by consultant within same week
- Please specify urgency, level of required hospital care and reasons in referral letter
- Ref: to CRT: 1300 334 350

GP visits
- Schedule as per PPR or specific facility
- More frequent if clinically indicated
- Referral in PPR
- Education/assessment as per PPR
- K15-17 GGT, POG, BMI, Rh negative: Blood groups/antibodies screen, offer Ant D
- K15-17 if Rh neg-Ant D offered
- K14-15 PRC
- K14-15: Review of literature and to discuss induction if appropriate
- or ANC on all request forms

Brisbane North PHN

Online resources for GPs, women and families

Metro North catchment
Metro North Maternity
GP Alignment Program

Models of care

Julie Cox
Julie Cox – Nurse Unit Manager
Maternity Services
Redcliffe Hospital

Belinda Barnett
Consumer representative
Maternity Choices Australia (MCA)

This is a joint initiative between Metro North Hospital and Health Service and Brisbane North PHN
Metro North
Women’s and Newborn Services

Models of care (MOC)

- Maternity Share Care with GPs is a model of care endorsed by MNHHS
- GPs providing evidence-based, best practice care to women before, during and after pregnancy supported by MNHHS by online resources and education events
- GPs should be familiar with all MNHHS MOC to enable women to make an informed choice
Options for maternity care
Redcliffe Hospital

- Hospital based midwifery led antenatal clinics, including a program for young parents
- Team midwifery (AMITY) - a small team of midwives working within a continuity of care model which provides hospital and community based antenatal care, birthing and home based postnatal services
- GP Share Care
- Obstetrician led care

Models of care at RBWH

• Continuity of midwifery care/carer
  – Birth Centre caseload
  – Eligible Private Practice Midwife (EPPM)
  – Ngarrama Midwifery Group Practice (MGP)

• Midwifery led models of care (Teams)
  – Birth Centre
  – Nundah
  – Pegasus/Phoenix

• Shared Care with GP

• Tertiary care

• Private Practice Specialist Clinic
# Options for Maternity Care

<table>
<thead>
<tr>
<th>Options for Maternity Care</th>
<th>Birth Centre (BC)</th>
<th>Birth</th>
<th>After Birth</th>
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</thead>
<tbody>
<tr>
<td>Pregnancy</td>
<td>You will be cared for by the Birth Centre midwives, providing continuity of care during your pregnancy and birth. There are two types of care, as described below. Availability is limited. Exclusion criteria apply.</td>
<td>You will expect to labour and give birth in the Birth Centre. Water immersion during labour &amp; birth is available. Transfer to the Birth Suite is available at your request and/or if complications arise.</td>
<td>Generally you will go home around 6 hours following birth. Your midwife will contact you regarding a home visit.</td>
</tr>
<tr>
<td>Birth Centre Caseload:</td>
<td>You will be cared for by a small team of midwives in the Birth Centre at the hospital.</td>
<td>Your midwives are on call 24/7 (This cannot be 100% guaranteed in all circumstances).</td>
<td>Generally you will go home around 6 hours following birth. Time of discharge is 10am. A midwife will contact you regarding a home visit.</td>
</tr>
<tr>
<td>Birth Centre Teams:</td>
<td>You will be cared for by a small team of midwives at the Nundah Community Health Centre(CHC).</td>
<td>Where possible your care will be with a midwife from the team.</td>
<td></td>
</tr>
<tr>
<td>Ngarrama: Aboriginal &amp; Torres Strait Islander midwifery service</td>
<td>You will be cared for by a small team of midwives &amp; an indigenous health worker either in your home, a community clinic or at the hospital.</td>
<td>You will have the option to birth in the Birth Centre or Birth Suite depending on individual needs &amp; circumstances. Water immersions during labour and water birth are options for women birthing in the Birth Centre.</td>
<td>Ngarrama midwives will continue to provide postnatal care in your home or in a community clinic for up to 6 weeks.</td>
</tr>
<tr>
<td>Care by an Eligible Private Practice Midwife (EPPM)</td>
<td>You will be cared for by your EPPM in the community.</td>
<td>You will have the option to birth in the Birth Centre or Birth Suite depending on individual needs &amp; circumstances. Your EPPM may provide labour care.</td>
<td>Generally you will go home within 6-48 hours after birth. Time of discharge is 10am. Your EPPM will provide care in your home/community.</td>
</tr>
<tr>
<td>Shared care with your local doctor</td>
<td>You will have the majority of your care with your local doctor and occasional midwifery appointments with a hospital midwife.</td>
<td>The Birth Suite midwives and team will care for you.</td>
<td></td>
</tr>
<tr>
<td>Specialty hospital clinics (Tertiary)</td>
<td>You will be cared for by obstetricians, specialists &amp; midwives at the hospital.</td>
<td>The Birth Suite midwives and team will care for you.</td>
<td></td>
</tr>
<tr>
<td>Midwifery teams (Phoenix/ Pegasus)</td>
<td>You will be cared for by a small team of midwives at the hospital. Availability is limited.</td>
<td>You will labour and give birth in the Birth Suite. Where possible you will be cared for by a midwife from the team.</td>
<td>Generally you will go home within 6-48 hours after birth. Time of discharge is 10am. A midwife will contact you regarding a home visit.</td>
</tr>
<tr>
<td>Community midwifery care based at Nundah CHC</td>
<td></td>
<td>The Birth Suite midwives and team will care for you.</td>
<td></td>
</tr>
<tr>
<td>Private Practice Specialist Care</td>
<td>You will be cared for by a private obstetrician &amp; midwives at the hospital.</td>
<td>The Birth Suite midwives and team will care for you.</td>
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Consultation with obstetricians, other medical officers & allied health professionals is arranged as necessary. Important: Please request that your care preference is indicated on your referral and complete your preferences on your on-line registration form.
Options for maternity care
Caboolture hospital

<table>
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<tr>
<th>Maternity &amp; Newborn Services</th>
<th>Caboolture &amp; Kilo Hospital</th>
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**Options of care**

The Caboolture Maternity Unit offers a variety of models of care for pregnancy and birth.

**GP share care**
This option is available for women who prefer to have the majority of their care with their GP. It is recommended you attend visits at the hospital for booking in (12 – 14 weeks) & at 20, 36 and 41 weeks.

**Midwifery Clinic**
If your pregnancy is uncomplicated, you may choose to attend the clinic, where you will be cared for by the antenatal clinic midwives. If you experience complications during your pregnancy an obstetrician will be included in your care and see you at the hospital obstetric clinic along with the midwives.

**Midwifery Group Practice – Continuity of Care**
In this model, women are cared for by the same group of midwives throughout the pregnancy, labour and birth and afterwards at home. This gives you & the midwives the opportunity to get to know each other & develop a partnership through your pregnancy. Appointments may be in the hospital, at home or in the community.

**Outreach clinic – Kiloey**
Midwives led antenatal clinics are available for women living in the Kiloey area, adjacent areas with antenatal visits offered at Kiloey Hospital & other services provided at Caboolture Hospital. Kiloey Hospital is located in Brown St, Kiloey.

**Young Bumps & Bubs (YBB) – Young Parent Clinic**
This YBB group is run by a Mater & Child Health Nurse for women under the age of 25 & their partners. These sessions are held at the Caboolture Early Years Centre at 64 Merriway St, Caboolture. Antenatal & postnatal care is provided in a relaxed & open environment with antenatal visits offered at the centre. Following the birth of your baby you & your baby are welcome to come along to discuss any issues & spend time with other young mums.

**Aboriginal and Torres Strait Islander**
Maternity Services – Ngararena North

The service provides care for women who are Aboriginal and Torres Strait Islander and/or whose partner identify as Aboriginal and Torres Strait Islander. A Midwife and Aboriginal Health Worker will care for you throughout your pregnancy and after the baby is born. They will provide all antenatal & postnatal care in either your home, the community clinic or at Caboolture Hospital.

**Obstetric led care with Doctors and Midwives**
Women who have existing medical conditions such as diabetes, epilepsy, high blood pressure, heart disease or develop problems during their pregnancy are provided with a combination of visits from Doctors and Midwives at Caboolture Hospital. Obstetricians are specialists in dealing with complications that arise in pregnancy.

**Contact us**
If you would like more information telephone (07) 5431 8100 or visit this website www.health.qld.gov.au/caboolture/maternity/docs/options-of-care.pdf
## Other services

<table>
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<tr>
<th>Early Pregnancy Assessment Unit (EPAU)</th>
<th>Antenatal Day Assessment (ANDAS)</th>
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<tbody>
<tr>
<td>Childbirth education classes</td>
<td>Diabetes Team</td>
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<tr>
<td>Postnatal in-home visiting following discharge</td>
<td>Young Parent Group</td>
</tr>
<tr>
<td>Social Work Inc. Child Protection Liaison Officer</td>
<td>Anaesthetics Clinic</td>
</tr>
<tr>
<td>Allied Health</td>
<td>Endocrine Clinic</td>
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<tr>
<td>Mental Health</td>
<td>Neonatal Unit</td>
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</table>
Eligible Private Practice Midwives (EPPM)

- A minimum of 3 years fulltime experience and no restrictions on practice
- Current competence across full scope of midwifery practice
- Completed a professional review process endorsed by NMBA
- Additional 20 hours of CPD
- Completion of a prescribing course within the time limit
How do EPPMs obtain collaborative arrangements with RBWH?

- Have eligibility notation with AHPRA
- Sign a Collaborative Arrangement/ Access Licence Agreement
- Be granted credentialing privileges at MNHHS - RBWH
- Orientated to MNHHS/RBWH processes
EPPM care model

- Women must reside in catchment and be Medicare eligible
- An all-risk model
- Antenatal care provided in community by EPPM
- Women assessed (as per National Consultation & Referral Guidelines) at first midwife visit & categorised appropriately for plan of care
- EPPM may or may not remain the lead carer
- EPPM provides antenatal, intrapartum and postnatal care
- If women wish to use their PHI they should be referred to the POLO’s as per normal process and be under care of a Private Obstetrician. EPPM may attend as support person as above.
- Referred following discharge to EPPM for postnatal care in community
- EDS & CMS form completed as normal and sent to EPPM
Maternity Choices Australia (MCA)

- National maternity consumer advocacy organisation working to improve maternity care for women
- Previously called Maternity Coalition
- Not-for-profit and consumer driven
- We advocate for access to woman-centred continuity of carer that respects women’s decisions and dignifies women’s childbearing work
- We promote consumer participation in all levels of policy planning and decision making, consistent with the National Safety & Quality Health Service Standard 2: Partnering with Consumers

Maternity Choices Australia

“Maternity care will be woman-centred, reflecting the needs of each woman within a safe and sustainable quality system”

National Maternity Services Plan (NMSP, 2010-2015)

• MCA advocates for the implementation of the NMSP Priority Actions
  – Improve women’s access to continuity of care and carer (Priority 1.2.1)
  – Credential Medicare Eligible Private Practice Midwives (EPPMs) to provide intrapartum care at hospitals (Priority 1.2.2)
  – Continuity of midwifery carer enhances women’s health, satisfaction and confidence, as well as costing less to provide than standard fragmented care

• MCA supports women’s informed decision making about model of care
  – Refer QCMB 2012 North Brisbane Region Report and
  – Metro North Perinatal Health and Maternity Services Forum presentations
Case work
Role of small group facilitator

• Each group will have a group facilitator
  – To observe
  – To assist participants to stay on task
  – To assist participants to tease out the cases

• Cases are deliberately short on detail. The aim is to:
  – focus on process rather than particular details
  – consider probable outcome as well as possible, more risky outcomes
Task 1

- You require a scribe and a presenter
- You have 15 minutes
Red Group
Task 1 - 1\textsuperscript{st} trimester pregnancy

• Julie is a healthy 24 year old
• LNMP was 4 weeks ago & uHCG is positive
• This is her first pregnancy, she has no private health insurance & she wants to know what comes next
• She has a 15 min appointment. Outline your approach.
NHMRC Iodine recommendation 2010

• an essential nutrient humans need in very small quantities
• Thyroid uses iodine to produce hormones vital to ensure normal development of brain and nervous system before birth, in babies and young children. For this reason, it is very important that pregnant and breastfeeding women get enough iodine.
• The NHMRC recommends that all women who are pregnant, breastfeeding or considering pregnancy, take an iodine supplement of 150 micrograms (μg) each day.
• Women with pre-existing thyroid conditions should seek advice from their medical practitioner prior to taking a supplement
• Women who are thyrotoxic, have Graves disease or a multinodular goitre should not take supplemental iodine!
Iodine supplementation

- www.foodstandards.gov.au
- Iodine fortification of bread and folate mandatory since 2009; not at high enough levels for pregnancy; supplementation is still recommended
- **Most Pregnancy & Breastfeeding formulas contain iodine.** If multivitamin not required, Blackmores have I-Folic which is 500 mcg of Folic Acid and 250 mcg of Iodine @ ~ $20 for 150 tablets
- Iodinised salt recommended for women of child bearing age
Specific STI testing

• National guidelines recommend testing *all* women under the age of 25 for Chlamydia as part of their antenatal screen

• Statewide pregnancy health record recommends testing all high risk women for syphilis in the third trimester as well as the first
Queensland dTpa vaccination program for pregnant women

- Vaccination during pregnancy more effective in reducing risk of pertussis in young infants than vaccination of mother post partum
- This is due to direct passive protection to newborn by trans placental transfer of high levels of pertussis antibodies from vaccinated woman to fetus

Queensland dTpa vaccination program for pregnant women

• Recommended as a single dose during the third trimester (from 28 weeks) of each pregnancy for women who are clinically eligible

• Funded by Queensland Health

dTpa recommendations for other household contacts

• Not funded but recommended that adult household contacts and carers of infants <6 months of age should ideally receive a dTpa vaccine at least 2 weeks before beginning close contact with the infant.

• A booster dose of dTpa is recommended if 10 years have elapsed since a previous dose.

Influenza

• Pregnant women (and women planning pregnancy) are recommended to be immunised against influenza

• Although it is recommended that all pregnant women should be immunised as early as possible in pregnancy, precise timing of vaccination will depend on time of year, vaccine availability, influenza seasonality, gestation of pregnancy and likely duration of immunity.
Blue group
Task 1 - 1st trimester pregnancy

• Anna is a healthy 32 year old aboriginal woman who is very pleased as her period is overdue & her home pregnancy test is positive

• She has been stable on 100 mcg of thyroxine o.d. for several years & is taking no other medication

• She has a 15 min appointment. Outline your approach.
Aboriginal and/or Torres Strait Islander services

Projects

**Ngarrama (Antenatal and Birthing Services)**
Midwife services at Caboolture, Redcliffe and RBWH designed specifically for Aboriginal and Torres Strait Islander women with Advanced Health Worker at each.

Home visiting by the Indigenous Health Service in P&CH

**Hospital Liaison Officer Project**
Develop and implement a consistent Indigenous hospital liaison service across the North, based on the principles of safety and quality, genuine stakeholder engagement, service integration and cultural competence, to best support Aboriginal and Torres Strait Islander patients to navigate the complex healthcare journey.

**For Me & Bub**
For Me & Bub is a training program that aims to increase and maintain the skills of the maternal and child health workforce to deliver culturally effective alcohol, tobacco and other drug (ATOD) brief interventions with their clients so as to encourage and support Indigenous women to abstain from substance use during pregnancy.

The Program has two training components:
Step 1 - Online brief intervention training for all Queensland Health child and maternal health staff (Alcohol, Tobacco and Other Drugs Brief Intervention Training: A Guide for Maternity and Child Health Workers Program)

Step 2 - Face-to-face training for Queensland Health child and maternal health staff who work closely with Aboriginal and Torres Strait Islander clients (For Me & Bub Program).

To register for the Me & Bub Training Program please fill in the For Me & Bub registration form.
Working together to support Aboriginal and/or Torres Strait Islander families

• Ngarrama birthing service
• MNBML Closing the gap
Thyroxine management in pregnancy

- In women with hypothyroidism, TSH should be < 2.5 before and during pregnancy.
- Thyroxine requirements increase in pregnancy – recommend well controlled women increase dose by 30% at time pregnancy is confirmed; which practically translates into taking an extra dose twice a week e.g. Mon, Thurs.
- Known hypo or hyper thyroidism, check TFT regularly during pregnancy (~ every 6 - 8 weeks).
- Thyroxine can generally be decreased after birth.
Thyroid tips

- Routine testing of TFT in pregnancy in low risk women is **not** recommended
- TSH generally drops in 1st trimester with rise in HCG
- For a suppressed TSH lower than the lower limit of lab reference range, check Free T4. Women with a suppressed TSH and normal range Free T4 are normal and do not need referral
- Women with suppressed TSH and elevated Free T4 need clinical review and possibly referral
Vitamin D deficiency

• It is recommended that pregnant women at risk for vitamin D deficiency be tested in early pregnancy OR provided with vitamin D supplementation

• Pregnant women at risk of vitamin D insufficiency include:
  – All veiled women e.g. Muslim, including those wearing head scarves
  – Darker skinned women e.g. Aboriginal, North African, Indian and Sri Lankan
  – Newly arrived refugees
  – Obese women
  – Anyone who has very little UV exposure for any reason
Vitamin D deficiency


• Supplements: 25 mcg Ostelin® daily or OsteVit-D containing vitamin D3 (cholecalciferol) 1000 IU


• 3000-5000 IU/day for at least 6-12 weeks is required to treat moderate to severe deficiency for most people.

• Check levels after 3 months, continue 1000-2000 IU/ day with adequate calcium intake
Vitamin D deficiency

Useful statements and guidelines

Obstetrics

Routine Antenatal Care

GBS Swab Sheet (Diagram) (C-Obs 19a) (pdf 453.38kB)
Guidelines for the Use of RhD Immunoglobulin (Anti-D) in Obstetrics in Australia (C-Obs 06) (pdf 53.48kB)
Joint HGSARANZCOG Prenatal Diagnosis Policy (C-Obs 09) (pdf 78.87kB)
Management of Obesity in Pregnancy (C-Obs 49) (pdf 170.69kB)
Maternal Group B Streptococcus (GBS) in Pregnancy: Screening and Management (C-Obs 19) (pdf 146.61kB)
Measurement of Cervical Length in Pregnancy (C-Obs 27) (pdf 123.82kB)
Pre-pregnancy and Pregnancy Vaccinations (C-Obs 44) (pdf 49.83kB)
Pre-pregnancy Counselling (C-Obs 03a) (pdf 120kB)
Prenatal Screening for Fetal Abnormalities (C-Obs 35) (pdf 122.22kB)
Prenatal Screening Tests for Trisomy 21, Trisomy 18 and Neural Tube Defects (C-Obs 04) (pdf 133.34kB)
Progestosterone Support of the Luteal Phase and Early Pregnancy (C-Obs 29a) (pdf 178.14kB)
Progestosterone: Use in the Second Trimester and Third Trimester of Pregnancy (C-Obs 29b) (pdf 119.36kB)
Routine Antenatal Assessment in the Absence of Pregnancy Complications (C-Obs 03b) (pdf 133.68kB)
Testing of Serum TSH Levels in Pregnant Women (C-Obs 46) (doc 134.51kB)
Vitamin and Mineral Supplementation in Pregnancy (C-Obs 20) (pdf 118.59kB)

Relevant advice from other bodies

Sports Medicine Australia (SMA) - The benefits and risks of exercise during pregnancy (Endorsed by Council November 2004)

Perinatal Mental Health

Perinatal Anxiety and Depression (C-Obs 48) (pdf 118.33kB)

Orange group

Task 1 - 1st trimester pregnancy

• Nicole - a healthy 37 year old with a BMI of 40 presents following positive home pregnancy test.
• She states home pregnancy test performed 3/52 earlier was negative.
• Nicole is unsure as to when she fell pregnant as periods irregular and LNMP was 7 weeks ago.
• Nicole has been taking Folic Acid 0.5 mg daily and wants to know what to do next.
• She has a positive family history of VTE
• 15 min appointment booked. Outline approach
Risk of high pre-pregnancy BMI

Maternal Risks
- Maternal death or severe morbidity
- Thromboembolism
- Gestational diabetes
- Hypertension & Pre-eclampsia
- Macrosomia
- Induction of labour
- Instrumental delivery
- Infection post CS
- Post partum haemorrhage
- Post partum weight retention
- Anaesthetic challenges
- Excess gestational weight gain
- Lactation failure

Fetal/Baby Risks
- Congenital abnormalities
- Poor US visualisation/difficult foetal surveillance
- Stillbirth
- Large for gestational age
- Shoulder dystocia
- Prematurity
- Neonatal death
- NICU admissions
- Less breastfeeding
- Childhood obesity and chronic disease

1Qld Health Obesity Clinical Guideline
Birth weight and BMI – Log Scale

Mode of birth and BMI

Perinatal mortality by BMI

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
Obesity guidelines

Obesity in pregnancy

- Advise hospital of BMI so appropriate internal referrals can be made i.e. Dietician and Anaesthetist; and consideration can be given to suitability for a modified model of care.

- For women with a BMI > 35
  - Routine scheduled bloods plus E/LFT, OGTT, and urine protein/creatinine ratio
  - Consider advising women to take 5 mg of Folate daily preconception & in 1st trimester as at higher risk of impaired glucose tolerance
  - If 1st trimester OGTT is negative, OGTT at 26-28 weeks
Obesity in pregnancy

- It is recommended that women with a BMI > 30 are weighed at each visit.
- Advise women of their target weight gain based on **pre-pregnancy BMI** (Refer to page 6 PHR).

<table>
<thead>
<tr>
<th>Target weight gains</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-pregnancy BMI (kg/m^2)</strong></td>
</tr>
<tr>
<td>-----------------------------</td>
</tr>
<tr>
<td>Less than 18.5</td>
</tr>
<tr>
<td>18.5 to 24.9</td>
</tr>
<tr>
<td>25.0 to 29.9</td>
</tr>
<tr>
<td>Greater than or equal to 30.0</td>
</tr>
</tbody>
</table>

*Calculations assume a 0.5–2 kg weight gain in the first trimester for single babies. Refer to dietitian if multiple pregnancies, as different goals required.
Pregnancy weight gain chart

- Two resources available depending on pre-pregnancy BMI (<25 kg/m² vs. >25 kg/m²)
- Weight gain chart encourages self monitoring
- Self monitoring with behaviour modification supports ongoing behaviour change
Obesity in pregnancy

• Talk to women about their weight and increased associated risks
  – During pregnancy
    • Limitations on ultrasound screening for fetal anomaly and growth
    • Increased risk of diabetes, hypertension
  – Intrapartum
    • Difficulty with monitoring fetal wellbeing in labour
    • Increased likelihood operative birth
    • Increased risk of anaesthetic difficulties
Obesity in pregnancy

• Postpartum
  – Increased risk of thromboembolism
  – Problems with establishing effective lactation

Always couple this discussion with opportunities to alleviate the risks such as healthy gestational weight gain, healthy eating and physical activity
Clinical Service Capability Frameworks
Govern the services we provide

Table 1: Maternity service capability level matrix for birthing services (indicative only)

<table>
<thead>
<tr>
<th>Minimum expected foetal characteristics</th>
<th>Maternal risk</th>
<th>Clinical maternity service capability level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Moderate</td>
</tr>
<tr>
<td>37 weeks gestational age or greater</td>
<td>Level 2/3</td>
<td>Level 4</td>
</tr>
<tr>
<td>32 weeks gestational age or 1500 grams</td>
<td>Level 4</td>
<td>Level 4</td>
</tr>
<tr>
<td>29 weeks gestational age or 1000 grams</td>
<td>Level 5</td>
<td>Level 5</td>
</tr>
<tr>
<td>Less than 29 weeks gestational age</td>
<td>Level 6</td>
<td>Level 6</td>
</tr>
</tbody>
</table>

Note to table: Combines level of maternal risk with foetal gestational age and weight

First visit to GP

• Refer early for:
  – Antenatal clinic for early obstetrician review
  – Dietitian to optimise weight in pregnancy

• Initiate:
  – GTT in 1st trimester ? Type 2 DM; E/LFT; Protein/Creatinine ratio
  – Early US – confirm gestational age
  – High dose folic acid 5 mg daily
  – Screen for cardiovascular disease
  – Detailed anomaly scan & screening for congenital anomaly for all obese women
First visit to GP

- Consider early referral for initiation of:
  - Low dose aspirin 75mg/day, if obese and there is an additional risk factor for hypertension
  - Antenatal thromboprophylaxis if obese and there is an additional risk factor for DVT
  - Refer to Queensland Clinical Guideline: *Venous thromboembolism (VTE) prophylaxis in pregnancy and the puerperium*
Venous thromboembolism (VTE)

- Second leading cause of direct maternal death in Australia
- QLD Clinical Guideline: *VTE prophylaxis in Pregnancy and the Puerperium* updated October 2014
- RBWH, Redcliffe and Caboolture Hospitals support and endorse this clinical guideline
- All mothers both antenatal and postnatal are risk assessed for VTE at each visit
- Education and prophylaxis recommended for women with more than 3 risk factors
VTE Antenatal Assessment

**High Risk Factors**
- Single prior unprovoked VTE
- Single prior VTE pregnancy or COCP related
- Single prior VTE + thrombophilia
- Single prior VTE + family history of thrombophilia
- Prior recurrent VTE (>1)
- Family history VTE (but no personal history VTE) + antithrombin deficiency

**Known Risk Factors**
- **Socio-demographic**
  - Age ≥ 35 years
  - BMI ≥ 30 kg/m²
  - Cigarette smoker (>10/day)
- **Medical history**
  - Systemic lupus erythematosus
  - Cardiac or lung disease
  - Sickle cell disease
  - Gross varicose veins
  - Inflammatory conditions
  - Nephrotic syndrome
  - Cancer
  - Pre-existing diabetes
  - Ovarian hyperstimulation
- **Pregnancy related**
  - Immobility (e.g. bed rest, long distance travel)
  - Preeclampsia/eclampsia
  - Artificial reproductive therapy
  - Gestational diabetes
  - Multiparity (> 2)
  - Multiple pregnancy
  - Intrauterine growth restriction
  - Hyperemesis/dehydration
  - Current systemic infection (requiring antibiotics or hospitalisation)
  - Antepartum haemorrhage
  - Surgical procedure in pregnancy
- **VTE/Thrombophilias**
  - Single prior provoked VTE (not COCP related)
  - Asymptomatic thrombophilia (inherited or acquired)
  - Family history VTE
  - Family history VTE (but no personal history VTE) + thrombophilia (excluding antithrombin deficiency)
  - No personal or family history of VTE but significant laboratory thrombophilia
  - Antiphospholipid antibodies

**High Risk**
- Discuss GCS
- LMWH prophylaxis
- Consider IPC if hospitalised

**Moderate Risk**
- Discuss GCS
- Consider IPC if hospitalised
- Consider LMWH prophylaxis

**Lower Risk**
- 0 - 2 risk factors

**All Risk**
- Clinical surveillance
- Encourage mobilisation
- Avoid dehydration

Green group

Task 1 - 1st trimester pregnancy

• Carol is a healthy 40 year old presenting with a positive pregnancy test. Her first child, now 23 years old was born naturally at term weighing 4734g
• Her BMI is 24, her blood tests (FBC, E/LFT, TFT, Iron studies) from 2 years ago were normal and her family is healthy.
• She requests an US “just to be sure” as she knows her risk of miscarriage is high and she wants to see the baby’s heart beat ASAP.
• She has a 30 min appointment. Outline your care
## Ultrasound costs - clinics compared

<table>
<thead>
<tr>
<th>Practice</th>
<th>NTS</th>
<th>Morphology</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMED Radiology</td>
<td>$160; Rebate $60</td>
<td>$185; Rebate $85</td>
</tr>
<tr>
<td>Q Scan</td>
<td>$130; Rebate $90</td>
<td>$230; Rebate $120</td>
</tr>
<tr>
<td>QDI</td>
<td>$140</td>
<td>No concession card $190 Rebate $100</td>
</tr>
<tr>
<td></td>
<td>Can claim $50 back from Medicare but not guaranteed as GP needs to put Medicare eligible details for patient to get rebate</td>
<td></td>
</tr>
<tr>
<td>Red Radiology</td>
<td>$210; Rebate $60</td>
<td>$250; Rebate $100</td>
</tr>
<tr>
<td>Paula Sivyer</td>
<td>$385; Rebate $60</td>
<td>$385; Rebate $85</td>
</tr>
<tr>
<td>So+Gi</td>
<td>$345; Rebate $60</td>
<td>$345; Rebate $157</td>
</tr>
<tr>
<td>Qld Xray</td>
<td>$230; Rebate $80</td>
<td>$225; Rebate $85</td>
</tr>
</tbody>
</table>

*Note: Accurate as of February 2015 - Not an exhaustive list and not QH endorsed*
Eligibility

• Medicare requirements:
  General Practitioners are limited to one pregnancy ultrasound request for services performed from 17 to 22 weeks and one request for scans performed on patients over 22 weeks gestation. To attract a Medicare rebate any additional scans required must be referred by a Member or Fellow of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists or Medical Practitioners who have a Diploma of Obstetrics.

*If ordered by a GP, a Medicare rebate is payable for an ultrasound of the pelvis related to pregnancy or a complication thereof, for a gestational age of less than 16 weeks (as determined by ultrasound), so long as one or more of the following conditions is present and noted on the referral.........*
Eligibility

1. The patient is referred by a medical practitioner or midwife, and
2. One or more of the following conditions are present:

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hyperemesis gravidarum</td>
<td>Diabetes mellitus</td>
</tr>
<tr>
<td>Risk of fetal abnormality</td>
<td>Hypertension</td>
</tr>
<tr>
<td>Previous post dates delivery</td>
<td>Autoimmune disease</td>
</tr>
<tr>
<td>Abdominal wall scarring</td>
<td>Alloimmunisation</td>
</tr>
<tr>
<td>Inflammatory bowel disease</td>
<td>Maternal infection</td>
</tr>
<tr>
<td>Advanced maternal age</td>
<td>Bowel stoma</td>
</tr>
<tr>
<td>Toxaemia of pregnancy</td>
<td>Drug dependency</td>
</tr>
<tr>
<td>Significant maternal obesity</td>
<td>Thrombophilia</td>
</tr>
<tr>
<td>Previous caesarean section</td>
<td>Abdominal pain or mass</td>
</tr>
<tr>
<td>Suspicion of ectopic pregnancy</td>
<td>Liver or renal disease</td>
</tr>
<tr>
<td>Previous spinal or pelvic trauma or disease</td>
<td>Poor obstetric history</td>
</tr>
<tr>
<td>Pregnancy after assisted reproduction</td>
<td>Risk of miscarriage</td>
</tr>
<tr>
<td>Suspected or known uterine abnormality</td>
<td>High risk pregnancy</td>
</tr>
<tr>
<td>Suspected or known cervical incompetence</td>
<td>Uncertain dates</td>
</tr>
<tr>
<td></td>
<td>Cardiac disease</td>
</tr>
</tbody>
</table>
NTS/first trimester US rebate list

• Lots of clinical indications including:
  – Maternal age > 35
  – Risk of miscarriage
  – Risk of fetal abnormality
  – Uncertain dates
  – Previous LSCS
  – Pregnancy after assisted reproduction
Pink group
Task 1 - 1st trimester pregnancy

• Kate is a 34 year old G3P2 who has an unplanned pregnancy.
• It is 6 weeks since her LNMP and she presents with PV bleeding.
• She is a blood donor and upon asking, informs you that her blood group is A Rh neg.
• She has a 15 min appointment. Outline your approach.
First trimester bleed

- Is the woman haemodynamically stable?
- What is her blood group?
- Where is the fetus?
- Is the fetus viable?
Incomplete miscarriage treatment options

- **Expectant**
  - Follow up US if still bleeding after 2 weeks OR if painful, heavy bleeding

- **Medical management** (initiated by hospital, refer to EPAU)
  - Misoprostol proven effective in 80 – 85% of miscarriages < 13/52
  - x 2 doses administered PV on consecutive days
  - bleeding & pain occur ~ 2-4 hours after 1st dose and lasts up to 24-72 hours before miscarriage is completed
  - period-like bleeding will then occur over next week or so
  - ~ 10% of women have excessive pain or bleeding — medical review; D & C may be required
  - hospitalisation for heavy bleeding or infection occurs in < 1% of women
  - not TGA registered for use in pregnancy. Use supported by QH & RANZCOG

- **Surgical management**
Pregnancy of unknown location (PUL)

• An Intrauterine pregnancy (IUP) is one where a yolk sac is seen – no yolk sac = a PUL

• If you have no yolk sac, especially if the HCG is > 800-1000, be cautious

• Be very cautious.....
Classic ectopic symptoms & risk factors

- Triad of:
  - Amenorrhea, 6-8 weeks post LNMP
  - Abdominal pain (especially shoulder/rectal)
  - Bleeding

- Most significant risk factors:
  - Previous ectopic pregnancy
  - Pregnancy associated with emergency contraception/POP/IUDs
  - Tubal surgery/infection/PID
Ultrasound: Correlation with B-HCG

• IUP can usually be seen with B-HCG levels above 800
• A threshold of 1500 will detect 98% of IUPs
  – Pitfall; multiple pregnancy
• Higher thresholds will result in more missed ectopics
• An IUP almost always excludes ectopic (heterotopic awareness when risk factors)
Appropriate rise in HCG

- B-HCG usually doubles every 48hrs between 5-8 weeks gestation in a viable IUP
  - If the B-HCG is slowly rising by < 50%, it is usually a non-viable IUP, or ectopic (99% accuracy)
  - Consider multiple or molar pregnancy in rapidly rising levels
  - Single isolated level is less useful for uncertain clinical scenarios
Termination of pregnancy (TOP)

- Women with complications or fetal abnormalities may request termination
- Qld Health capacity is limited, no dedicated service
- RBWH can do TOP beyond 22 weeks, but ethics committee process may take several weeks
- Private facilities include:
  - Greenslopes Day Surgery
  - Dr Marie (Salisbury, Bowen Hills)
  - Bowen Hills TOP beyond 20 weeks
Metro North Guideline

• Refer to section 13. *Management of Rh D negative women*

• Pregnant women who are Rh D negative fall into two categories: those with and those without Anti-D antibodies

• **Women with Rh D (or any other) antibodies are not suitable for shared care**
Routine Anti-D prophylaxis

Anti-D can be ordered from the Red Cross and QML will deliver it to surgeries. Please record the routine administration at 28 and 34-36 weeks on page 4 of the Pregnancy Health Record (PHR) 625 IU (125 μg) is recommended for ALL Rh negative women unless they are antibody positive.

<table>
<thead>
<tr>
<th>Anti D Prophylaxis (Rh Negative women only)</th>
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</thead>
<tbody>
<tr>
<td>Week 26:</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>If no, reason:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laboratory Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>For management of high risk populations, see the Primary Clinical Care Manual</td>
</tr>
<tr>
<td>Date</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Blood group</td>
</tr>
<tr>
<td>Antibody screen</td>
</tr>
<tr>
<td>Antibody screen 28/34 weeks for Rh negative</td>
</tr>
<tr>
<td>Hb g/L</td>
</tr>
<tr>
<td>GCT / OGTT</td>
</tr>
<tr>
<td>RPR / TPHA (For high risk women: repeat at 28–28, 34 weeks and post birth)</td>
</tr>
<tr>
<td>Hep B</td>
</tr>
</tbody>
</table>

URN: 
Family name: 
Given name(s): 
Address: 
Date of birth: 
Anti-D administration

- QML will deliver Anti D as part of their routine courier service. An order form can be downloaded from [www.qml.com.au](http://www.qml.com.au) and faxed to QML blood bank
  - Fax: 33719029
  - Ph: 3146 5122
- Requests processed daily, Anti D delivered with the first courier run of the day, leaving QML at 6:30am
- If your practice has an immunisation fridge, you may be able to order and keep a small supply
- Anti D must be administered within 72 hours of the sensitising event
- If you do not have a QML service, Anti D can be sent by taxi or courier, for a fee
Anti-D administration

• If you don’t have access to anti–D, please contact and refer the woman to:
  – Hospital A & E for early pregnancy bleeding
  – Maternity Assessment Unit for routine prophylaxis

• If bleeding or this is 28/40 injection, send with copy of recent blood group and antibody result

• Blood group & antibody test not required for 34/40 injection if done at 28/40
Changes to Anti D use

- Insufficient evidence to support use of Rh D immunoglobulin in bleeding prior to 12 weeks gestation in an ongoing pregnancy. However; if pregnancy then requires curettage or spontaneous miscarriage occurs, 250 IU Rh D immunoglobulin should be given.

- If miscarriage or termination after 12 weeks gestation, 625 IU (125 μg) Rh D immunoglobulin should be offered

Anti-D prophylaxis for potentially sensitising events

- Potentially sensitising events defined as any situation in which there is increased likelihood of fetal RBC’s entering maternal circulation. These include:
  - uterine bleeding in pregnancy ranging from threatened* miscarriage to antepartum haemorrhage. However, evidence insufficient to suggest a threatened miscarriage before K12 necessitates Anti-D
  - abdominal trauma in pregnancy
  - uterine or intra-uterine intervention (such as external cephalic version, amniocentesis, etc). However, responsibility for prophylaxis rests with the hospital at which these interventions are performed.

*Anti-D to be given for threatened miscarriage in 2nd trimester
<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Presenter/Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.30 pm</td>
<td>Welcome address</td>
<td>Graeme Jackson</td>
</tr>
<tr>
<td>6.35 pm</td>
<td>Housekeeping I Learning Outcomes I Useful resources</td>
<td>Davina Miller</td>
</tr>
<tr>
<td>6.40 pm</td>
<td>Models of care</td>
<td>Julie Cox</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Belinda Barnett</td>
</tr>
<tr>
<td>6.50 pm</td>
<td>Case work: Task 1</td>
<td>All</td>
</tr>
<tr>
<td>7.05 pm</td>
<td>Present task 1</td>
<td>Davina Miller</td>
</tr>
<tr>
<td></td>
<td>Feedback &amp; Discussion</td>
<td></td>
</tr>
<tr>
<td>8 pm</td>
<td>Antenatal testing for chromosomal abnormality</td>
<td>Pauline McGrath</td>
</tr>
</tbody>
</table>
Metro North Maternity GP Alignment Program

Antenatal testing for chromosomal abnormality

Pauline McGrath
Senior Genetic Counsellor, Genetic Health Queensland. RBWH
pauline.mcgrath@health.qld.gov.au
# Chromosome risk by maternal age (at term)

<table>
<thead>
<tr>
<th>Age-Maternal</th>
<th>Downs Syndrome</th>
<th>All chromosomal risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>1 in 1350</td>
<td>1 in 476</td>
</tr>
<tr>
<td>30</td>
<td>1 in 940</td>
<td>1 in 385</td>
</tr>
<tr>
<td>35</td>
<td>1 in 350</td>
<td>1 in 179</td>
</tr>
<tr>
<td>36</td>
<td>1 in 270</td>
<td>1 in 149</td>
</tr>
<tr>
<td>37</td>
<td>1 in 200</td>
<td>1 in 123</td>
</tr>
<tr>
<td>38</td>
<td>1 in 150</td>
<td>1 in 105</td>
</tr>
<tr>
<td>39</td>
<td>1 in 110</td>
<td>1 in 81</td>
</tr>
<tr>
<td>40</td>
<td>1 in 85</td>
<td>1 in 63</td>
</tr>
<tr>
<td>45</td>
<td>1 in 35</td>
<td>1 in 19</td>
</tr>
</tbody>
</table>

With acknowledgement to Dr Glenn Gardener for most of the following slides.
Assess knowledge and provide information

- Variable consumer understanding of Down syndrome
- Less known about trisomies 18 (Edward syndrome) & 13 (Patau syndrome) – both life limiting
- Cultural and language barriers
- Provide verbal and written information
- Document
  - Information provided *, offer of test/s *, response*

* Use QHealth templates to facilitate this
Benefits vs. Risks of testing

• Some parents will choose to terminate with diagnosis of fetal abnormality
  – In an analysis of QLD pregnancies affected by Down Syndrome in 2007-08, 50.4% were terminated prior to 20/40 of pregnancy (Howell, 2009)

• Preparation for birth is a valid reason for testing

• Monitoring – T21 has 30% risk of fetal demise between 12 – 40 weeks

• Fetal echocardiography (50% T21 have cardiac anomaly)

• Risks of testing - CVS/Amniocentesis procedure related risks, maternal anxiety around uncertain results and decision making
Advantages of screening

• Screening at 11-13 weeks enables definitive testing by CVS before 15 weeks
• Reduction in invasive testing and its risks - women who may have considered invasive testing opt for risk assessment, resulting in fewer procedure-related pregnancy losses
• Best detection rate
  • 1\textsuperscript{st} Trimester combined screening detection rate of 85-90%
  • 2\textsuperscript{nd} Trimester screening (triple test) detection rate of 70%
Screening vs. Diagnosis

• Screening tests include:
  – Nuchal translucency scan
  – First trimester combined screen
  – 2nd trimester triple test
  – Morphology scan

• Diagnostic tests include:
  – Chorionic villus sampling (CVS)
  – Amniocentesis
Nuchal translucency scan
11 to 13+6 weeks

Sensitivity (detection rate) = 70% (7/10 cases detected)
Screen positive rate = 5% (1/20 screened ‘high risk’)

Nasal bone

Presence of NB increases the sensitivity of screening
Absent nasal bone (NB)

- What is it?
  Delayed ossification of the NB such that on ultrasound it is not visible
  It does NOT mean that the baby does not have a nose!
Absent nasal bone

• At 11-13 weeks gestation, approx 1-2% of normal fetuses have an absent nasal bone
• Approx 60% Trisomy 21 fetuses have an absent nasal bone
• Overall effect on screening is increased detection and reduced screen positives
Combined First Trimester Screen

- Nuchal translucency scan with *Papp-A + BHCG (9-13 weeks)
- Detection rates for Down syndrome 85-90% (9/10)
- Screen positive rate 5% (1/20 women will be given a ‘high risk’ result)
- Cut-off for high risk 1/300
- Results should be ‘combined’ and not provided separately by scan and biochemistry

*Papp-A = Pregnancy associated plasma protein A
Example report
combined first trimester screen

Indication: 1st Trimester screening


Gestational age: 12 weeks + 3 days.

First Trimester Ultrasound:
transabdominal US with Voluson BT05. Ultrasound view: good.

Fetal heart action is present, frequency 164 bpm.

Crown-rump length (CRL) 60.2 mm
Biparietal diameter (BPD) 19.9 mm
Femur length (FL) 6.6 mm

Nuchal translucency 2.00 mm

Placenta is normal. Amniotic fluid volume is normal.

Anatomy Survey:
- Skull: Seen
- Abdomen: Seen
- Spine: Seen
- Stomach: Seen
- Bladder: Seen
- Feet: Seen
- Hands: Seen

Maternal Serum Biochemistry:
Sample taken on 03.03.2010.


Free beta hCG: 39.000 IU/l, equivalent to 0.8510 MoM.
PAPP-A: 2.300 IU/l, equivalent to 0.6719 MoM.

Estimated risk for chromosomal abnormalities:

<table>
<thead>
<tr>
<th></th>
<th>Trisomy 21</th>
<th>Trisomy 18</th>
<th>Trisomy 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background risk:</td>
<td>1 : 267</td>
<td>1 : 640</td>
<td>1 : 2010</td>
</tr>
<tr>
<td>Ultrasound risk:</td>
<td>1 : 2173</td>
<td>1 : 3215</td>
<td>1 : 25877</td>
</tr>
<tr>
<td>Biochemistry risk:</td>
<td>1 : 626</td>
<td>1 : 4552</td>
<td>1 : 5169</td>
</tr>
<tr>
<td>Adjusted risk:</td>
<td>1 : 5115</td>
<td>1 : 12794</td>
<td>1 : 40199</td>
</tr>
</tbody>
</table>

The estimated risk is calculated by the FMF-2009 software and is based on findings from extensive research coordinated by the Fetal Medicine Foundation (UK Registered charity 1037116). The risk is only valid if the ultrasound scan was performed by a sonographer who has been accredited by the Fetal Medicine Foundation and has submitted results for regular audit (see www.fetalmedicine.com). The adjusted risk is the risk at the time of screening. Nasal bone included. The FMF risk calculation for this scan was performed by Alison Lee-Tannock.

Conclusion: Combined biochemistry and nuchal translucency risk for Trisomy 21 is low. A low risk as recommended by Fetal Medicine Foundation is considered less than 1 in 300.
Triple test

- Blood test at 15-20 weeks gestation
- BHCG + Oestriol + alpha fetoprotein (AFP)
- Detection rate 70% (7/10 cases detected)
- Screen positive rate 5% (1 in 20 women screened will be given a ‘high risk’ result)
- Provides risk assessment for open neural tube defects (AFP)
- Uses 1/250 cut-off for high risk for chromosomal abnormalities
- Needs dating scan to get best test performance
- Better availability & cheaper than NTS or FTCS
- Provides options for screening later in pregnancy
## Aneuploidy tests compared

<table>
<thead>
<tr>
<th>Test</th>
<th>Down Syndrome Detection Rate</th>
<th>Screen positive rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuchal translucency scan (NTS)</td>
<td>70%</td>
<td>5%</td>
</tr>
<tr>
<td>Combined NTS, Serum testing (B HCG, PAPP-A*)</td>
<td>85-90%</td>
<td>5%</td>
</tr>
<tr>
<td>Second trimester serum test (Free B HCG, oestriol, AFP** +/- Inhibin)</td>
<td>65-70%</td>
<td>5%</td>
</tr>
<tr>
<td>Morphology scan</td>
<td>20-50%</td>
<td>10-15%</td>
</tr>
<tr>
<td>Non-Invasive Prenatal Testing (NIPT)</td>
<td>99%</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

*Pregnancy-associated plasma protein A  
**Alpha-fetoprotein
# Nuchal translucency size and outcome

<table>
<thead>
<tr>
<th>Nuchal translucency</th>
<th>% Chromosomal defects</th>
<th>% Normal karyotype – fetal death usually prior to 20 weeks of gestation</th>
<th>% Normal karyotype – major fetal abnormalities</th>
<th>% Normal karyotype – alive and well</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 95th centile</td>
<td>0.2</td>
<td>1.3</td>
<td>1.6</td>
<td>97</td>
</tr>
<tr>
<td>3.5 – 4.4mm</td>
<td>21.1</td>
<td>2.7</td>
<td>10.0</td>
<td>70</td>
</tr>
<tr>
<td>4.5 – 5.4mm</td>
<td>33.3</td>
<td>3.4</td>
<td>18.5</td>
<td>50</td>
</tr>
<tr>
<td>5.5 – 6.4mm</td>
<td>50.5</td>
<td>10.1</td>
<td>24.2</td>
<td>30</td>
</tr>
<tr>
<td>&gt; or equal to 6.5mm</td>
<td>64.5</td>
<td>19.0</td>
<td>46.2</td>
<td>15</td>
</tr>
</tbody>
</table>
What else can be detected with FTCS?

- Increased nuchal translucency (>3.5mm)
  - associated with cardiac malformations, genetic syndromes and skeletal dysplasia
  - tertiary morphology scan 18-20 weeks gestation

- Low Papp-A (<0.4 MoM)
  - associated with pre-eclampsia, growth restriction & stillbirth
  - fetal growth & uterine artery Doppler assessment at 22-24 weeks gestation
Purpose of the 18-20 week ultrasound (US)

• **Confirm**
  – viability
  – gestational age by measuring fetal biometry

• **Assess**
  – number of fetuses
  – placental site
  – amniotic fluid volume
  – fetal anatomy
Detection rates for fetal abnormalities at 18-20 week morphology scan

- Neural tube defects (>90%)
- Cardiac abnormalities (major 40-75%)
- Cleft lip (>75%)
- Trisomy 21 (20-50%)
- Trisomy 13 (>90%)
- Trisomy 18 (>90%)
Morphology scan as Down syndrome screen

- Detection rates reported as low as 17% (Finland)
- Many ‘soft markers’ still reported on morphology USS but risk assessment using soft markers has changed to include effect of the absence of soft makers
- Potential danger of soft markers is from higher rates of invasive testing (10-15% screen positive rate) & associated risks
- Soft markers on morphology scan that are useful
  - thickened nuchal fold >6mm
  - short or absent nasal bone
- Echogenic bowel associated with early onset growth restriction, CMV and cystic fibrosis
- RANZCOG* and HGSA* do not recommend routine antenatal screening for T21 with morphology scan

*RANZCOG = Royal Australian and New Zealand College of Obstetrics and Gynaecology
*HGSA = Human Genetics Society of Australia
What about 3D/4D ultrasound?

1st trimester

3rd trimester
When should 3D/4D ultrasound be used in pregnancy?

• Main application is for ‘entertainment’ or ‘keepsake’ imaging
• In general fetal anomaly detection not significantly enhanced
• For surface anatomy abnormalities e.g. facial cleft, can assist in describing findings to parents
• Not used in screening for chromosomal abnormalities
Chorionic Villus Sampling (CVS) Abdominal (11 – 14 weeks)
Amniocentesis (15-20 weeks)

Best evidence reports pregnancy loss rates of 0.5-1:100 (0.5-1%) for both transabdominal CVS and amniocentesis.
Who to test

- *Inform and offer* screening and diagnostic tests for chromosomal abnormality to **ALL** pregnant women
- CFTS has best detection rate
- Access to nuchal translucency & cost means triple test is a valid option for many
- All screening tests are better than using maternal age risk alone
- Morphology scan has poor screening performance for Down syndrome but good detection rate for trisomies 18 and 13
Test ordering

• 1st trimester biochemistry - request Papp-A & free BHCG from 9-13 weeks gestation
• MoM’s used for risk assessment  (if Papp-A is < 0.4 MoM risk of pre-eclampsia, growth restriction, stillbirth - refer for fetal growth scan & uterine artery Dopplers at 22-24 weeks)
• Triple test - prefer EDC by dating scan, maternal weight, ethnicity, smoking status, diabetes, parity for improved risk evaluation
Post test review

• Explain risk results using different methods e.g. 1 in 100 = 1% percent
• Offer diagnostic testing by CVS or amniocentesis where appropriate
• Provide referral to Maternal Fetal Medicine for CVS or amniocentesis or complex counselling
• Provide written or web-based information
Referral

• For CVS or amniocentesis; or complex counselling due to high risk:
  – refer to RBWH Maternal Fetal Medicine

What’s new? NIPT!

Non-invasive prenatal assessment of trisomy 21 by multiplexed maternal plasma DNA sequencing: large scale validity study

Rossa WK Chiu, professor,1 Ranjit Akolekar, clinical research fellow,1 Yama W L Zheng, student,1 Tak Y Leung, professor,2 Hao Sun, assistant professor,3 KC Allen Chan, associate professor,1 Fiona M F Lun, postdoctoral fellow,1 Attie T J I Go, professor,4 Elizabeth T Lau, department manager and honorary assistant professor,5 William W K To, consultant,6 Wing C Leung, consultant,6 Rebecca Y K Tang, consultant,6 Sidney K C Au-Yeung, consultant,6 Helena Lam, consultant,6 Yu Y Kung, obstetrician,7 Xiuxing Zhang, manager,8,12 John M van Vught, professor,9 Ryoko Minekawa, postdoctoral fellow,9 Mary H Y Tang, consultant and honorary clinical associate professor,9 Jun Wang, professor,10 associate director,9 Cees B M Oudejans, associate professor,9 Tze K Lau, professor,9 Kypros H Nicolaides, professor,3 Y M Dennis Lo, professor12

ABSTRACT

Objectives To validate the clinical efficacy and practical feasibility of massively parallel maternal plasma DNA sequencing to screen for fetal trisomy 21 among high risk pregnancies clinically indicated for amniocentesis or chorionic villus sampling.

Design Diagnostic accuracy validated against full karyotyping, using prospectively collected or archived maternal plasma samples.

Conclusion Multiplexed maternal plasma DNA sequencing analysis could be used to rule out fetal trisomy 21 among high risk pregnancies. If referrals for amniocentesis or chorionic villus sampling were based on the sequencing test results, about 98% of the invasive diagnostic procedures could be avoided.

INTRODUCTION
Non-invasive Prenatal Testing (NIPT) for Trisomy 21

- Testing of fetal DNA from sample of mother’s blood, hence ‘non-invasive’; poses no risk to pregnancy
- Major benefit is significant reduction in need to perform invasive tests e.g. CVS or amniocentesis
- Very specific about the chromosomes it is testing (e.g. 21, 18, 13, X and Y)
- A negative NIPT test does not completely rule out the chromosomal abnormalities that it is testing for
- Whilst NIPT has high sensitivity and specificity as a screening test, invasive testing is recommended to confirm positive NIPT results
Non-invasive prenatal testing (NIPT) for Down syndrome

• Summary
  – Fetal DNA can be detected in maternal plasma. This can be used to identify chromosomal and genetic abnormalities
  – Concentration of free fetal DNA increases with advancing gestation. NIPT should not be performed before 10 weeks
  – NIPT has more than 99% sensitivity and specificity for trisomy 21. It can also be used to identify trisomy 18, trisomy 13 and 45X
  – NIPT will not detect all chromosomal abnormalities found by amniocentesis
Contingent screening model for Down syndrome - proposed model

All women offered combined first trimester screening as primary test

Low-risk women (risk <1 in 1000) (86.9% of women)

Intermediate-risk women (risk <1 in 50 to ≥1 in 1000) (11.9% of women)

High-risk women (risk ≥1 in 50) (1.2% of women)

Negative NIPT result (estimate 98%)

Positive NIPT result or 'no call' (estimate 2%)

No further testing (a total of 98.6% of women)

Invasive test (a total of 1.4% of women)
Overall detection of trisomy 21 is 97%
Current practice and NIPT

- Better than CFTS in sensitivity and specificity
- CFTS advantages – assess number of fetuses, structural abnormalities and other information regarding PAPP-A
- Mostly tested in a high risk population and reduces invasive testing by 80%
- Beneficial if women unable to access CFTS and/or over GA for NT
- Not reimbursed by Medicare and the costs vary
- False positives require testing by amniocentesis
- Patient counselling is paramount
Consumer fact sheet

Down Syndrome

Down Syndrome is more likely if your baby has a thick nuchal (Site at the back of neck). The nuchal score can be seen on your fetal echo tests and out of the normal range. Assessing the nuchal is a single point of diagnostic accuracy at it. It is important to check if the diagnosis and if there is an abnormality in the range. Down. Even if you don’t want to know about Down Syndrome, if you are over 35 weeks you can see your healthcare provider to give you the advice. The information is available to your local health and public providers and there is a nationwide registry.

Screening tests for Down Syndrome

1. Second trimester blood test: Triple Test
   This is a specific blood test that can be done between 15 and 20 weeks of pregnancy. This test can be offered during your first 20 weeks of pregnancy. It provides you with information about whether you have a higher risk of Down Syndrome and how many other conditions such as spina bifida.

2. First trimester blood test: combined test
   This test is performed between 11 and 13 weeks of pregnancy and needs a special blood test combined with the total hormone testing.

3. Amniocentesis
   This is a test that can be done between 15 and 20 weeks of pregnancy. It provides you with information about whether your baby has Down Syndrome and any other conditions such as spina bifida.

4. Nuchal Translucency ultrasound is a special test
   Nuchal Translucency ultrasound: this test is a blood test that identifies baby DNA in your blood stream and can be used for Down Syndrome in your pregnancy. If you have a positive test, you are 90% likely that baby has Down Syndrome. A negative test means that baby has Down Syndrome. This test can identify if there is a double risk or genetic problem like spina bifida or other problems. It is not a replacement for ultrasound or diagnostic tests and can be helpful if you are interested about Down Syndrome and don’t want to have a diagnostic test. The test is not available for all pregnancies e.g., high-risk pregnancies where the test has been passed away.

It is important to ask your doctor if this test is a good screening test for you. This test is available from your local health and in some public hospitals in specialist cases. There is no need to take the test first time at the moment.

What about my 20 week scan?

This is an ultrasound scan that is usually performed between 18 and 20 weeks of pregnancy. During the scan, your baby’s growth is checked and monitored. If you are over 35 weeks of pregnancy, the test is continued and if there is a small needle to guide the needle. These tests involve a small amount of complications such as miscarriage.

When will my screening test be done?

This is a routine screening test for congenital problems like spina bifida, but it is not very good at screening for Down Syndrome.

What if my screening test is not low risk?

If your screening test is not low risk, the chance of your baby having Down Syndrome or another problem is increased. To find out if your baby has Down Syndrome or any other problem, you would need to have a scan with a specialist and you may need a diagnostic test.

Diagnostic tests

Diagnostic tests (also known as “invasive” tests) diagnose chromosome problems like Down Syndrome.

You may be offered a diagnostic test:

1. A relative or family member has a history of chromosomal or genetic problems
2. You had a previous baby with Down syndrome or other chromosome problems

You can get a free copy of the Down Syndrome screening test from the Queensland Government.

Download from:
Consumer fact sheet

Making decisions about the ‘nuchal scan’

While all pregnant women should be offered the combined first trimester screening (CFTS), commonly known as the ‘nuchal scan’, it is important to know that you can decide whether or not you want to have this test.

What is the combined first trimester screening test?

The CFTS test is performed in pregnancy to estimate the chance that an unborn baby has Down syndrome (or trisomy 21), trisomy 18 and trisomy 13. Down syndrome, trisomy 18 and trisomy 13 are chromosomal abnormalities.

The CFTS test includes an ultrasound scan (done between 11 and 13 weeks+6 days gestation) and a maternal blood test. The ultrasound is used to measure the thickness of the nuchal translucency (explained below). The blood test is used to measure two proteins in the mother’s blood – free β-hCG and PAPP-A (also explained below). The ultrasound may also detect physical abnormalities that are not part of the CFTS test.

The CFTS test is a screening test. This means that it can tell you whether there is a high or low chance that your unborn baby has a chromosomal abnormality. It cannot confirm or exclude a chromosomal abnormality. Having the CFTS test does not increase your chance of having a miscarriage.

All women have a 3% chance of having a baby born with a chromosome abnormality (that is, 3 out of every 100 women). This means that 97% of women (that is, 97 out of every 100 women) have a baby without an abnormality.

What does the CFTS test tell you?

The combined first trimester screening test helps to estimate the chance that an unborn baby has Down syndrome (or trisomy 21), trisomy 18 and trisomy 13. The test also helps to rule out the possibility of other chromosomal abnormalities. The test cannot confirm or rule out a chromosomal abnormality in a baby born to parents who will not take the CFTS test.

What is Down syndrome?

Down syndrome is the most common chromosome abnormality in newborns. The chance of a woman having a baby with Down syndrome increases with age. However, young women can also have a baby with Down syndrome.

All individuals with Down syndrome have an intellectual disability, which can range from mild to severe. It is not possible to determine the level of intellectual disability from any tests in pregnancy. Approximately 50% of babies with Down syndrome are born with a heart defect and approximately 7-11% are born with a...
Thank you
Moving on....

<table>
<thead>
<tr>
<th>Time</th>
<th>Task</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.30 pm</td>
<td><strong>Case work: Task 2</strong></td>
<td>All</td>
</tr>
<tr>
<td>8.45 pm</td>
<td>Present task 2</td>
<td>Davina Miller</td>
</tr>
<tr>
<td></td>
<td>Feedback &amp; Discussion</td>
<td></td>
</tr>
<tr>
<td>9.30 pm</td>
<td>Close</td>
<td>All</td>
</tr>
</tbody>
</table>
Case Work - Task 2
Complications and Medications

• You need a scribe and a presenter
• You have 15 min
Green group
Task 2 - Medications in pregnancy

- Kathy is 31 and planning her second pregnancy. You provided maternity shared care during her first pregnancy 5 years ago & diagnosed post natal depression, which responded well to Aropax (Paroxetine)
- Despite several attempts at weaning her antidepressant medication, she copes much better when she is on it.
- She has delayed having a second child due to fear of a return of depression, but now her first child is in school, she feels it is now or never
- Does she need to stop the Aropax?
- Outline your care during and after pregnancy
- What resources are available to assist in planning her management?
Perinatal depression*

Antenatal depression
• Pregnancy is NOT protective
• More frequent during 2nd and 3rd trimesters

Postnatal depression
• Greatest depression risk period
• Most common post-delivery complication of childbirth
• Melancholic, atypical and anxious phenotypes

* Slides’ author: Dr Jon-Paul Khoo, Psychiatrist, Toowong
Perinatal depression*

• Postnatal depression
• Risk factors: antenatal depression; Hx infertility; Past Psych Hx, lack of support; adverse life events; marital conflict; unplanned/unwanted; poor education; antidepressant discontinuation; younger; more children (≥ 4) closer together; medical co morbidity; recent loss
• Only 20% of depressed pregnant women are taking an antidepressant
## Perinatal depression consequences*

<table>
<thead>
<tr>
<th>Mother</th>
<th>Baby</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Uterine irritability</td>
<td>• Decreased Apgars</td>
</tr>
<tr>
<td>• Pregnancy induced Hypertension</td>
<td>• Decreased breastfeeding</td>
</tr>
<tr>
<td>• Pre-eclampsia</td>
<td>• Low birth weight</td>
</tr>
<tr>
<td>• Antepartum haemorrhage</td>
<td>• Failure to thrive</td>
</tr>
<tr>
<td>• Decreased uterine arterial flow</td>
<td>• Increased NICU admissions</td>
</tr>
<tr>
<td>• Pre-term delivery</td>
<td>• Fetal distress</td>
</tr>
<tr>
<td>• Increased LSCS rate</td>
<td>• Prematurity</td>
</tr>
<tr>
<td>• Post natal depression</td>
<td>• Developmental delay</td>
</tr>
</tbody>
</table>
Antidepressant use during pregnancy

- Strategies & considerations
  - Continue if depression severe & woman willing
  - Slow withdrawal in low-risk women pre-conception; recommence 2\textsuperscript{nd} trimester if necessary
  - Avoid in 1\textsuperscript{st} trimester, where possible
  - Monotherapy, if possible
  - Avoid abrupt discontinuation
  - Lowest effective dose
  - Treat to remission
Antidepressant use during pregnancy *

- Strategies & considerations
  - Dose requirements may increase in 3rd trimester
  - Unlikely benefit from tapering/discontinuing before birth plus there is the risk of recurrence
  - Close monitoring of mother
  - Close monitoring of baby – watch for:
    - Withdrawal/toxicity
    - Floppy, irritable, constant crying, shivering, tremor, restlessness, increased tone, feeding and sleep changes

* Slides’ author: Dr Jon-Paul Khoo, Psychiatrist, Toowong
Management of perinatal mental illness

• If concerned that a woman's mental health issues are severe and complex contact Metro North HHS Perinatal Mental Health Service for support, advice and discussion about referral pathways:
  – RBWH: 0417 819 949
  – Caboolture: 0408 151 138
  – Redcliffe: 0408 151 138
Management of perinatal mental illness

• Consider all options including lifestyle and facilitating appropriate supports

• Cognitive behavioural therapy (CBT), interpersonal psychotherapy (IPT) and psychodynamic therapy have been shown to improve depressive symptoms in the postnatal period

• Psychotherapy involving mother and baby may improve mother - baby interaction

Options include:

– Pregnancy support counselling—no Mental Health Plan required, 3 Medicare funded visits. Search for eligible psychologists at www.psychology.org.au
Find a Psychologist

Quick search

Psychologists listed here do NOT want to receive unsolicited commercial electronic messages.

Who is this for? [ ] Adult

What are the issues? Please choose up to 3.

Display: by category [ ] alphabetically

Medicare Psychologist [ ] Yes
(lists Psychologists and Clinical Psychologists)

Medicare Clinical Psychologist [ ] Yes
(lists Clinical Psychologists only)

Non-directive Pregnancy Support Psychologists [ ] Yes
(lists psychologists that have trained and registered with Medicare to provide non-directive pregnancy support counselling for pregnant women and women who were pregnant within the past 12 months)

Autism and PDD Psychology Provider [ ] Yes
(lists psychologists that have indicated that they have training and experience in the assessment and treatment of autism and PDD)

Location of psychologist?

Suburb, town or postcode: Morningside, QLD, 4170

Within a radius of [ ] 10 km from suburb/town

Quick links

Log your CPD
Submit your Medicare number(s)
Join/Renew Find a Psychologist
Update your details
Events Calendar
Find a Psychologist
Find a Job
APS-accredited

Information about Medicare

This listing is not a directory of APS Members.

To refine your search use Advanced Search.

If you need further assistance use our telephone referral service.

Journalists: use Media Referral Service.

Please note: Psychologists listed in the Find a Psychologist database have paid an annual fee to participate. All psychologists listed are fully registered and either: Associate Members, Members, Fellows or Honorary Fellows of the Australian Psychological Society. Any services offered or therapeutic approaches listed are self-regulated and requires a declaration from each psychologist that they are competent in those areas.

The APS requires its members to comply with the APS Code of Ethics, particularly standard 8.1.2 - ‘Psychologists only’.

About Find a Psychologist
Management of perinatal mental illness. More options…

- Mental health assessment and plan if required & manage/refer as appropriate e.g. medication, psychology review privately, via ATAPS (no/low gap) through your Medical Local for women with a health care card (or letter stating case for financial hardship consideration) or under Medicare (gap payments usual) or psychiatrist referral.
- A number of psychiatrists offer a one-off assessment with ongoing care returning to the GP
- Private Practice Specialist Suite RBWH offers a one off psychiatric assessment service with recommendations

Contact: Reception / General Enquiries: 364 68346 / 68848
Management of perinatal mental illness

- Evidence based information for psychosocial and pharmacological management
- Available electronically or in hard copies

www.beyondblue.org.au
Ph. 1300 22 4636
Management of perinatal mental illness*

APPROPRIATE RESPONSES TO VARIOUS EPDS SCORES

Provide EPDS questionnaire or administer face-to-face

- Woman scores 1, 2 or 3 on Q10
  - YES
  - Woman scores 10, 11 or 12
    - Repeat EPDS within 2–4 weeks
  - Woman scores 13 or more
    - Depending on clinical judgement:
      - Antenatal: Repeat EPDS within 2–4 weeks and if 13 or more refer to appropriate health professional
      - Postnatal: Refer to appropriate health professional

- No
  - Assess current safety of woman, fetus or infant and other children in the woman’s care

Notes:
*Ideally, referral will be to a woman’s usual GP or health professional with mental health training and expertise; referral and information exchange require consent from the woman.
*See Sections 3.1 and 3.2.

*Source: beyondblue Clinical Practice Guidelines
Medication use for depression in pregnancy*

- SSRIs - preferred medication with most evidence of safety. Main risk is neonatal withdrawal
- Paroxetine is Cat D due to reported increased risk of cardiovascular complications (Septal defects)
- Less evidence exists for TCADs, however can be considered if previously effective
- Growing body of safety around SNRIs
Medication use for anxiety in pregnancy*

- Benzodiazepines (BZD) can be used short term while awaiting onset of SSRI or TCAD
- Side effects include sedation, preterm birth, low birth weight and low Apgars
- Long acting BZD are to be avoided
Medication use for bipolar disorder*

• **Sodium valproate** (Epilim) is associated with major birth defects and cognitive deficits and **should not be used** without consulting a psychiatrist

• Lithium is associated with a very small increased risk of birth defects and consultation with a psychiatrist is advised
Medication use for bipolar disorder*

• First-generation antipsychotics associated with:
  – low birth weight
  – low gestational age
  – preterm birth

• Risks associated with second-generation antipsychotics less clear, but clozapine (Clopine) should NOT be initiated during pregnancy or in women contemplating pregnancy, without consulting a psychiatrist
Breastfeeding*

• Depression
  – Very low levels of SSRIs & TCAs pass into breast milk
  – No contraindications to SSRIs & TCAs
  – Fluoxetine (Prozac) can accumulate in baby & ‘jitteriness’ has been described
  – Venlafaxine (Efexor, an SNRI) may accumulate in breast milk in levels at higher end of accepted safe range

* Source: beyondblue Clinical Practice Guidelines
Breastfeeding*

• Anxiety
  – Short-acting benzodiazepines may be used for a limited period
  – Long-acting benzodiazepines should be avoided
  – Specific regimens around timing of breastfeed are not considered necessary as on balance, there is a very small exposure to baby via breast milk
Breastfeeding*

• Bipolar disorder and puerperal psychosis

• There is limited evidence for the safety of anticonvulsants during breastfeeding. The passage of lithium into breast milk is more variable than other psychotropic medications.

• If a woman chooses to breastfeed, lithium should be used with particular caution and as with sodium valproate and clozapine should NOT be used without consulting a psychiatrist.

*Source: beyondblue Clinical Practice Guidelines
Take home message

• Perinatal mental illness is a significant cause of morbidity and mortality, affecting maternal and neonatal outcomes, health of families and the community

• EPDS to be administered at hospital booking in, repeated by 34 weeks, and 6 weeks post partum and prn

• Identification & appropriate treatment essential

• Suicide is the leading cause of maternal death in the developed world

“In Qld in 2011, suicide was the number one cause of maternal mortality within a year of the end of pregnancy”

Data in publication, Professor Michael Humphrey, Chair, Qld Maternal and Perinatal Quality Council
Red group

Task 2 - Complex presentation

• Nicole is 9 weeks pregnant. She looks pale and ill at ease as she walks into the consulting room.

• Her partner, Shaun is with her, looking agitated. “She’s been spewing her guts up doc; you’ve got to help! The dumb chemist gave her some vitamins, which cost me money and haven’t helped at all”

• Her BP is 90/60 sitting, 80/55 standing, her PR is 104 and she reports that her urine output is down. You notice a suspicious bruise as you take her blood pressure.

• Outline your approach to her care.
Nausea and vomiting in pregnancy

- Nausea is the most common GI symptom of pregnancy, occurring in 80-85% of women in the first trimester. Vomiting occurs in about 52% of women.
- 94% of affected women report nausea or vomiting within 8 weeks of LNMP, with 34% reporting it within 4 weeks of LNMP
- 87-91% of women will have symptoms settle by 16-20 weeks
Nausea and vomiting in pregnancy

- Only 11-18% of women have symptoms limited to the morning
- Hyperemesis gravidarum is not common, affecting 0.3-1.5% of women, with symptoms starting between 5-10 weeks of pregnancy and > 90% of affected women will have resolution of their symptoms by 20 weeks. The hospitalisation rate falls from 8 weeks onwards
- Decreasing iron supplementation can ease symptoms of severe nausea

(Source: Clinical Practice Guidelines, Antenatal Care Module 1
Hyperemesis gravidarum - Assessment

• Exclude:
  – pyelonephritis, cholecystitis, hepatitis, pancreatitis, appendicitis, intestinal obstruction, diabetes, thyrotoxicosis, twins, trophoblastic disease, preeclampsia

• Perform:
  – Blood tests (FBC, BHCG, ELFT, TFT, HbA1c, Serum Amylase)
  – MSU
  – USS
Hyperemesis gravidarum Management

- Provide support and stress minimisation strategies
- Review diet and supplements
- Weigh daily; Consider hospitalisation
- IV rehydration+/- parenteral nutrition; monitor fluid balance
- **Supplements** - Vit B6, Pyridoxine
- **Anti-emetics** - Metoclopramide, Ondansetron, Chlorpromazine, Domperidone
- **Anti-depressant** - Mirtazapine
- **Other** - Corticosteroids
Recognising Domestic Violence

• Physical
  – Pushing, shoving, punching, injuring

• Verbal
  – Constant put downs, name calling

• Sexual
  – Forced or unwanted sexual contact

• Social
  – Controlling where you go and what you do

• Financial
  – Being denied/refused access to money
Recognising Domestic Violence

• Damage to property
  – Kicking holes in walls, breaking property

• Psychological
  – Behaviour or comments that undermine sense of self

• Religion
  – Not allowing practise of chosen religion or cultural beliefs, misusing traditions to justify abuse

• Stalking
  – Constant worrying or frightening by following, watching, phoning or messaging and waiting outside home or workplace
Management

• Organise a 2nd appointment
  – without partner if possible
• Resources
  – Domestic Violence Hotline
    1800 811 811
    http://www.dvconnect.org/
• Facilitate early referral to hospital
  – Flag concerns/suspicions
  – Enable social worker support
Reporting responsibilities

• As a doctor or registered nurse, you are a mandatory reporter and have a:
  – legal responsibility to report physical or sexual abuse under *s13E Child Protection Act 1999*
  – duty of care responsibility to report any other form of child abuse (emotional) and neglect under *s13A Child Protection Act 1999*

• All other employees of Queensland Health have a duty of care responsibility to report any form of child abuse and neglect under *s13A Child Protection Act 1999*
Anna, age 32, presents anxiously for advice. Her 11 year old step-daughter, who stayed with her last weekend, has just been diagnosed with Chicken Pox. Anna is 17 weeks pregnant.

Outline your approach.

What are the current Australian recommendations for preconception, antenatal and postnatal vaccination? (all vaccines, not just Varicella)
Varicella - exposure

• ‘Exposure’ = sharing home/face to face > 5 minutes
• Check serology if no reliable history of chicken pox
• If –ve IgG, and
  – Exposure < 96hrs, give ZIG (order through Metro North Public Health Unit Ph. (07) 3624 1111)
  – Exposure > 96hrs, no ZIG, give Acyclovir if risk factors for maternal complications (> 20/40, smoker, asthma)
Varicella in pregnancy

• At risk times for baby:
  – Between 12-20 weeks 2% risk of Varicella Zoster syndrome (scarring of skin, low birth weight, problems affecting arms, legs, brain and eyes)
  – Five or less days before birth high risk as baby develops infection without maternal antibodies

• At risk times for mother:
  – Risk of maternal compromise throughout pregnancy e.g. Pneumonitis
  – Give Acyclovir if seen within 24 hours of the onset of symptoms
  – Risk higher if > 20 weeks gestation
Varicella in pregnancy

• Refer all women with varicella in pregnancy
• Liaise by phone with the GP Liaison Midwife in first instance to reduce risk to other pregnant women (Isolation will be required)
• http://www.asid.net.au/documents/item/368 Algorithms pages 82-87
Vaccination before, during, after...

- **Preconception**
  - MMR, Varicella, (check status prn) dTpa, Influenza and Pneumococcus for at risk women (including smokers)

- **During pregnancy**
  - Influenza + as clinically indicated (avoid fever)  The only absolute C/I = smallpox, although live vaccines are not recommended due to the altered immune responses in pregnant women
  - dTpa vaccine given in the third trimester of pregnancy

- **Post partum**
  - dTpa, MMR prn

Cytomegalovirus (CMV)

- Evidence is limited to support screening for CMV during pregnancy
- As CMV may be transmitted to the baby and can have serious consequences, the focus is on giving women advice about hygiene measures that reduce risk of infection

Source: Australian Health Ministers’ Advisory Council 2014, Clinical Practice Guidelines: Antenatal Care – Module II
Australian Government Department of Health, Canberra
Cytomegalovirus (CMV)

• Consensus-based recommendations
  – Advise pregnant women about hygiene measures to prevent CMV infection such as frequent hand washing, particularly after exposure to a child’s saliva or urine.
  – Only offer screening to pregnant women if they come into frequent contact with large numbers of very young children (eg child care workers).

Source: Australian Health Ministers’ Advisory Council 2014, Clinical Practice Guidelines: Antenatal Care – Module II
Australian Government Department of Health, Canberra
Orange group
Task 2- Pregnancy complications

• Janice G1P0 is stressed! Running late for your appointment (caught in traffic), to discover you are running late anyway; she must leave ASAP to get back to work in time for an important meeting.

• She's had a “stinker” of a headache all week and is not surprised that her BP is elevated at 162/97. However she is certain it will settle once she calms down. Now K28

• Despite her protests (must get to meeting!!), you take her BP again after 5 minutes and the best you can get is 153/92.

• Outline your approach to her care
Online resources

Hypertensive disorders of pregnancy

Source: Page 4 of Qld Maternity & Neonatal Clinical Guideline: Hypertensive disorders of pregnancy
Pre-eclampsia

• Most common serious medical disorder of human pregnancy
• Most common in primiparous women
• Signs and symptoms include:
  – hypertension, renal dysfunction, proteinuria, oedema of hands, feet & face and in severe cases dizziness, headaches and visual disturbances
• Untreated, can lead to convulsions & other life-threatening problems for both mother & baby
• Only occurs when a woman is pregnant & only cure is to end pregnancy, even if baby premature
Pre-eclampsia

• In Australia
  – mild pre-eclampsia occurs in 5-10% of pregnancies
  – severe pre-eclampsia in 1-2% of pregnancies
  – pre-eclampsia and associated complications account for 15% of direct maternal mortality and 10% of perinatal mortality
  – Is the indication for 20% of labour inductions and 15% of caesarean sections
  – Accounts for 5-10% of preterm births
  – Worldwide, kills many tens of thousands of women and babies each year

Source: www.thewomens.org.au/Preeclampsia
Pre-eclampsia

2.1 Pre-eclampsia
A multi-system disorder characterised by hypertension and involvement of one or more other organ systems and/or the fetus. Raised BP is commonly but not always the first manifestation. Proteinuria is also common but should not be considered mandatory to make the clinical diagnosis.3

Diagnosis can be made when:
• hypertension arises after 20 weeks gestation
  • confirmed on 2 or more occasions
• accompanied by one or more of:
  • significant proteinuria
    • random urine protein/creatinine ratio greater than or equal to 30 mg/mmol
    • 24 hour urine excretion not generally required
  • renal involvement
    • serum or plasma creatinine greater than or equal to 90 micromol/L or
    • oliguria
  • haematological involvement
    • thrombocytopenia
    • haemolysis
    • DIC
  • liver involvement
    • raised transaminases
    • severe epigastric or right upper quadrant pain
  • neurological involvement
    • severe headache
    • persistent visual disturbances (photopsia, scotomata, cortical blindness, retinal vasospasm)
    • hyperreflexia with sustained clonus
    • convulsions (eclampsia)
    • stroke
  • pulmonary oedema
  • intrauterine fetal growth restriction (IUGR)
  • placental abruption

Pink group
Task 2 – Pregnancy complications

• Anna presents at 35 weeks for an unscheduled appointment. Her pregnancy has been progressing smoothly, but she is clearly anxious. Her baby, who usually ‘kicks like a world cup soccer player’ , has been noticeably quiet since yesterday afternoon. She asks “Is something wrong with my baby?”

• What do you say to her?
• What do you do if you can hear the fetal heart?
• What do you do if you cannot hear the fetal heart?
Antenatal Day Assessment Unit (ANDAS)

- For the review of urgent pregnancy related concerns ≥ 20 weeks pregnant in women who are haemodynamically stable
- GP’s are to contact ANDAS coordinator before sending a woman in for assessment
- Redcliffe 3883 7108
- Caboolture 5433 8213
Obstetric Review Centre (ORC)

• Common presentations include:
  – Prelabour rupture of membranes
  – Pregnancy induced hypertension
  – Reduced or no fetal movements
  – Bleeding after 20 weeks
  – Contractions
  – Cholestasis of pregnancy