phn NORTH WESTERN MELBOURNE

An Australian Government Initiative

Early Pregnancy Care

Thursday 12 November 2026

The content in this session is valid at date of presentation

Acknowledgement of Country

North Western Melbourne Primary Health Network and Western Health would like to acknowledge the Traditional Custodians of the land on which our work takes place, the Wurundjeri Woi Wurrung People, the Boon Wurrung People and the Wathaurong People.

We pay respects to Elders past, present and emerging as well as pay respects to any Aboriginal and Torres Strait Islander people in the session with us today.



Housekeeping – Zoom webinar

All attendees are muted

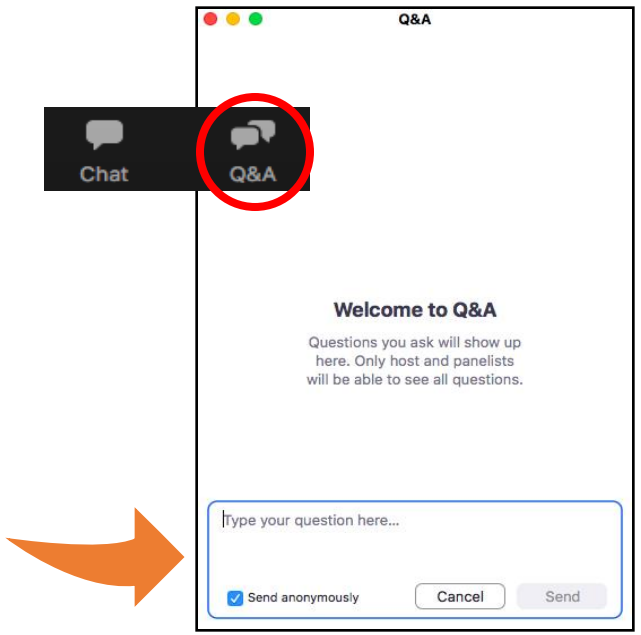
Please ask questions via the Q&A box only

- Q&A will be at the end of the presentation
- Questions will be asked anonymously to protect your privacy

This session is being recorded.

You will receive a link to this recording and copy of slides in post session correspondence.

Type your questions in the Q&A box.

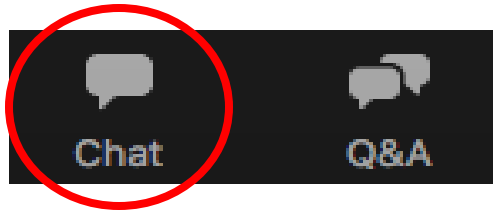


Housekeeping – Zoom webinar

Is your session name the same as your registration?

To ensure we can issue your certificates and CPD please ensure you have joined the session using the same name as your event registration (or phone number, if you have dialled in).

Not sure if your name matches, send a Chat message to 'NWMPHN Education' to identify yourself.

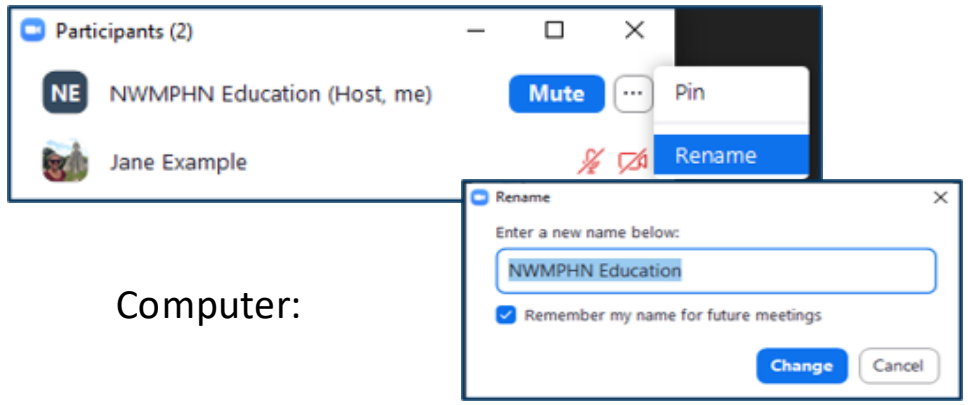


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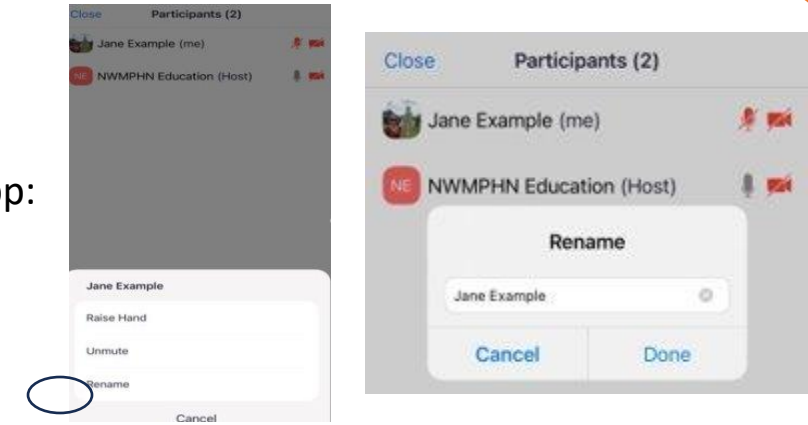
How to rename yourself

1. Click on **Participants**
2. If using
   - App: click on your name
   - Computer: hover over your name and click the 3 dots
   - Mac: hover over your name and click More
3. Click on **Rename**
4. Enter the name you registered with and click **Done** / **Change** / **Rename**

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HealthPathways Melbourne

Early Pregnancy Care session

12 November 2026

HealthPathways : Clinical Management and Referral Resource



Localised Clinical Pathways
(Evidence-based guidance adapted for Melbourne clinicians)

Referral Information
(Clear referral instructions for local health services and hospitals)

Regular Updates
(Pathways reviewed and updated regularly by Clinical Editors)

CPD Hours
(Track and record CPD activities directly through Pathway page)

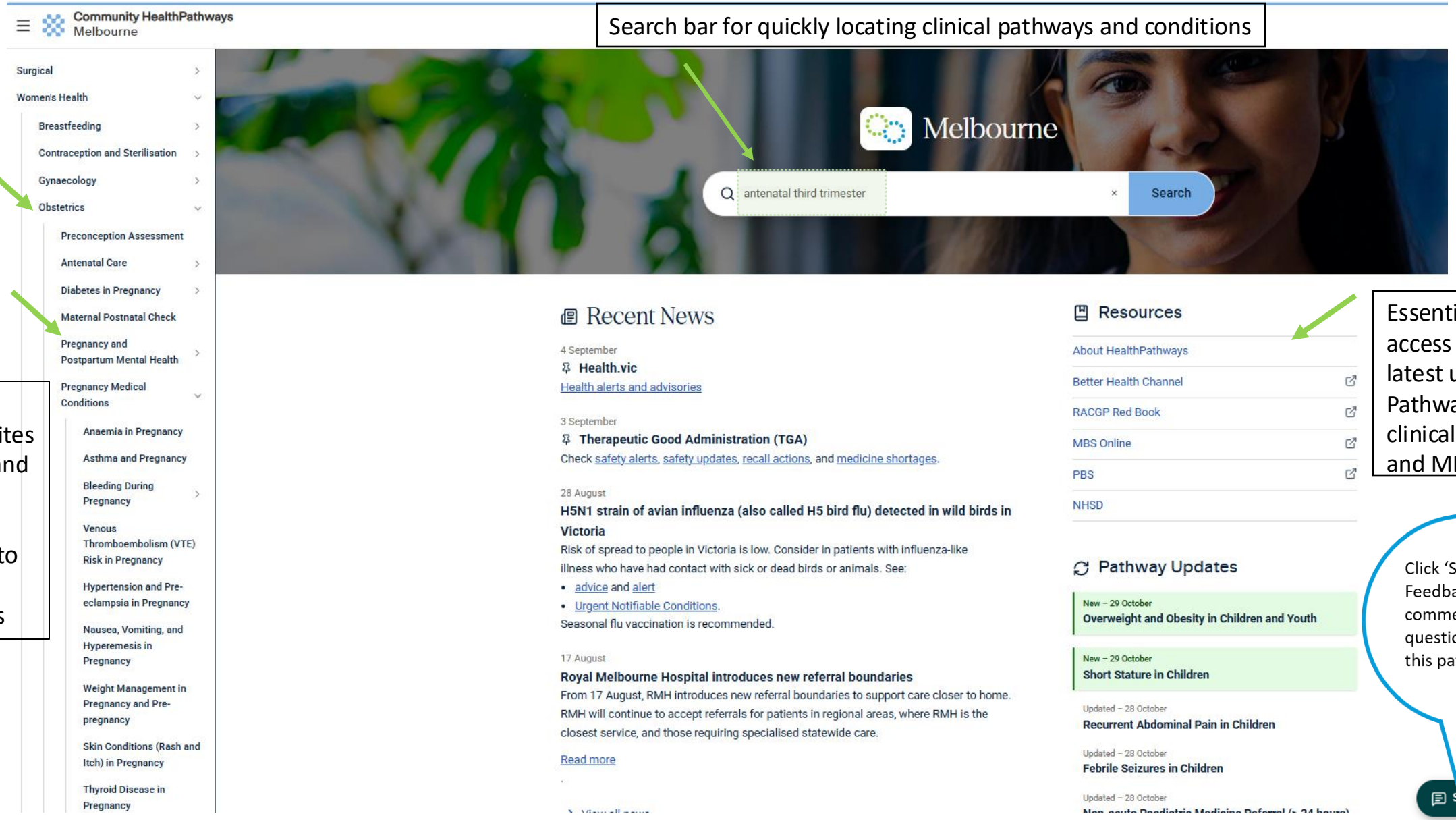
Collaborative Development
(Created by GPs, specialists, allied health and other health professionals)

Easy Access
(Web-based platform, mobile-friendly for point-of-care use)

Streamlined Workflow
(Quick navigation with Assessment, Management and Referral sections all in one place)

Free for Clinicians
(No cost access for all health professionals in North Western and Eastern Melbourne PHN catchments)

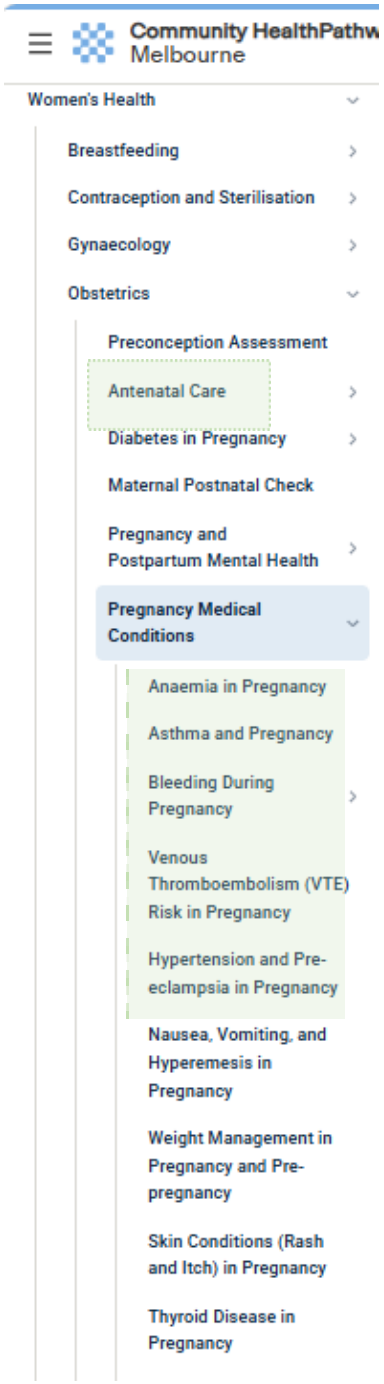
HealthPathways – Early pregnancy



Browse clinical suites via left-hand menu, organised into easy to navigate categories

Essential quick-access links for latest updates, Pathway updates, clinical resources and MBS items

Click 'Send Feedback' to add comments and questions about this pathway.



Relevant Pathways

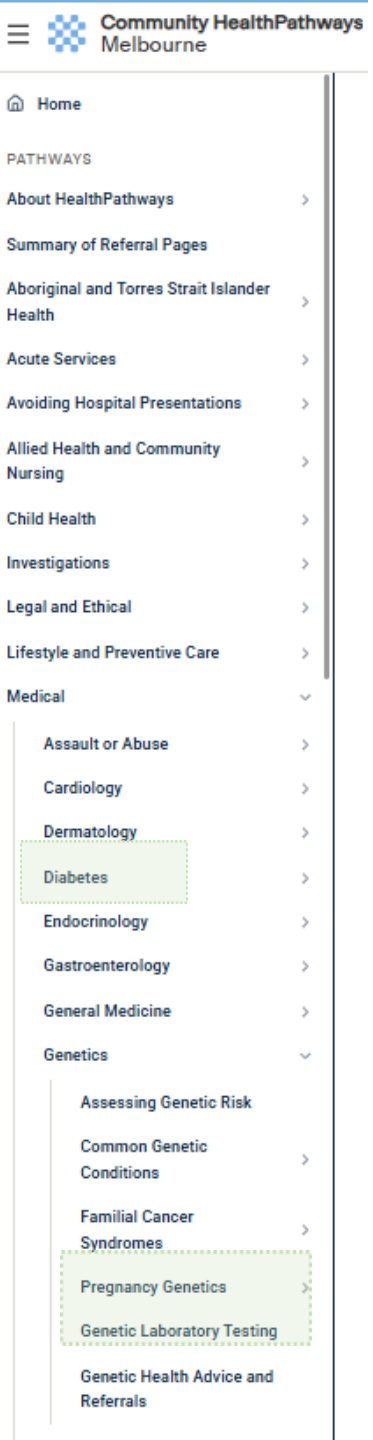
Antenatal Care

Antenatal Care - First Consult
Antenatal - Second and Third Trimester Care
Anti-D Prophylaxis in Pregnancy
Preconception Assessment
Prenatal Screening and Diagnosis of Fetal Anomalies
Use and Interpretation of Pregnancy Ultrasound

Pregnancy Medical Conditions

Anaemia in Pregnancy
Asthma in Pregnancy
Hypertension and Pre-eclampsia in Pregnancy
Hypertension in Pregnancy and Postpartum
Thyroid Disease in Pregnancy
Bleeding During Pregnancy
Recurrent Pregnancy Loss
Immunisation - Pregnancy

CPD Hours for HealthPathways Use



Relevant Pathways

Diabetes in Pregnancy

Hyperglycaemia in Pregnancy

Pre-pregnancy Planning for Type 1 and Type 2 Diabetes

Type 1 and Type 2 Diabetes and Pregnancy

Genetics

Genetic Laboratory Testing

Pregnancy Genetics

Assessing Genetic Risk

Genetic Health Advice and Referrals

LGBTIQA+ Health

LGBTIQA+ Fertility, Parenting, and Children

LGBTIQA+ Sexual Health

Sexual Health

CPD Hours for HealthPathways Use

Hypertension and Pre-eclampsia in Pregnancy

Red flags

- Severe hypertension – systolic blood pressure ≥ 170 mmHg, or diastolic > 110 mmHg
- Any symptoms or signs of pre-eclampsia, eclampsia, or HELLP syndrome
- New onset hypertension after 20 weeks' gestation, including in the early postpartum period

Background

About hypertension and pre-eclampsia in pregnancy

Assessment

1. At the first antenatal visit, screen for risk of pre-eclampsia.
2. Consider early pre-eclampsia risk assessment.
3. At each antenatal visit, ensure a correct blood pressure (BP) reading:
   - Hypertension is defined as a systolic BP ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg, on two or more readings.
   - Severe hypertension is defined as a systolic BP ≥ 160 mmHg, and/or diastolic blood pressure > 110 mmHg, and requires urgent assessment.
4. After 20 weeks' gestation, check for symptoms and signs of pre-eclampsia.
5. If hypertension or symptoms of pre-eclampsia are found, perform a physical examination:
   - If newly diagnosed hypertension, perform a cardiovascular examination.
   - If > 20 weeks' gestation, check:
     - weight.
     - symphysis-fundal height.

Management

1. If the patient is clinically unstable or their systolic BP is ≥ 160 mmHg or diastolic blood pressure is > 110 mmHg, send to emergency department via ambulance.
2. Refer for acute obstetric assessment if:
   - suspected pre-eclampsia.
   - > 20 weeks gestation with new-onset hypertension even if asymptomatic, as investigations should be done in a hospital setting.
   - worsening or difficult to control BP – a sudden increase in blood pressure at > 20 weeks' gestation can indicate pre-eclampsia.
   - concerns about fetal well-being e.g., reduced fetal movements, suspected growth restriction.
   - any abnormal pathology results.
3. Manage further and follow up according to the stage and diagnosis:
   - Prenatal (preconception) hypertension
   - Increased risk of pre-eclampsia
   - Chronic hypertension (pre-existing or developing before 20 weeks' gestation)
   - Gestational hypertension (developing after 20 weeks' gestation)
   - Postpartum development of pre-eclampsia
   - Postpartum follow-up of antenatal pre-eclampsia
   - Postpartum follow-up of chronic hypertension

Referral

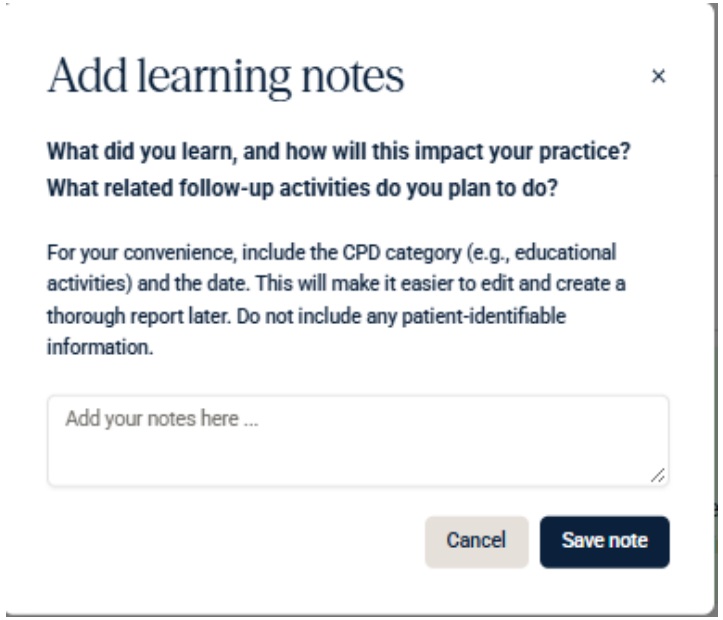
- Refer the patient to the emergency department via ambulance if clinically unstable or systolic BP ≥ 160 mmHg and/or diastolic BP > 110 mmHg.
- Refer for acute obstetric assessment if:
  - suspected pre-eclampsia or HELLP syndrome.
  - > 20 weeks gestation with new-onset hypertension even if asymptomatic, as investigations should be done in a hospital setting.
  - worsening or difficult to control BP – a sudden increase in blood pressure at > 20 weeks' gestation can indicate pre-eclampsia.

Record Your CPD Today: Start with HealthPathways



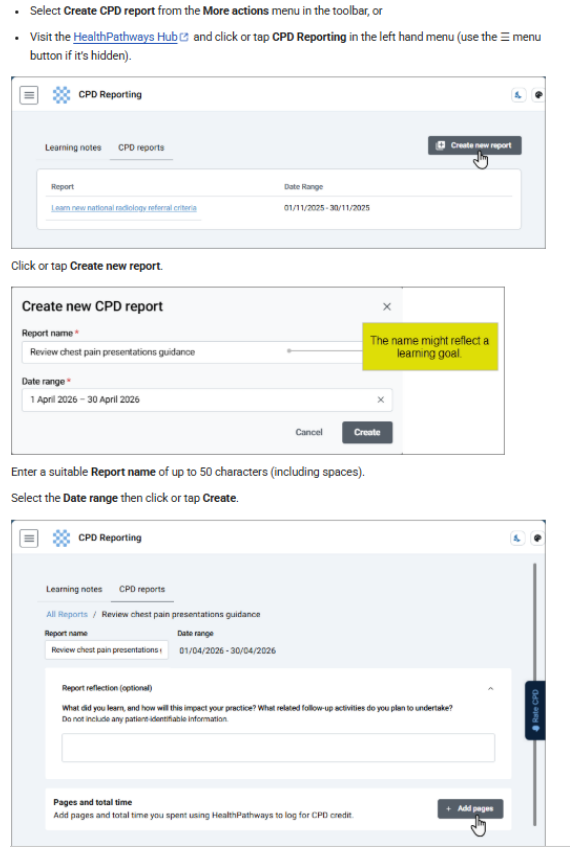
Step 1: Access a Pathway Page

- Navigate to a clinical pathway (e.g., *Psychosis – Established*).
- Click **"Add CPD note"** to begin tracking your CPD activity.



Step 2: Add Learning Notes

- Reflect on what you learned and how it will impact your practice.
- Include any planned follow-up activities.
- These notes are saved to your CPD record.



Step 3: Generate Your CPD Report

- Go to the **CPD Reporting** section.
- Add reflections, review pages, and confirm time spent.
- Export your report as a **PDF for submission**.

For further information on the CPD reporting tool, please see these videos:

- How to create a CPD report
- How to add learning notes

Stay Informed: Access Case Studies and Monthly Bulletin

Case Study



Real clinical scenarios for everyday GP practice

- Concise, practical case studies designed to reflect real presentation in General Practice.
- Includes management summaries, pathway links and local service consideration for quick navigation.
- Access all case studies here.

Monthly Bulletin



Monthly updates straight to your inbox

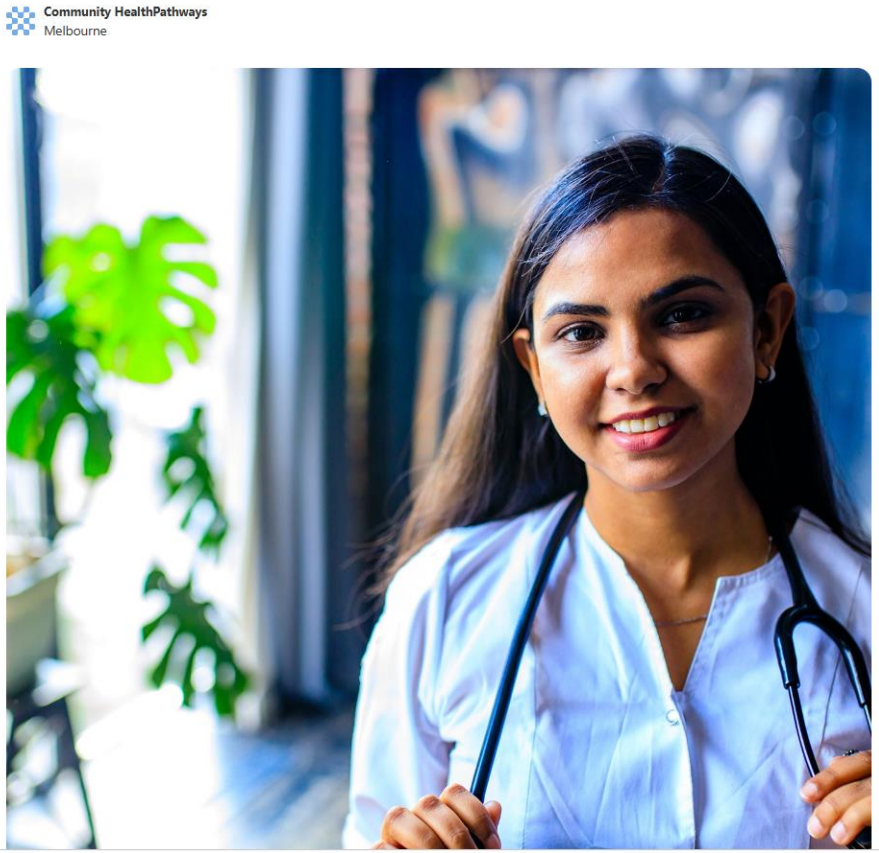
- Be the first to know about pathway updates, service changes , new case studies and employment opportunities

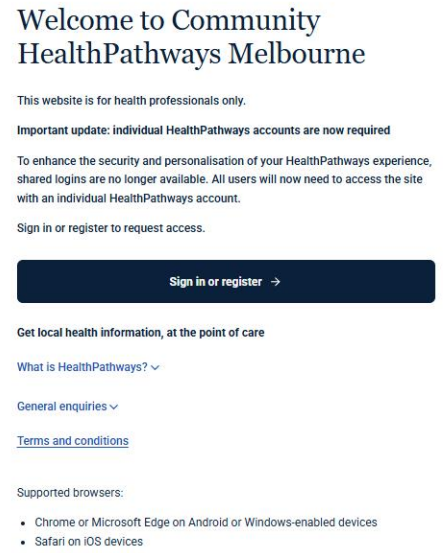
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Access Now: Sign In or Scan to Register

Please click on the **Sign in or register** button to create your individual account or scan the QR code below.

If you have any questions, please email the team info@healthpathwaysmelbourne.org.au





Welcome to Community HealthPathways Melbourne

This website is for health professionals only.

Important update: individual HealthPathways accounts are now required

To enhance the security and personalisation of your HealthPathways experience, shared logins are no longer available. All users will now need to access the site with an individual HealthPathways account.

Sign in or register to request access.

Sign in or register →

Get local health information, at the point of care

What is HealthPathways?

General enquiries

Terms and conditions

Supported browsers:

- Chrome or Microsoft Edge on Android or Windows-enabled devices
- Safari on iOS devices

Clinical referral pathways across Southern Alliance PHNs

PHN region	Clinical referral pathway platform	Link
Eastern Melbourne PHN + North Western Melbourne PHN	HealthPathways Melbourne	Open platform
Gippsland PHN	Gippsland Pathways	Open platform
Murray PHN	HealthPathways Murray	Open platform
South Eastern Melbourne PHN	The Clinical and Referral Guidance Hub (the Hub)	Open the Hub
Tasmania PHN (Primary Health Tasmania)	HealthPathways Tasmania	Open platform
Western Victoria PHN	HealthPathways Western Victoria	Open platform
Country SA PHN + Adelaide PHN	HealthPathways South Australia	Open platform

Not sure which PHN applies? Use the Australian Government PHN locator map

Speakers

Dr I-Lynn Lee is Deputy Head of Endocrinology and Diabetes at Western Health and clinical lead of Obstetrics Endocrinology at Joan Kirner Hospital.

Dr Pallavi Desai the Clinical Lead in Safety and Quality in Obstetrics at Joan Kirner Women's and Children's Clinic.

Dr Carlie Di Camillo is a GP who works at Western Health in antenatal care as a GP with special interest. She is also the Clinical Lead GP in a private practice in Gisborne.

Dr Naomi Whyler is an infectious diseases physician with expertise in perinatal infections and runs the perinatal infectious diseases clinic at Joan Kirner Hospital.

Dr Samara Radford is an obstetrician and gynaecologist at Western Health.

Susan Fawcett is a Human Genetics Society of Australasia **(**HGSA)-certified genetic counsellor and manager of the Royal Women's Hospital Clinical Genetics Service.

Dr Britta Gombocz is currently completing her Maternal-Foetal Medicine (MFM) subspecialist training at Western Health.

Early ultrasound & prenatal genetic screening

When, why, which test and what next?

Dr. Britta Gomboczy
MFM Fellow
Joan Kirner Sunshine Hospital



The pregnancy imaging timeline

- ~5–10 weeks: location, viability, dating
- 11+0 to 13+6 weeks: NT, early anatomy, dating and multiple pregnancy assessment
- 18–22 weeks: detailed structural morphology assessment

When is an early ultrasound indicated?

- Pain or bleeding; suspected ectopic or pregnancy of unknown location

  *correlation with Beta HCG and clinical symptoms

- Uncertain dates, irregular cycles or uncertain conception timing
- Prior ectopic pregnancy or other significant early pregnancy risk
- Suspected multiple gestation or assisted reproduction
- Clinical concern about pregnancy progression or viability or patient reassurance

Term	Expected gestational age*	Image
Gestational sac	35 days (5 weeks)	
Yolk sac	39 days (5.5 weeks)	
Embryo	42 days (6 weeks)	
Cardiac activity	42 days (6 weeks)	

Average Crown-Rump Length (CRL) Chart by Week

Gestational Age	Mean CRL	Typical Range / Normal Values
6 Weeks	5 mm	4.1 – 5.9 mm
7 Weeks	9.5 mm	7.8 – 11.2 mm
8 Weeks	15.5 mm	12.7 – 18.3 mm
9 Weeks	22.9 mm	18.8 – 27.1 mm
10 Weeks	~31 to 34 mm	Varies by centile (approx. 30–38 mm)
11 Weeks	~45 mm	Varies by centile (approx. 44–56 mm)
12 Weeks	~61 mm	Varies by centile (approx. 57–65 mm)
13 Weeks	~74 mm	Varies by centile (approx. 68–80 mm)

Viability

- Cardiac activity is often demonstrable by transvaginal ultrasound in the sixth week

- Use validated criteria and appropriate repeat-scan intervals before diagnosing miscarriage – this should be guided by the radiology findings.
- CRL ≥7 mm without cardiac activity or MSD ≥25 mm without embryo are commonly used definitive TVUS thresholds
- When measurements are below thresholds or image quality is limited, arrange interval reassessment

- Clinical symptoms and β-hCG alone do not establish ultrasound viability

Pregnancy Dating

- Reliable pregnancy dating establishes gestational age and a reliable estimated due date (EDD) which forms the foundation of safe pregnancy care

Table 1: EBD Determination

Gestational Age Range	Method of Measurement	Use USS date if difference is
Less than 7+0	N/A – repeat scan required	N/A – repeat scan required
7+0 to 9+0	CRL	More than 5 days
9+1 to 13+6	CRL	More than 7 days
14+0 to 15+6	BPD, HC, AC, FL	More than 7 days
16+0 to 21+6	BPD, HC, AC, FL	More than 10 days
22+0 to 27+6	BPD, HC, AC, FL	More than 14 days
28+0 and beyond	BPD, HC, AC, FL	More than 21 days

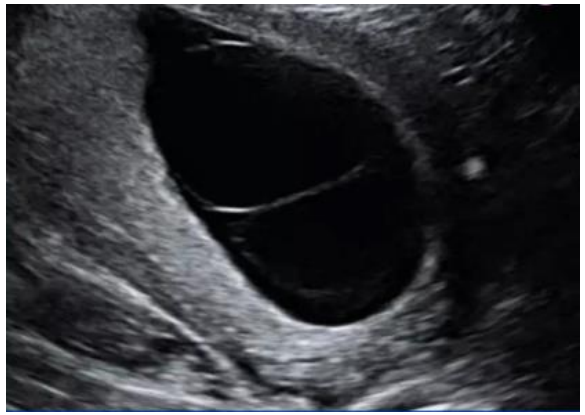
The EDD by LMP (adjusted for cycle length) should be used unless:

1. The LMP is unknown;
2. The GA by CRL is <10 weeks and differs from GA by LMP by more than five (5) days; or
3. The GA by CRL (+/- BPD) is ten to fourteen (10-14) weeks and differs from GA by LMP by more than seven (7) days.

Fetal number, chorionicity and amnionicity in multiple pregnancy

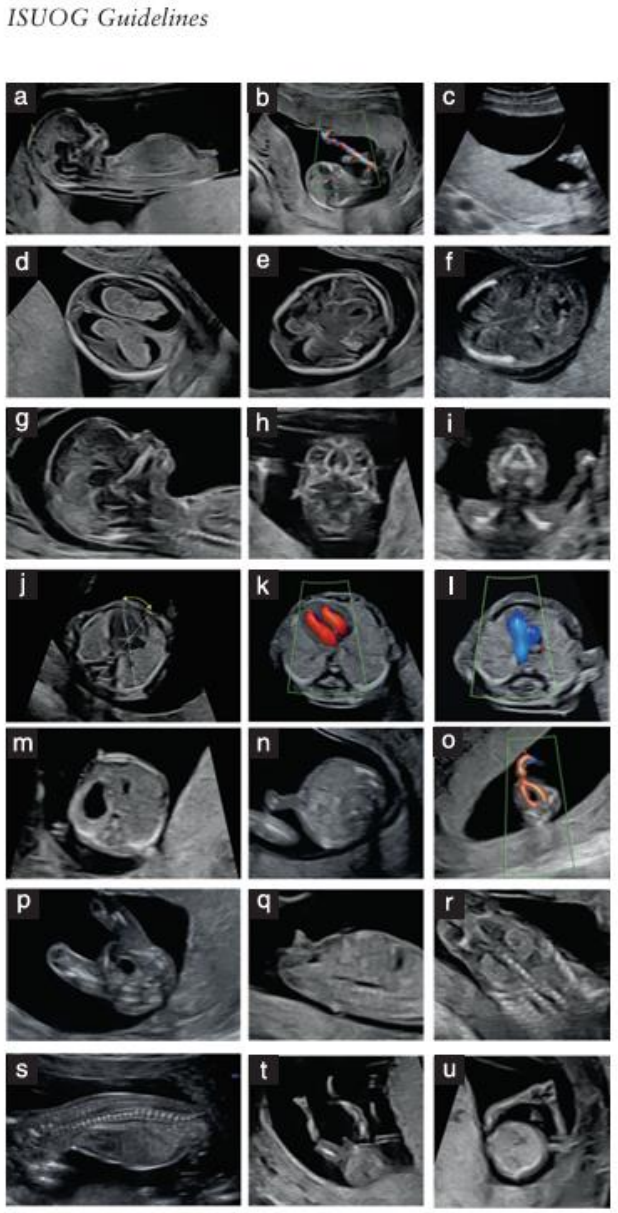
- Important to know number of gestational sacs, embryos and cardiac activities
- Establishment of chorionicity as early as feasible; best assessed in the first trimester
- Lambda/twin-peak sign suggests dichorionicity; T-sign suggests monochorionicity
- MCDA and MCMA twins managed by MFM – until appointment confirmed will need community care (ie NT scan and screening if wishing to proceed)





11–14-week scan: more than NT

- Confirm viability, fetal number and appropriate dating
- Measure nuchal translucency within the validated CRL range (45–84 mm)
- Review cranial vault/brain, face, spine, abdominal wall, stomach, bladder and limbs
- Assess cardiac position, four-chamber view and other structures as feasible
- Document technical limitations and any need for specialist review



What early ultrasound cannot exclude

- Some structural anomalies develop or become apparent later
- Cardiac, CNS, renal and other anomalies may be missed at 11–14 weeks
- Detection varies with gestation, fetal position, maternal habitus and operator expertise
- Normal first-trimester anatomy does not replace the 18–22-week morphology scan
- Aneuploidy screening and structural ultrasound provide complementary information

Compare prenatal screening options

Timing and panels vary by laboratory and jurisdiction

Option	Usual timing	Main purpose	Key limitation
Combined first trimester	11–13+6 wk scan; blood earlier	T21/T18/T13 risk using age, NT, PAPP-A, free β-hCG	Lower specificity than cfDNA; needs validated NT
cfDNA / NIPT	From ~10 wk	High-performance screening for common trisomies	Placental DNA; false results and no-call possible
Second-trimester serum	~15–20 wk (lab dependent)	Aneuploidy risk; AFP may assess open NTD risk	Lower performance for T21 than cfDNA
Ultrasound	11–14 and 18–22 wk	Structural assessment and markers	Does not reliably exclude aneuploidy

Cell-free DNA screening (NIPT)

- Maternal blood test from approximately 10 weeks; analyses predominantly placental cfDNA
- For trisomy 21: sensitivity typically >99% and specificity >99% in validated settings
- Performance is lower or less certain for T18, T13, sex-chromosome and expanded panels
- Positive predictive value varies substantially with prevalence and the condition
- A positive, atypical or no-call result requires individualized counselling

Follow-up after screening results

- Low-risk screen: explain residual risk; continue routine structural imaging
- High-risk cfDNA/cFTS: genetic counselling, targeted ultrasound and offer of diagnostic testing
- No-call cfDNA: assess gestation/fetal fraction and discuss redraw versus diagnostic testing
- Increased NT or fetal anomaly: refer for MFM assessment and discuss diagnostic testing even if NIPT low risk

Diagnostic testing: CVS versus amniocentesis

Counsel using current operator/service-specific complication rates

Feature	Chorionic villus sampling	Amniocentesis
Timing	Usually ≥11 weeks	Usually ≥15 weeks
Sample	Placental villi	Amniotic fluid cells
Benefit	Earlier diagnostic result	Fetal-derived cells; later option
Important caveat	Confined placental mosaicism may require amnio	Timing and culture may delay result
Risks	Small procedure-related pregnancy-loss risk – higher than with Amniocentesis	Small procedure-related pregnancy-loss risk

Counselling for informed choice

- Ask what information the patient hopes to gain and how results might influence care

  -every family has the right to decline screening if they have been counselled and are aware of the implications

- Explain which conditions are included—and importantly, which are not

  -written information available for patients

- Discuss potential false positives, false negatives, uncertain results and incidental findings
- Offer equitable, non-directive counselling and respect the decision to decline testing

Take-home messages

- Early ultrasound answers location, viability, dating and multiple pregnancy questions to enable appropriate care
- The 11–14-week scan adds important early anatomical information but cannot replace morphology
- cfDNA is highly accurate screening for common trisomies, not a diagnostic test
- Ultrasound anomalies warrant assessment regardless of screening result
- The best pathway is informed, individualised and supported by appropriate follow-up

References and recommended guidance (1)

- RANZCOG. Prenatal screening and diagnosis of chromosomal and genetic conditions in the fetus (current guidance).
- ASUM. Guidelines for the performance of first trimester ultrasound (current edition).
- ISUOG Practice Guidelines: performance of first-trimester fetal ultrasound scan; updated guidance.
- ISUOG Practice Guidelines: role of ultrasound in twin pregnancy.
- ACOG Practice Bulletin No. 226: Screening for Fetal Chromosomal Abnormalities (2020).

Reproductive Genetics

Thalassemia and Reproductive Genetic carrier screening

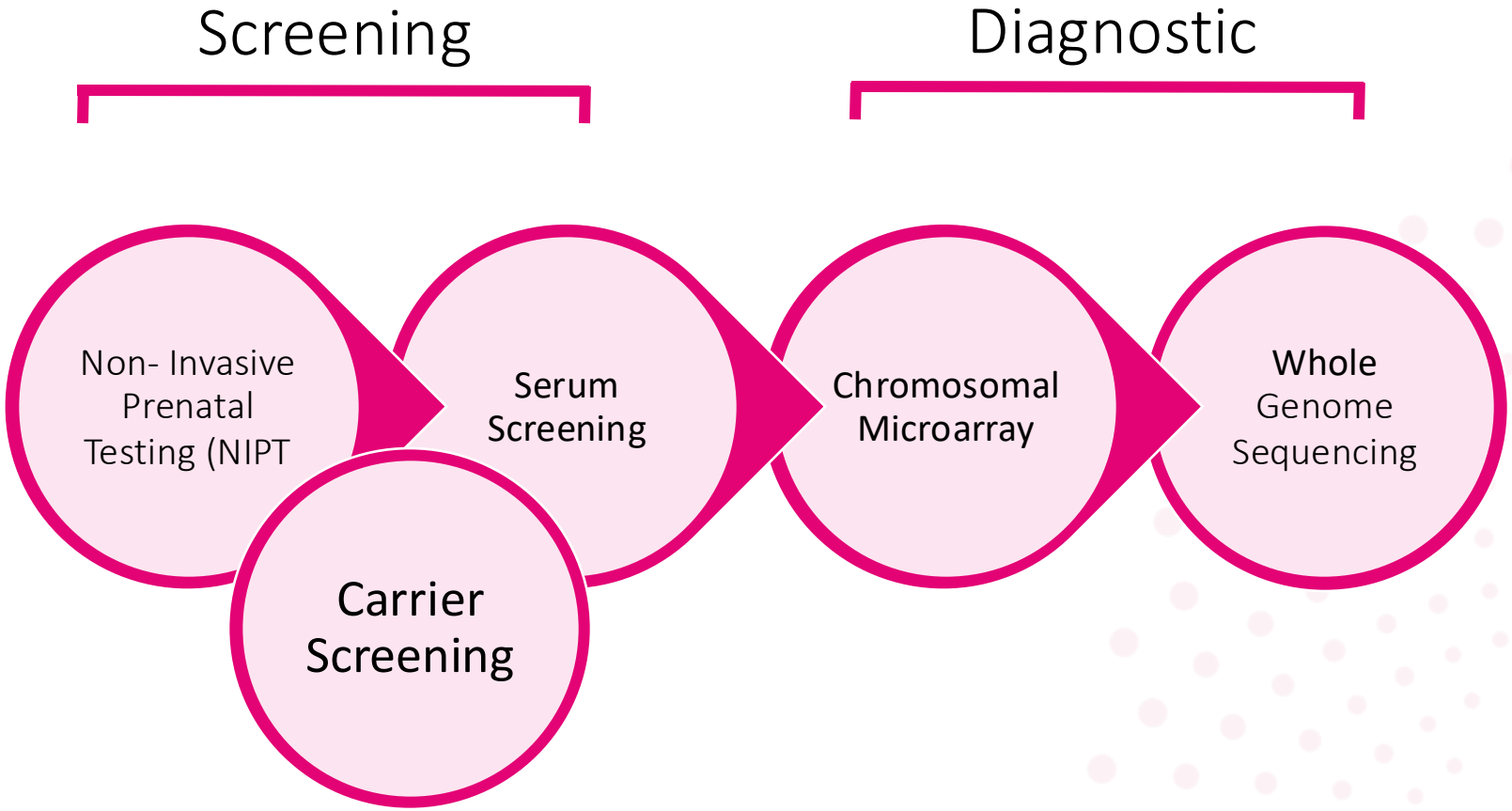
Susan Fawcett

Genetic Counsellor FHGSA

Western Health

the women's
the royal women's hospital

Types of Genetic Testing



Thalassemia and Abnormal Haemoglobins

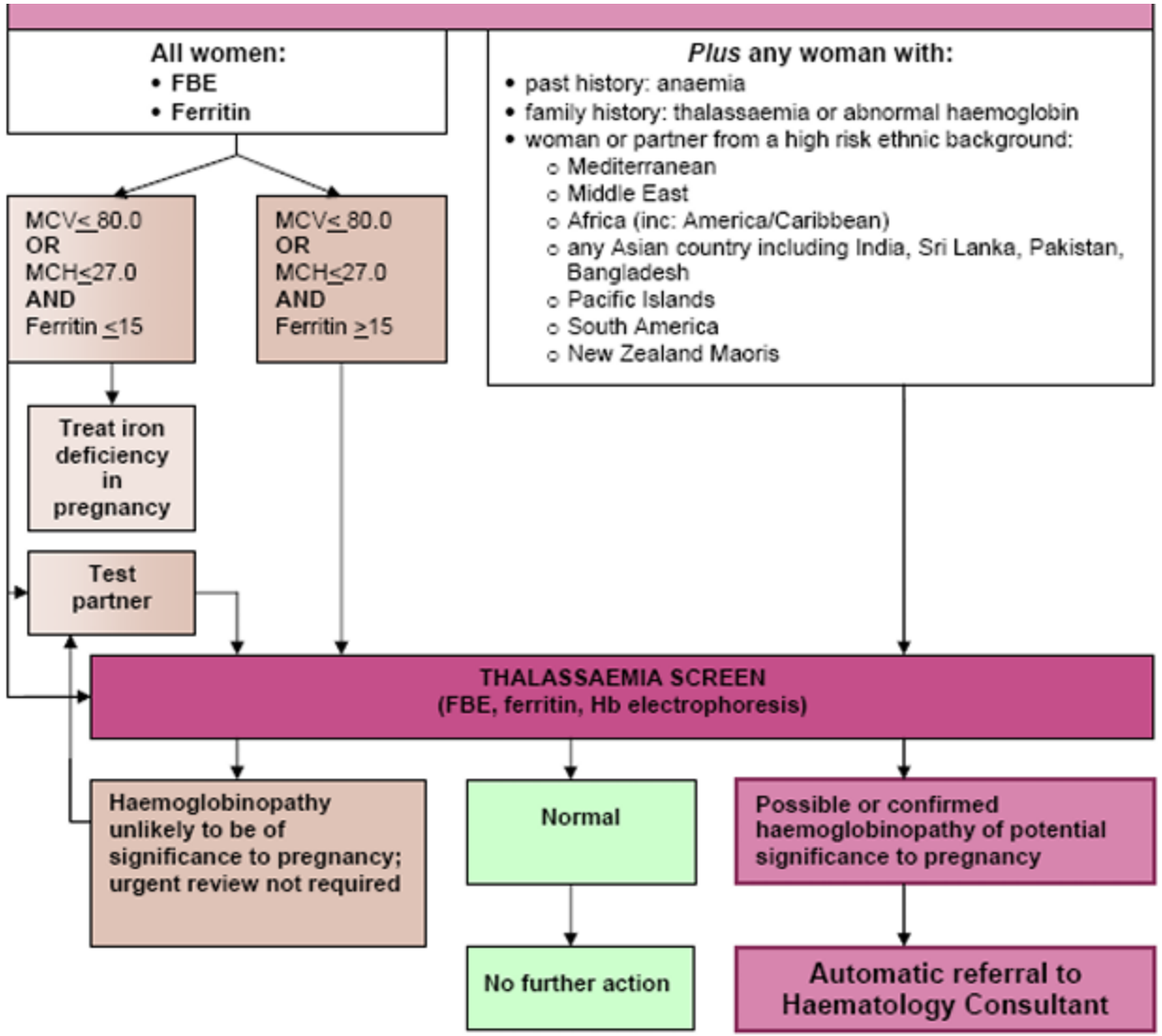
Thalassemia and Abnormal Haemoglobins in Pregnancy

- Detected in approximately 4% of patients of reproductive age at The Women's
- Haemoglobinopathies have been detected in all ethnic groups but most frequently
  - the Mediterranean basin
  - the Middle East
  - Africa
  - Asia
  - Polynesia
  - the Subcontinent

Thalassemia and Abnormal Haemoglobins in Pregnancy

- All haemoglobinopathies follow an autosomal recessive inheritance pattern
- Heterozygous carriers are commonly asymptomatic
- Screening couples for thalassaemia allows for detection of those at risk of having children with severe disease

Thalassemia and Abnormal Haemoglobins in Pregnancy



Thalassemia and Abnormal Haemoglobins in Pregnancy

- Testing for thalassaemia and abnormal haemoglobins requires:
  - FBE
  - serum ferritin and
  - haemoglobin electrophoresis
  - if these results are suggestive of alpha thalassaemia:
    - DNA analysis is indicated.
- Screening of at-risk patients (from high-risk ethnic group, past history of anaemia, or family history of haemoglobinopathy) should occur prior to pregnancy.

Thalassemia and Abnormal Haemoglobins in Pregnancy

- Prenatal diagnosis cannot be offered to at-risk couples unless DNA analysis has been performed and the exact nature of mutations has been determined.

Thalassemia and Abnormal Haemoglobins in Pregnancy

- FBE findings: thalassemia and abnormal haemoglobins

MCV/MCH reduced +/- anaemia	Often normal red cell indices
beta thalassaemia minor	Hb S
alpha thalassaemia minor	Hb C
deltabeta thalassaemia minor	HbE
Heterozygous Hb Lepore	Hb O Arab Hb D Hb G Rare variant haemoglobins

Thalassemia and Abnormal Haemoglobins in Pregnancy

- Potentially serious haemoglobinopathies: prenatal diagnosis maybe offered

Potentially serious haemoglobinopathies for which prenatal diagnosis may be offered	
Homozygous beta thalassaemia	Homozygous Hbs (sickle cell disease)
Homozygous Hb Lepore	Barts Hydrops (4 gene deletion alpha thalassaemia)
Haemoglobin H disease Hydrops (2 gene deletion plus point mutation)	HbE/beta thalasseamia
Hb Lepore/beta thalassaemia	HbC/beta thalassaemia
Hb O Arab/beta thalassaemia	Hb S/beta thalassaemia
HbS/HbC	HbS/HbD
Some couples may request prenatal diagnosis for HbH disease (3 gene deletion alpha thalassaemia).	

Reproductve Genetic Carrier Screening

Reproductive Carrier Screening

Prenatal screening and diagnostic testing for fetal chromosomal and genetic conditions



The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

Excellence in Women's Health



Reproductive Genetic Carrier Screening

Recommendation 15	Grade and supporting references
• Carrier screening for the more common “monogenic” genetic conditions (e.g. cystic fibrosis, spinal muscular atrophy, fragile X syndrome, haemoglobinopathies) is available in Australia and in New Zealand **(in the private sector)**. • Information on carrier screening for the more common genetic conditions that affect children (e.g. cystic fibrosis, spinal muscular atrophy, fragile X syndrome) should be **offered to all women planning a pregnancy or in the first trimester of pregnancy**. • Woman wanting more information about carrier screening should be given the opportunity to have a more detailed discussion about carrier screening with an informed clinician. • The benefits and limitations of testing, and any associated costs should be discussed.	Consensus-based recommendation

the women's
the royal women's hospital
victoria australia

Reproductive Genetic Carrier Screening

- Options for carrier screening include screening with a panel for a limited selection of the most frequent conditions (e.g. cystic fibrosis, spinal muscular atrophy and fragile X syndrome) or screening with an expanded panel that contains many disorders (up to 1000).
- Screening for autosomal recessive and X-linked disorders, some of which have health implications for the carrier ie. Fragile X pre-mutations
- Most children with recessive or X-linked genetic conditions are born to parents with no family history

Reproductive Genetic Carrier Screening

- 500+ gene panels;
  - Individual has 70% chance of being found to be a carrier
  - Couples 4% chance of being found to be high risk
  - The larger carrier tests are only available to couples

Reproductive carrier screening

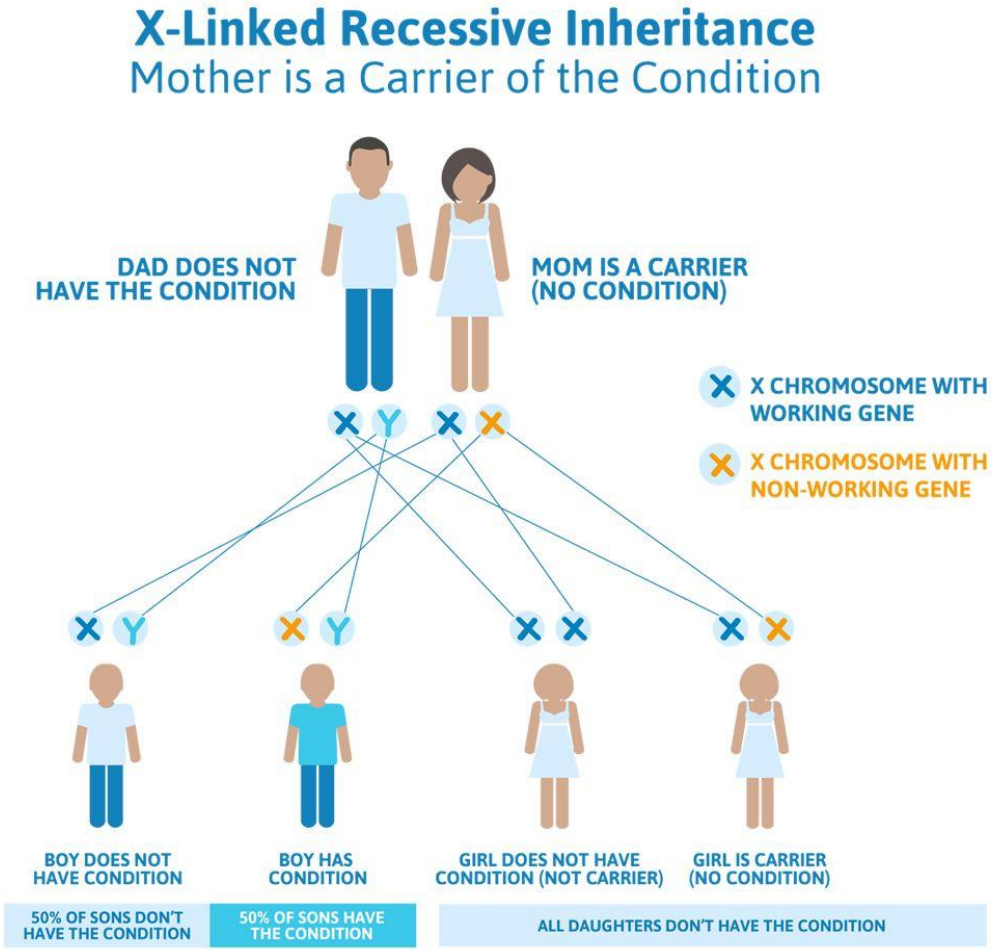
Genetic Condition	Incidence	Carrier frequency	Inheritance
Cystic Fibrosis	1 in 2,500	1 in 25	Autosomal recessive
SMA	1 in 10,000	1 in 40	Autosomal recessive
Fragile X	1 in 4,000	1 in 150	X-Linked

Medicare funded when ordered by a GP

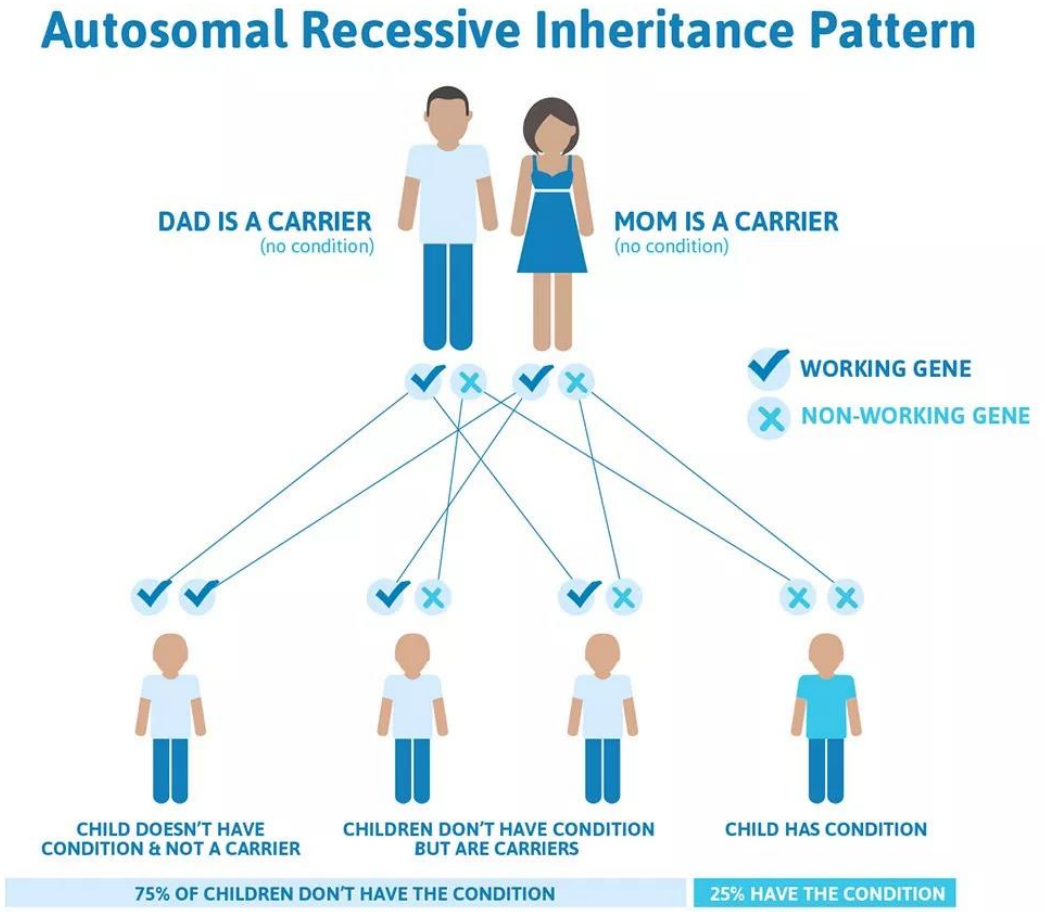
Expanded Reproductive Carrier screening

Test Name	Conditions screened	Cost
Prepair, Eugene, Clinical Labs, Melbourne Path, Dorevitch, Lumi	SMA, Fragile X, Cystic fibrosis	Bulk billed if patient has Medicare TAT 2-4 weeks
Prepair 500+ (VCGS)	500+	$975/ couple if Medicare eligible,Non-Medicare $1364. TAT 6-8 weeks
Prepair 1000+ (VCGS)	1000+	$1500/ couple if Medicare eligible, Non-Medicare $1889 TAT 6-8 weeks
Eugene couples carrier screen	620+	$899/ couple if Medicare eligible TAT 9-12 weeks
Eugene comprehensive carrier screening	780+	$949/ individual or $1,399.00 AUD/ couple – NOT Medicare eligible, no rebate TAT 4-6 weeks
Lumi Health Extended carrier screen	620+	$740/couple if Medicare eligible TAT 8-12 weeks
Lumi Health Comprhesnive carrier screen	1240+	$890/ couple if Medicare eligible TAT 8-12 weeks

X-linked Inheritance



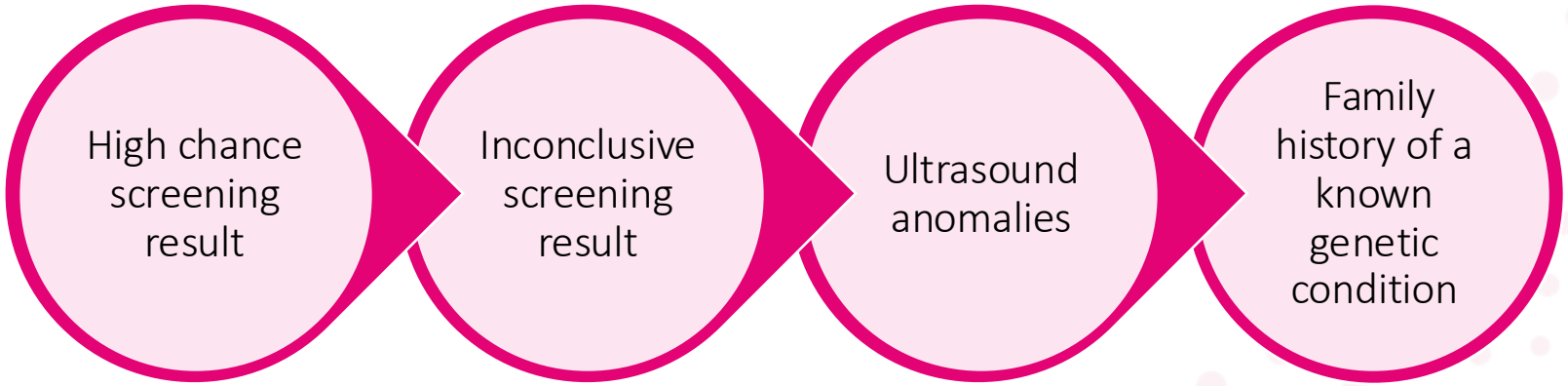
Autosomal Recessive Inheritance



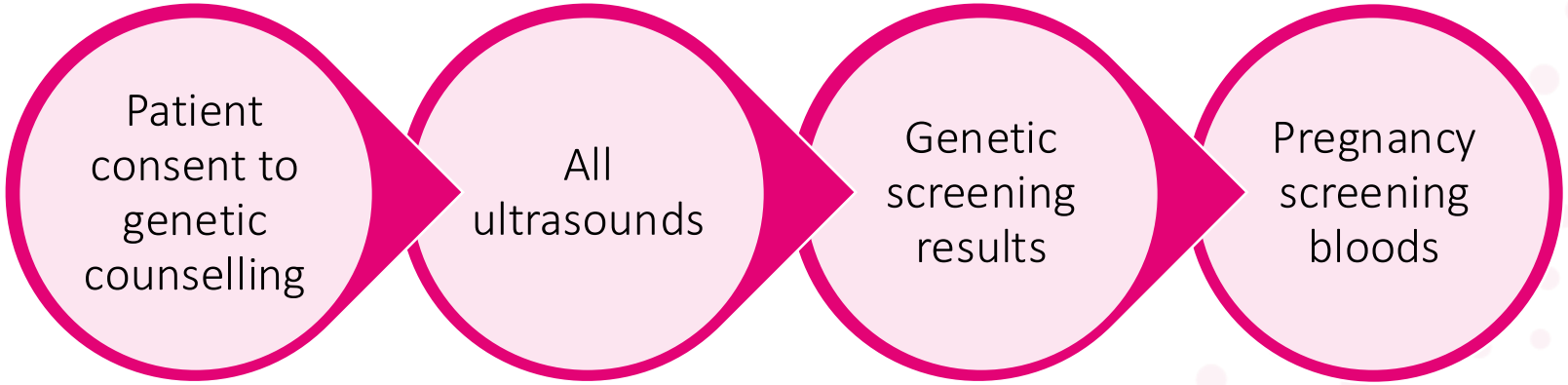
Reproductive Genetic Carrier Screening

- Points to consider
    - Other than the 3 gene screen - tests incur an out-of-pocket cost to the patient
    - Timing– it is preferable to conduct either pre-pregnancy or early pregnancy as results take 3-6 weeks
    - Likelihood of a screen positive in one or both of the individuals screened – this will increase with the number of genes screened.
    - Utility and cost of testing partners at the same time as the women
    - Patients access to adequate pre and post test genetic counselling

When to refer?



What to include?



Questions?

- Parkville Clinic (The Women's)
  - Ph: 83452180
  - genetics@thewomens.org.au
- Sunshine Hospital Clinic
  - Ph: 90553006
  - genetics@wh.org.au

OBSTETRIC INFECTIONS

DR NAOMI WHYLER

WESTERN HEALTH

ANTENATAL SCREENING

Routine

Hepatitis B serology

Hepatitis C serology

Syphilis serology

Rubella serology

Chlamydia / gonorrhoea

HIV serology

Additional if indicated

CMV serology

Toxoplasma serology

Varicella serology

ANTENATAL SCREENING

Routine

Hepatitis B serology

Hepatitis C serology

Syphilis serology

Rubella serology

Chlamydia / gonorrhoea

HIV serology

Additional if indicated

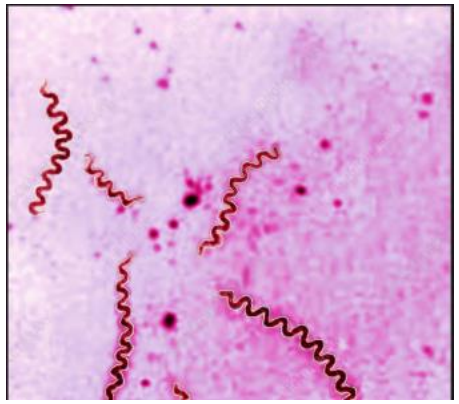
CMV serology

Toxoplasma serology

Varicella serology

SYPHILIS

- Treponema pallidum



- Rising case numbers
- Congenital syphilis re-emerged: 18 cases between 2017 to 2024 (Vic)

What you need to know:

Testing recommended for all pregnant women:

- At first antenatal visit
- At 26 to 28 weeks
- At 36 weeks or birth (whichever is earlier)

Treponemal serology: *negative – excludes syphilis*

If *positive*, confirmation with further tests:

- RPR neg / TPPA neg – *likely false positive*
- RPR neg / TPPA pos – *past treated or latent syphilis*
- RPR pos / TPPA neg – *possibly early, retest in 4 weeks*
- RPR pos / TPPA pos – *consistent with active syphilis*

SYPHILIS

Treatment:

- Primary syphilis: Single dose IM benzathine penicillin 1.8g (2.4million Units)
- Latent secondary syphilis:
  - Early – within 2 years of contracting infection: single dose
  - Late – after 2 years since contracting infection: three doses weekly for three weeks
- Tertiary syphilis: specialist care for intravenous treatment

- Notify Public Health Unit
- If penicillin allergy → Referral to ID to consider penicillin desensitisation and treatment
- Counsel re: Jarisch-Herxeimer reaction – can precipitate early labour / abnormal fetal heart tracings

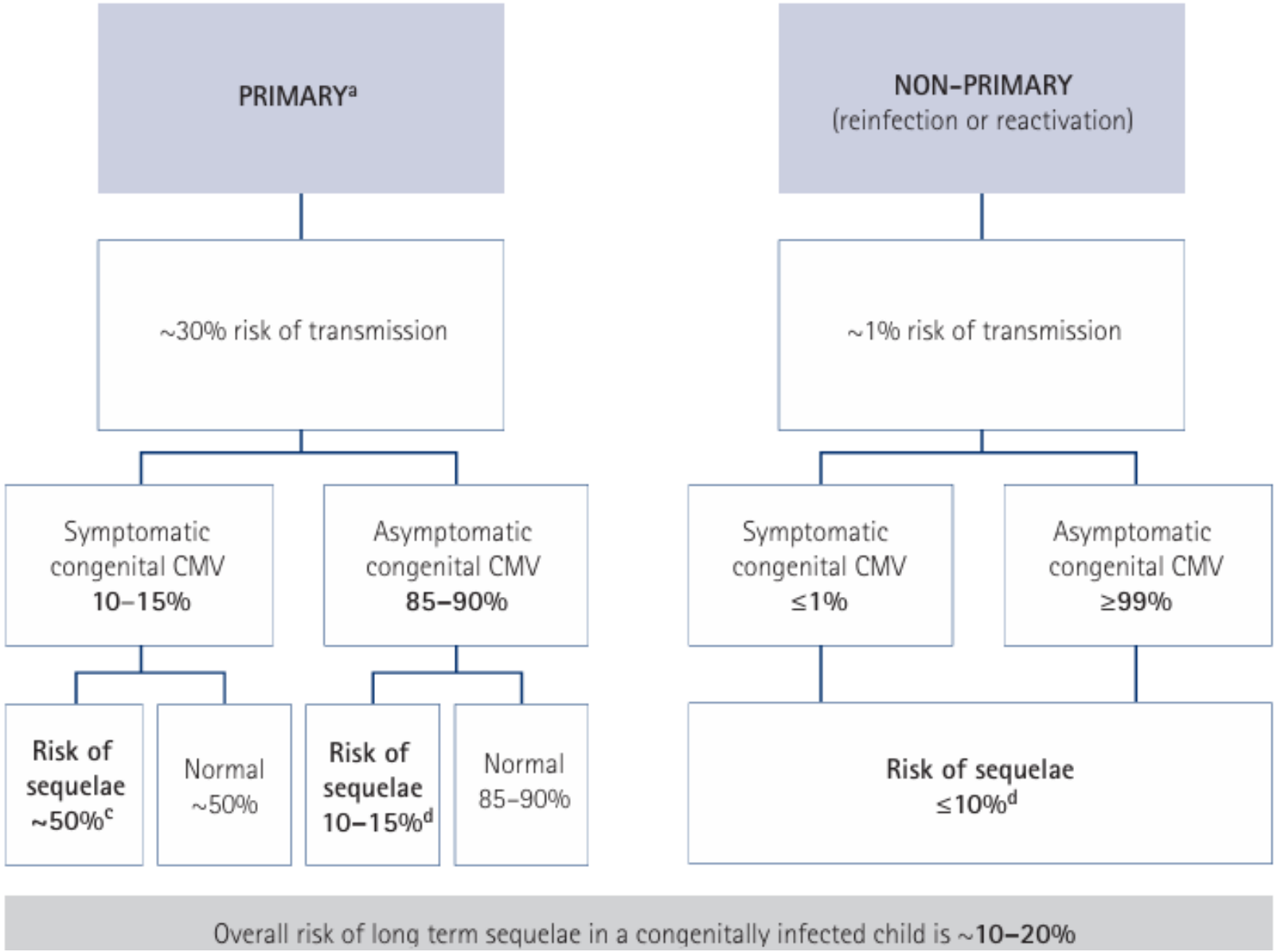
CYTOMEGALOVIRUS (CMV)

- Not routinely tested for in Australia
- Tested if: history of CMV-like illness, known exposure, ultrasound abnormalities

INTERPRETATION	CMV IgM	CMV IgG	CMV Specific IgG avidity
Never had CMV – susceptible	Negative	Negative	N/A
Possible recent infection or false positive	Positive	Negative	N/A
Recent primary infection	Positive	Positive	Low avidity
Possible recent primary infection	Positive	Positive	Intermediate
Past infection - > 3 months ago	Positive	Positive	High
Past infection - > 3 months ago	Negative	Positive	N/A

CMV

- Next steps
  - Valaciclovir
  - Ultrasound
  - Amniocentesis
  - Postnatal testing +/- treatment
  - MFM + Infectious Diseases input

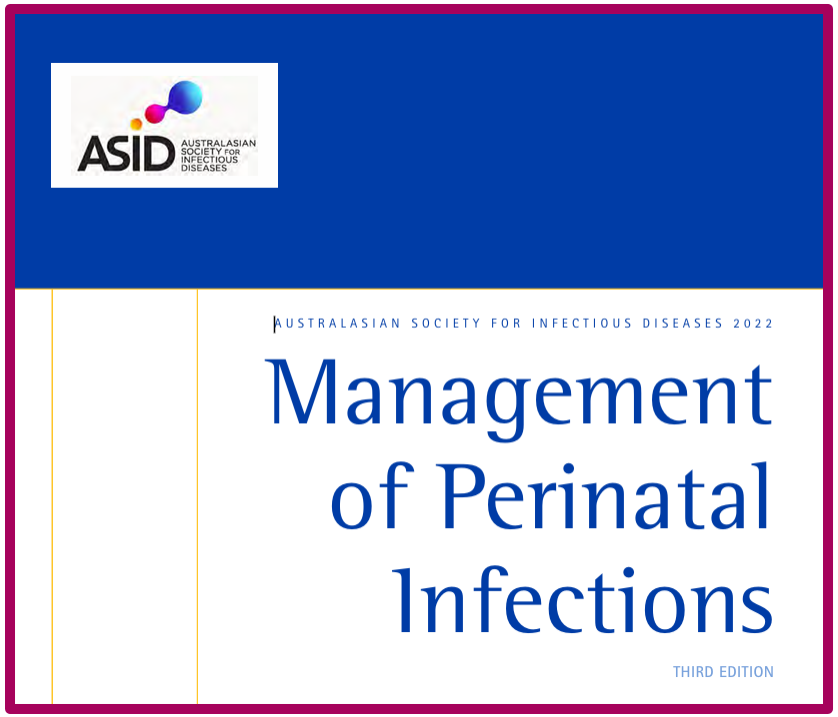


UPDATE ON IMMUNISATIONS

Vaccine	Recommendation and Timing	Rationale
Influenza (inactivated)	Single dose for all pregnant women at any stage of pregnancy	Pregnancy increases risk of severe maternal influenza. Immunisation also provides newborn protection.
dTpa (diphtheria-tetanus-acellular pertussis)	Single dose booster ideally at 20 – 32 weeks (Consider earlier timing if travel to NT with current diphtheria outbreak(	Reduced risk of pertussis infection in pregnant women and infants by 90% Optimal protection if given soon after 20 weeks, less protection if given <2 weeks before birth
RSV	Single dose preferably between 28 and 36 weeks (Abrysvo funded under NIP in pregnancy) *Monoclonal antibodies - nirsevimab	Reduction of up to 82% RSV-related LRTI hospitalisation in infants up to 6 months of life.

QUESTIONS!

Contact details:
Naomi.Whyler@monash.edu





Early Pregnancy Care

Routine Screening, TFT, Folate and other supplements

Dr Carlie Di Camillo Western Health GP, November 2026

Learning Objectives

By the end of this session, participants will be able to:

- Select first-visit investigations and identify when to add targeted tests.
- Recognise who needs TSH / thyroid function testing in pregnancy.
- Explain why routine vitamin D testing is not recommended.
- Recommend evidence-based folate, iodine, iron and vitamin D use
- Identify patients who need 5 mg folic acid before conception and in early pregnancy.

Routine First Trimester Screening

At the booking visit/s: establish baseline health, infection status and blood group risk

- **Bloods: FBE; ABO/RhD group and antibody screen**
- **Infection screening: syphilis, HIV, hepatitis B and hepatitis C**
- **Immunity: rubella; consider/confirm varicella status if uncertain or clinically relevant**
- **Urine: MSU for culture (asymptomatic bacteriuria); assess urinary symptoms**
- **Add according to history/risk: ferritin, B12, HbA1c/early glucose testing, STI NAAT, haemoglobinopathy****

**At Western Health all women are expected to have a HbE once in their lifetime

References- *RANZCOG C-Obs 3b; RACGP Red Book.*

Routine First Trimester Screening

And the rest

- Offer aneuploidy screening options: NIPT from 10 weeks or combined first-trimester screening
- Offer carrier screening
- Consider CMV

When Should a TSH be Ordered?

Targeted testing is recommended

- Known thyroid disease or thyroid surgery / radioiodine history
- Symptoms or signs suggesting thyroid dysfunction or goitre
- Personal or strong family history of thyroid disease; thyroid autoimmunity
- Relevant risks: type 1 diabetes/other autoimmune disease, infertility or recurrent pregnancy loss

- use clinical judgement

- If abnormal: interpret with pregnancy - and assay - appropriate ranges; add free T4 ± antibodies as indicated
- Known hypothyroidism: review levothyroxine promptly and monitor during pregnancy

Reference: *RANZCOG C-Obs 46 (2022);*

Should Vitamin D be tested?

Does the hospital expect you to test for Vitamin D?

- According to guidelines – no
- ‘Do not test Vitamin D as part of routine pregnancy screening, regardless of maternal risk factors’
- “Advise all women irrespective of their skin pigment and/or sun exposure to take 400IU of Vitamin D daily during pregnancy’
- Does the hospital expect you test - technically no….
- Are there exceptions - always: malabsorption (coeliacs disease, CF, bariatric surgery), Chronic renal disease, hyperparathyroidism, hypo- and hyper- calcaemia, hypoposphataemia

References: RANZCOG C-Obs 25, Health pathways Melbourne, RACGP advice

Pregnancy Supplements - what and how much?

Start preconception where possible; check the label and avoid duplicate ingredients

- **FOLIC ACID — 400–500 micrograms daily.**

- Start ≥1 month before conception; continue to 12 weeks. High-risk patients need 5 mg.

- **IODINE — 150 micrograms daily.**

- From preconception/early pregnancy through breastfeeding, unless specialist advice contraindicates (e.g. some thyroid conditions).

- **IRON — not automatically for everyone.**

- Check FBE ± ferritin based on pathway/risk; treat confirmed deficiency with an appropriate dose and follow-up.

- **VITAMIN D — 400IU daily**

- Consider:

- B12 in vegan/vegetarian - 2.6mcg daily

- Calcium - if low calcium diet consider supplement of up to 1000mg (RDI is 1000mg)

- Omega - 3 fatty acids (DHA) - consider a supplement with at least 500mg DHA/day

Who needs high dose folate?

Use for increased neural-tube-defect risk

- Previous pregnancy affected by a neural tube defect
- Personal or relevant family history of neural tube defect
- Pre-existing diabetes
- BMI ≥30 kg/m^2 at conception (follow current local guidance)
- Malabsorption, e.g. coeliac disease or bariatric surgery
- Medicines that interfere with folate / increase neural tube defect risk (e.g. some antiseizure medicines):

- specialist medication review

- **DOSE:**

5 mg daily ; begin ≥1 month before conception ; continue to 12 weeks' gestation

Questions

CLINICAL PRACTICE OVERVIEW — AUSTRALIA

First-Trimester Preeclampsia Screening & Risk Factors

A summary of clinical risk factors, combined multimodal screening algorithms, incidence data, and preventive pathways for Australian obstetric care.

Dr Pallavi Desai

MBBS, MD, FRANZCOG, MHA,

Consultant Obs and Gyn Western Health, VIC

EPIDEMIOLOGY & INCIDENCE

Preeclampsia Burden in Australia

3–4%

Overall Australian Incidence

Affects ~10,000 pregnancies annually nationwide (AIHW cohort metrics).

0.5%

Early-Onset Preeclampsia (<34w)

High risk of iatrogenic preterm birth, severe IUGR, and ICU admissions.

15%

Direct Maternal Morbidity Contribution

Leading indication for planned early deliveries across Australian tertiary centers.

CLINICAL RISK STRATIFICATION

High-Risk Maternal Factors (RANZCOG / SOMANZ)

Prior Hypertensive Pregnancy

Previous preeclampsia or eclampsia (highest single clinical predictor).

Chronic Medical Conditions

Pre-existing hypertension, renal disease, or Type 1/2 diabetes.

Autoimmune Disorders

Systemic Lupus Erythematosus (SLE) or Antiphospholipid Syndrome (APS).

Assisted Reproduction

In vitro fertilization (IVF) conception in current pregnancy.

CLINICAL RISK STRATIFICATION

Moderate-Risk Factors (Combination Triggers Prophylaxis)

Nulliparity: First pregnancy or interval >10 years since last birth.

Advanced Maternal Age: Age ≥35 years at booking appointment.

Elevated Booking BMI: BMI ≥30 kg/m² at initial early antenatal visit.

Family History: First-degree relative (mother/sister) with preeclampsia history.

**SOMANZ Recommendation: Presence of ≥2 moderate-risk factors justifies low-dose aspirin initiation.*

MULTIMODAL ASSESSMENT

The FMF First-Trimester Combined Algorithm

1

Maternal History

Age, BMI, ethnicity, smoking status, medical history.

2

Mean Arterial Pressure

Automated dual-arm BP protocol at 11^{+0} to 13^{+6} weeks.

3

Uterine Pulsatility

Transabdominal Doppler UtA Pulsatility Index (UtA-PI).

4

Serum Biomarkers

PlGF (Placental Growth Factor) and PAPP-A levels.

DIAGNOSTIC MODALITIES

Core First-Trimester Screening Tests

MAP Assessment

Timing: 11+0 to 13+6 weeks gestation.

Method: Calibrated automated cuff; 2 measurements in both arms simultaneously.

Uterine Artery Doppler

Timing: 11+0 to 13+6 weeks (Nuchal Scan).

Method: Transabdominal Doppler calculation of mean Pulsatility Index (PI).

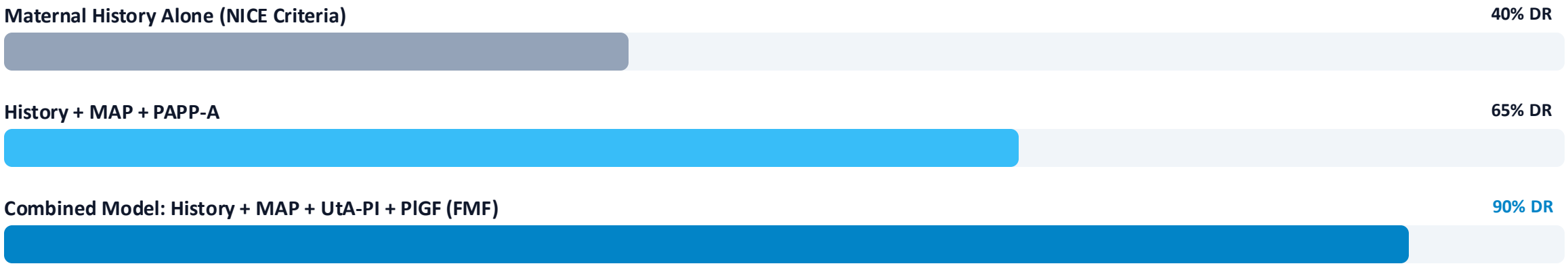
Serum Biomarkers

Analytes: PlGF (Placental Growth Factor) & PAPP-A.

Significance: Low PlGF reflects impaired early placental vascular development.

DETECTION ACCURACY

Detection Rate for Early-Onset PE (<37 Weeks)



At 10% false positive rate (FMF ASPRE Validation Studies).

PRACTICE CONSIDERATIONS

Screening Availability in Australia

Public Antenatal Clinics

Mainly relies on maternal risk factor screening due to varying access/funding for routine PlGF and Uterine Artery Doppler in regional areas.

Private & Specialized Centers

Routine combined FMF screening offered at 11–13+6 weeks alongside the first-trimester aneuploidy/structural ultrasound scan.

CLINICAL MANAGEMENT

Prevention: Low-Dose Aspirin Protocol

100-150 mg

Nightly Dosing Recommendation

Commenced ideally before 16 weeks gestation (optimally 12–14 weeks) and continued until 36 weeks.
However, 150 mg is not available in Australia and will need to divide a 300 mg tablet into 2.
Therefore, a minimum of 100mg per day, taken at bedtime is recommended

62% Reduction

In preterm preeclampsia (<37 weeks) demonstrated in ASPRE trial.

82% Reduction

In severe early-onset preeclampsia (<34 weeks).

THERAPEUTIC TIMELINE & DOSING

Early Intervention & Aspirin Prophylaxis Protocol

Step 1 — Initiation

Gestation Window

Optimal: 11+0 to 14+6 weeks.

Deadline: Prior to 16 weeks to ensure maximal deep trophoblast remodeling benefit.

Step 2 — Dosing

Dosage & Regimen

Dose: 100 mg nightly (or 100–150 mg per SOMANZ).

Timing: Bedtime administration improves nocturnal blood pressure control.

Step 3 — Cessation

Duration & Safety

Cease at: 36 weeks gestation.

Adjunct: Calcium (1–1.5g/day) if low dietary calcium intake (<800 mg/day).

MBS

Bundled into standard scans: If the uterine artery Doppler is performed during a routine early pregnancy check under 12 weeks, it is covered under the base items55700 (Requested) or 55703(Non-requested).

Part of Pre-eclampsia Screening: In contemporary obstetric practice, checking uterine artery resistance between 11 and 13+6weeks is primarily used to screen for pre-eclampsia and intrauterine growth restriction (IUGR). When done alongside a nuchal translucency evaluation, it is included under items 55707(Requested) or 55708 (Non-requested).


ANY QUESTIONS?

SUMMARY

Clinical Takeaways for Primary Care Practitioners

- **Early Assessment is Essential:** Universal risk factor screening at booking allows timely aspirin prophylaxis initiation before 16 weeks gestation.
- **Combined Screening Superiority:** Multimodal FMF model (History + MAP + UtA Doppler + PlGF) achieves 90% detection rate for preterm preeclampsia.
- **Targeted Intervention Works:** Aspirin 100–150 mg nightly substantially reduces preterm delivery and adverse neonatal outcomes. Add Calcium at 1.2 gm to 1.8 gm per day for further benefit, if dietary intake is inadequate.

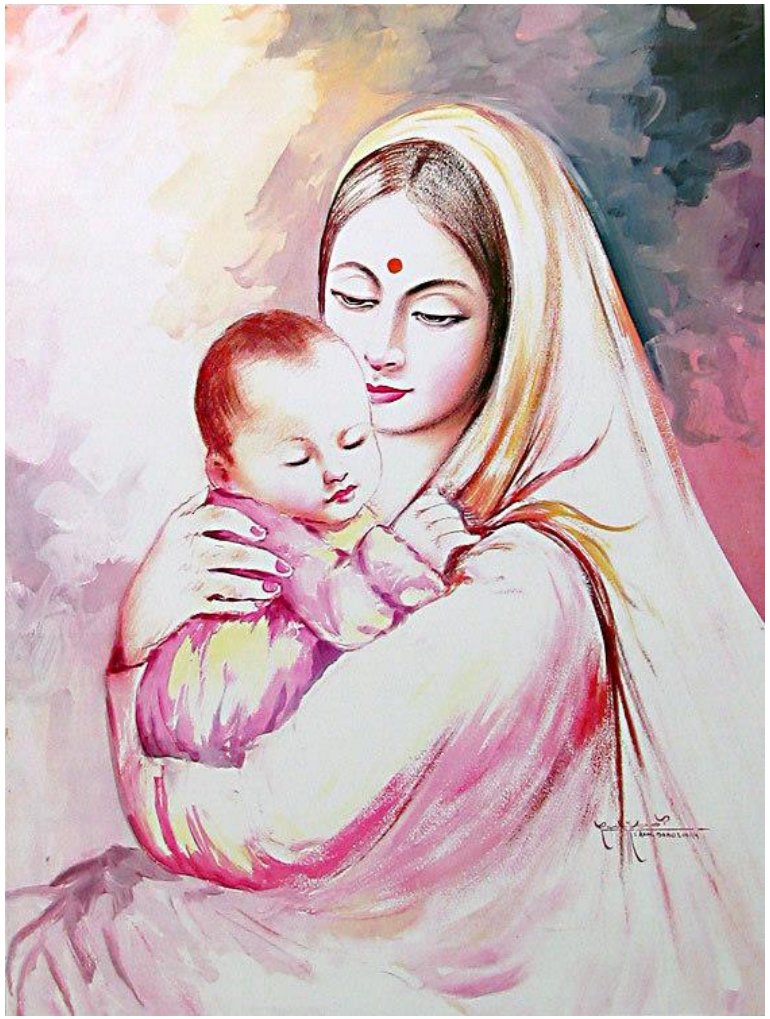
SHARED DECISION MAKING IS ESSENTIAL

EVIDENCE BASE

Key References & Guidelines

- **RANZCOG Guideline (C-Obs 61):** Screening and Prevention of Delivery of Preterm Preeclampsia
- **SOMANZ Position Statement:** Guidelines for the Management of Hypertensive Disorders of Pregnancy
- **ASPRE Trial (NEJM 2017):** Aspirin vs Placebo in Pregnancies at High Risk for Preterm PE (Rolnik et al.)
- **Fetal Medicine Foundation (FMF):** First-Trimester Preeclampsia Risk Calculation Algorithm
- **AIHW Data:** Australian Institute of Health and Welfare – Mothers & Babies Reports

THANK YOU



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GDM screening

ADIPS 2025 consensus recommendations

Dr I-Lynn Lee
Endocrinologist, Clinical lead in Obstetrics Endocrinology

What has changed in 2025?

75 g OGTT sample	ADIPS 2014	ADIPS 2025
Fasting	5.1–6.9	5.3–6.9
1 hour	≥10.0	≥10.6
2 hours	8.5–11.0	9.0–11.0

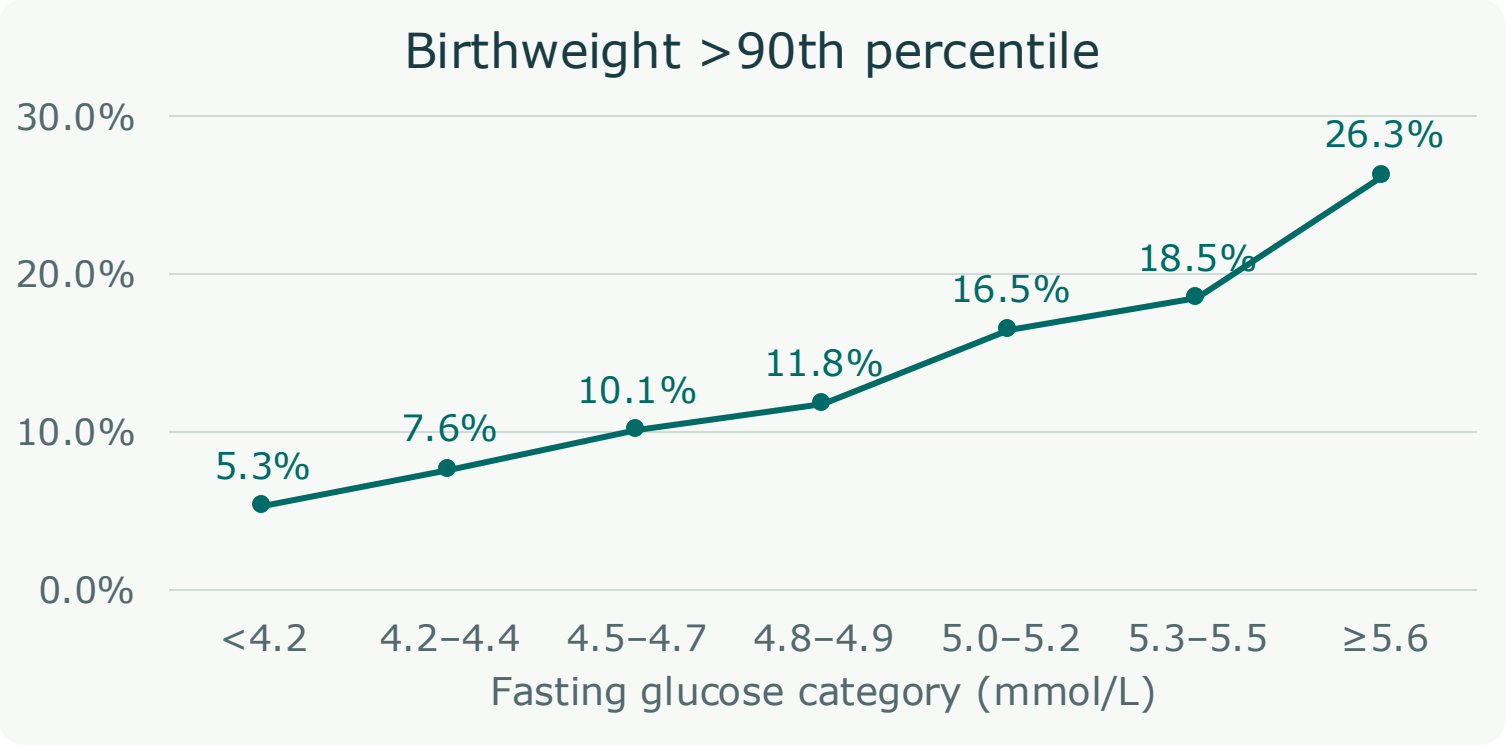
Venous plasma glucose in mmol/L. Any one qualifying value is sufficient for GDM.

More targeted early OGTT testing

Universal 24–28-week OGTT remains recommended

HAPO: glucose and pregnancy risk

23,316 blinded pregnancies, 75 g OGTT at 24–32 weeks



No obvious risk threshold

Risk rose with fasting, 1-hour and 2-hour glucose.

Associations persisted after adjustment for maternal characteristics.

Choosing a diagnostic cut-off also requires evidence of treatment benefit

HAPO Study Cooperative Research Group. N Engl J Med 2008;358:1991–2002. Figure 1 and Table 2.

GEMS and TOBOGM: threshold evidence

GEMS: n = 4,061, 24–32 weeks

Randomised diagnostic criteria

75 g OGTT glucose values, mmol/L

Criteria	Fasting	1 hour	2 hours
Lower	≥5.1	≥10.0	≥8.5
Higher	≥5.5	None	≥9.0

Lower vs higher criteria

GDM: 15.3% vs 6.1%

LGA: 8.8% vs 8.9%

Adjusted RR 0.98 (95% CI 0.80–1.19)

More diagnoses and intervention.
Some benefit between thresholds.

TOBOGM: n = 802, <20 weeks

Randomised immediate vs deferred treatment

Band	Fasting	1 hour	2 hours
Lower	5.1–5.2	10.0–10.5	8.5–8.9
Higher	5.3–6.0	≥10.6	9.0–11.0

Composite neonatal outcome
Adjusted risk difference, pp (95% CI)

Higher: −7.8 (−14.6 to −0.9)

Lower: −2.5 (−10.4 to +5.5)

Exploratory subgroup findings.
Possible SGA harm in the lower band.

Crowther et al. N Engl J Med 2022;387:587–598. Simmons et al. N Engl J Med 2023;388:2132–2144.

The first antenatal visit

Assess risk factors and review HbA1c testing in the past 12 months

Common risk factors

Previous GDM

Overweight or obesity

Family history of diabetes

Increasing maternal age

Polycystic ovarian syndrome

Previous adverse pregnancy outcomes

HbA1c in the first trimester

With risk factors, request HbA1c with initial antenatal bloods if no result is available from the previous 12 months.

The main purpose is to detect overt diabetes in pregnancy.

Box 2 also lists hypothyroidism and multiparity. Use individual assessment and local policy.

Sweeting et al. 2025, p.164, Box 2

How the early HbA1c changes the plan

HbA1c	Interpretation and next step
≥6.5% ≥48 mmol/mol	Overt diabetes in pregnancy Arrange diabetes-in-pregnancy care. No diagnostic OGTT needed.
6.0–6.4% 42–47 mmol/mol	Recommend an early 75 g OGTT This HbA1c range alone does not establish GDM.
<6.0% <42 mmol/mol	Previous GDM still warrants early OGTT Otherwise assess individual risk and local policy.

A normal HbA1c does not remove the need for the 24–28-week OGTT

Sweeting et al. 2025, pp.163–165

Early OGTT: who and when?

Without diabetes already detected in this pregnancy

Previous GDM

OR

HbA1c 6.0–6.4%

42–47 mmol/mol

10–14 weeks

Ideal timing, if tolerated

Before 20 weeks
Not before 10 weeks

Use the same GDM diagnostic thresholds at any gestation.

Case 1: previous GDM, normal HbA1c

9 weeks pregnant

GDM in her previous pregnancy

HbA1c 5.5% (37 mmol/mol)

What would you arrange now?

early OGTT: fasting 4.4, 1-hr 10.0, 2-hr 8.5 mmol/L

The routine OGTT at 24–28 weeks

Offer a 75 g, two-hour OGTT to every woman without diabetes already detected in this pregnancy

Fasting	1 hour	2 hours
5.3–6.9	≥10.6	9.0–11.0

GDM diagnostic values, mmol/L. Any one qualifying value is sufficient.

Includes women with no risk factors and those with normal early HbA1c or OGTT

Fasting ≥7.0 or 2-hour ≥11.1 mmol/L indicates overt diabetes in pregnancy.

Sweeting et al. 2025, pp.163–164, Box 1

Overt diabetes in pregnancy

Any one criterion can establish overt diabetes at any gestation

Test	Diagnostic criterion
Fasting plasma glucose	≥7.0 mmol/L
2-hour plasma glucose after 75 g OGTT	≥11.1 mmol/L
HbA1c	≥6.5% (≥48 mmol/mol)
Random plasma glucose	≥11.1 mmol/L with signs or symptoms of hyperglycaemia

Arrange prompt specialist care, as for pre-existing diabetes

Case 2: one value at the threshold

A woman at 26 weeks has these 75 g OGTT results

Fasting	1 hour	2 hours
5.2	10.6	8.8

Venous plasma glucose, mmol/L

Does she have GDM?

ADIPS 2025: take-home messages

75 g OGTT: any one qualifying value diagnoses GDM

mmol/L

Fasting	1 hour	2 hours
5.3–6.9	≥10.6	9.0–11.0

First antenatal visit
HbA1c if risk factors are present, unless measured within the past 12 months.

10 to <20 weeks
Ideally 10–14 weeks
Early OGTT for previous GDM OR HbA1c 6.0–6.4%.

24–28 weeks
OGTT for all women without diabetes diagnosed in this pregnancy, including after normal early testing.

Normal fasting glucose alone cannot exclude GDM.

Overt diabetes takes precedence: fasting ≥7.0, 2 hours ≥11.1 mmol/L or HbA1c ≥6.5%.

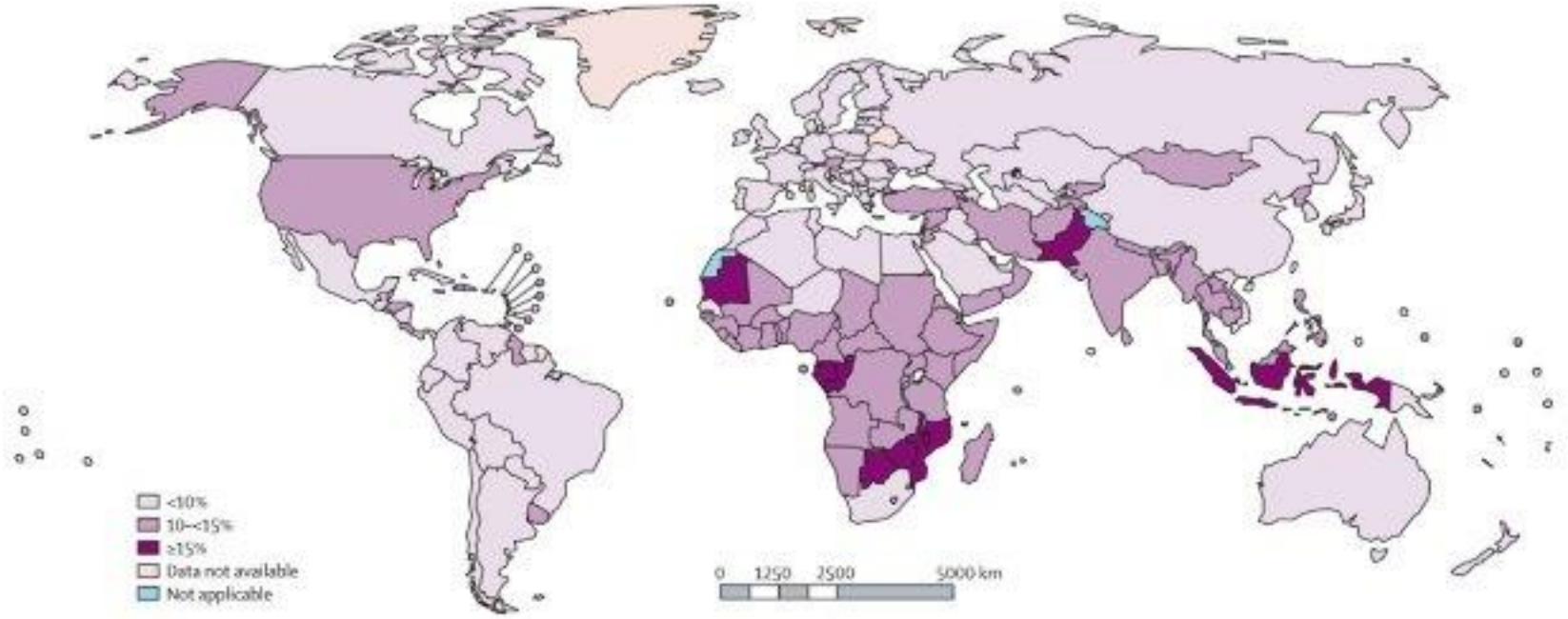
Sweeting et al. Med J Aust 2025;223:161–167. Box 1 and pp.164–165. doi:10.5694/mja2.52696

Questions

Preterm Birth Prevention

Dr Samara Radford
Obstetrician and Gynaecologist
Western Health

Global incidence increasing



Between 1990 and 2010 the worlds preterm birth rate has increased by 14.7% (7.5% to 8.6%)

Lancet June 2012 379, 2162-72.

Western Health

Phase 1: Australian PTB rates (<37 weeks) 1994 to 2021 (pre-Collaborative)

Australian Government Australian Institute of Health and Welfare AIHW

Lancet ObGynWH 2025 Vol 1, e291 - e301



6.5% decrease (P<0.001)

Each year:
1700 cases averted

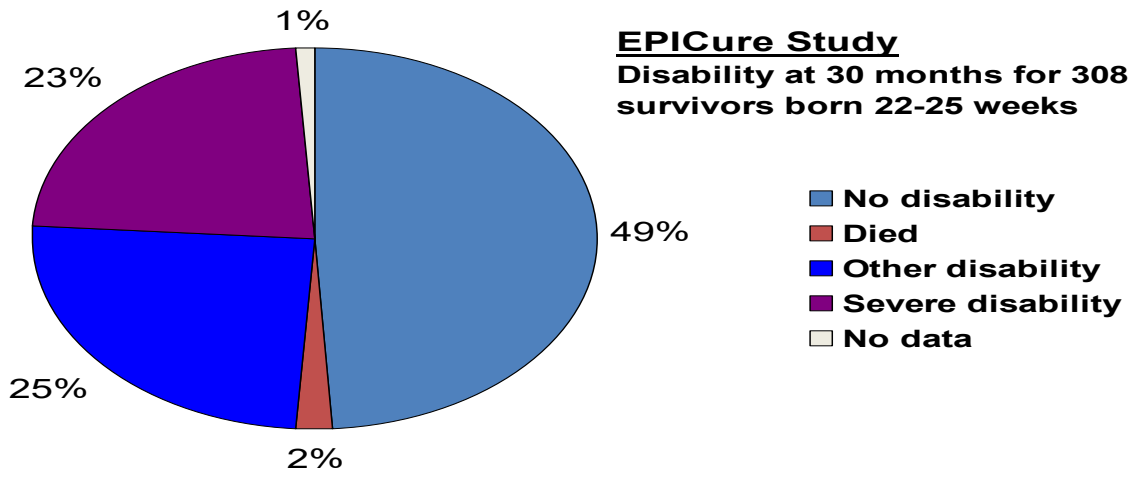
$90 million saved

Australia's PTB rate was observed to decrease by 6.5% in the 3 years after the Alliance was established

Outcome after preterm birth

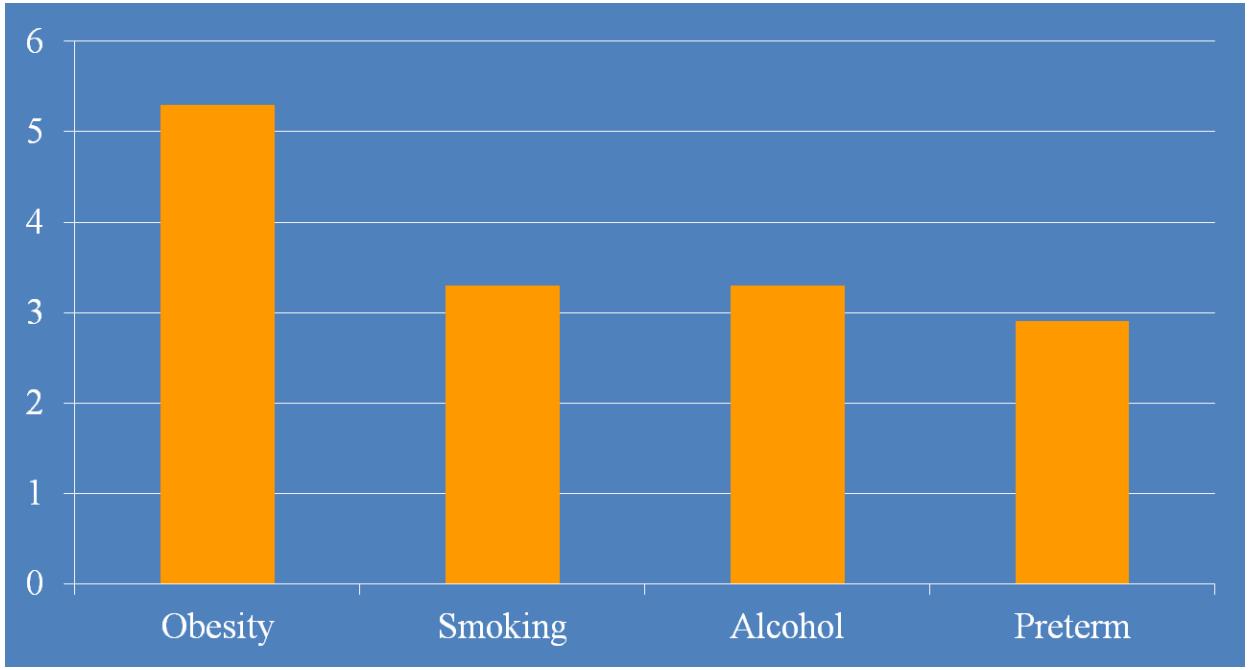
Neurologic & Developmental morbidity

Sepsis causes Cerebral Palsy



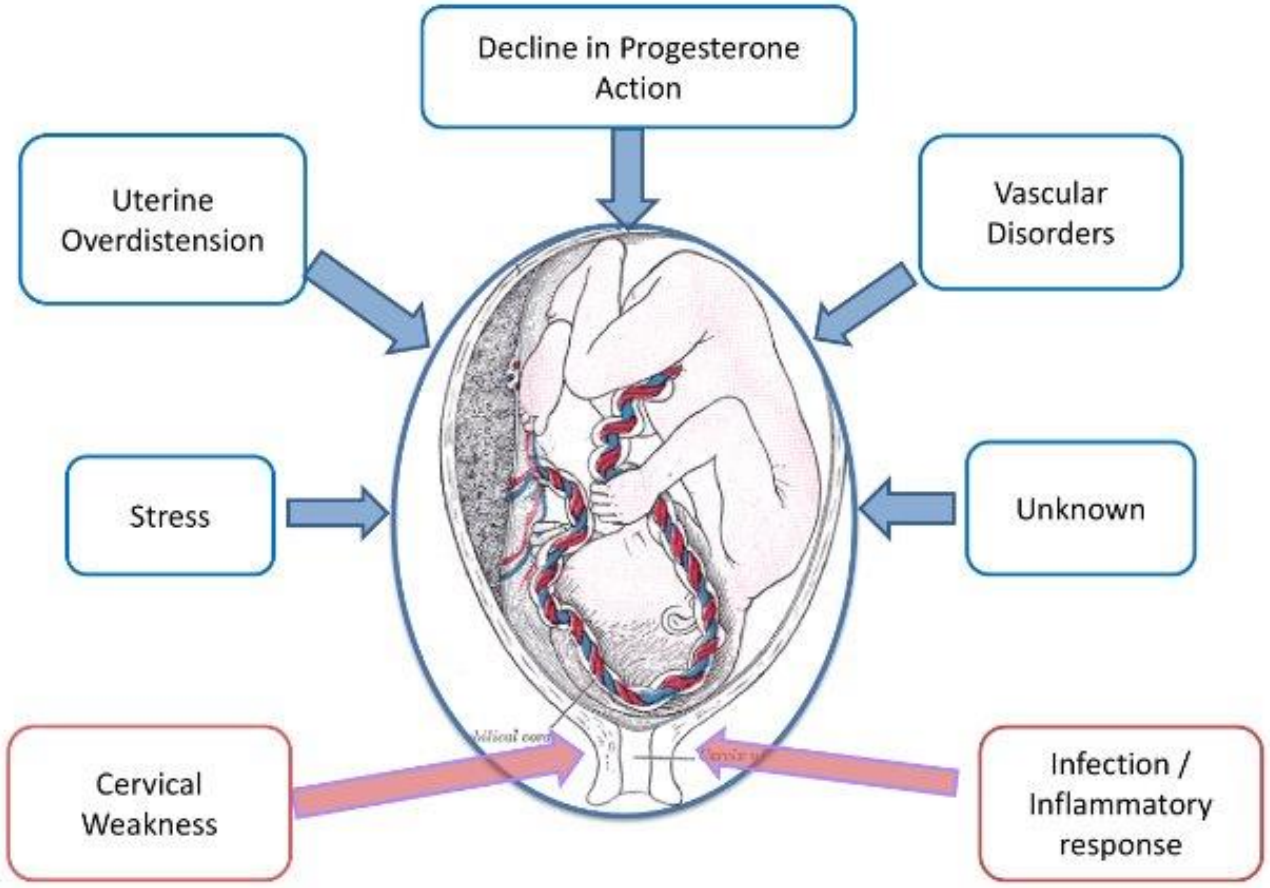
Western Health

Annual Healthcare COSTS



Australian Preterm Birth Collaborative, every week counts demonstrated an annual cost saving $90 Million with the reduction in PTB

Aetiology


Decline in Progesterone Action
Uterine Overdistension
Vascular Disorders
Stress
Unknown
Cervical Weakness
Infection / Inflammatory response

Western Health

The key strategies to **prevent preterm birth**

More than 26,000 Australian babies are born too soon each year.

New research discoveries have led to the development of key strategies to safely lower the rate of preterm birth and are continuing to make pregnancies safer for women and their babies.



No pregnancy to be ended until at least 39 weeks unless there is obstetric or medical justification.



Measurement of the length of the cervix at all mid-pregnancy scans.



Use of natural vaginal progesterone (200mg each evening) if the length of cervix is less than 25mm.



If the length of the cervix continues to shorten despite progesterone treatment, consider surgical cerclage.



Use of vaginal progesterone if you have a prior history of spontaneous preterm birth.



Women who smoke should be identified and offered Quitline support.



To access continuity of care from a known midwife during pregnancy where possible.



AUSTRALIAN
Preterm Birth
Prevention
ALLIANCE

These strategies have been approved and endorsed by the Australian Preterm Birth Prevention Alliance.

WH Preterm birth/Cervical Surveillance Clinic referrals: Seen 14-26 weeks at fortnightly to weekly intervals

Criteria:

- Short Cervix <25mm on Morphology TV
- Previous fully dilated caesarean

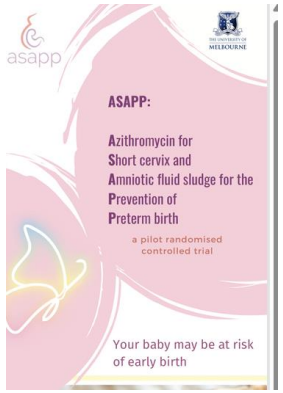
- Previous spontaneous pre-term or premature rupture of membranes birth prior to 32 weeks;
- Previous spontaneous mid-trimester delivery (16-26 weeks) where the **obstetric consultant** is uncertain about the merits of a cerclage (or the patient has declined a cerclage);
- Previous cervical surgery:
    - 2 or more LLETZ procedures;
    - Cone biopsy/trachelectomy;
    - More than 4 procedures requiring cervical dilatation, including:
        - Dilation and Curette;
        - Instrumentation for IVF (e.g. embryo transfers).
- Cervical trauma;
- Congenital Uterine Malformations:
    - Bicornuate uterus;
    - Subseptate uterus;
    - Unicornuate uterus;
    - Uterine didelphys.
- Previous pregnancy requiring progesterone therapy for prevention of preterm labour in the context of a short cervix*.

Cervical surveillance Clinic WH

- Seen from 14-26 weeks with often fortnightly transvaginal ultrasounds, sometimes weekly
- Continuity of care with MGP Midwives and Clinicians

Treating infections

* Following up Urine MCS, HVS MAC
* Ureaplasma particularly
* ASAPP: New Study commencing soon randomising to Azithromycin if short cervix and sludge



Title	ASAPP: **A**zithromycin for **S**hort cervix and **A**mniotic fluid sludge for the **P**revention of **P**reterm birth, a pilot randomised controlled trial
Short Title	ASAPP
Design	Multi-centre pilot randomised controlled trial (RCT) to assess the efficacy of oral azithromycin in eliminating amniotic fluid sludge (AFS) as a surrogate outcome for preterm birth
Study Centres	Joan Kirner Women's & Children's at Sunshine Hospital, St Albans, Victoria Monash Medical Centre, Clayton, Victoria The Royal Women's Hospital, Parkville, Victoria
Study Question	In asymptomatic pregnant women with cervical length ≤25.0mm *and* AFS identified between 13^{+0}-24^{+0} weeks' gestation, does treatment with oral azithromycin result in eradication of amniotic fluid sludge two weeks after randomisation?
Study Objectives	***1.*** To determine whether azithromycin treatment in asymptomatic women at high risk for preterm birth is efficacious in eliminating AFS. ***2.*** To determine whether azithromycin treatment prevents further shortening of cervical length. ***3.*** To determine whether azithromycin treatment alters the vaginal flora / microbiome ***4.*** To determine the feasibility of undertaking a larger multicentre trial to determine whether azithromycin therapy is effective in preventing neonatal morbidity associated with preterm birth. Feasibility will be determined by: i. Participant acceptance of the study (recruitment rate) ii. Clinician acceptance of the study (clinicians willing to offer the trial and randomise participants)

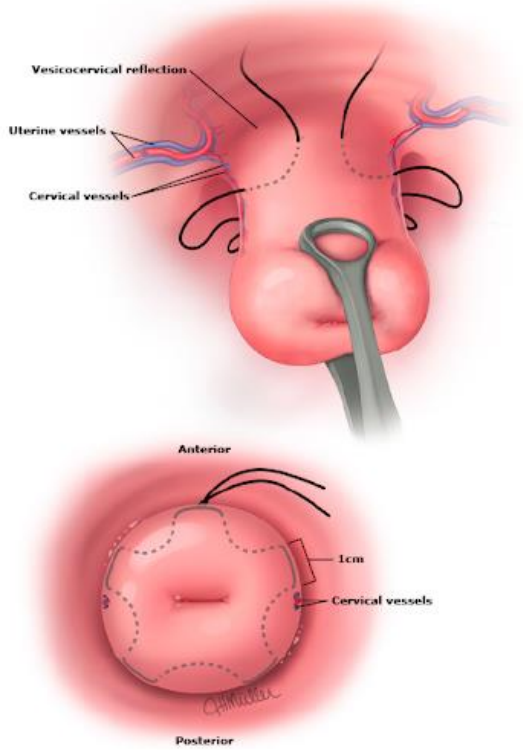
Progesterone

Recommendation 1	Grade
Vaginal progesterone therapy is recommended for asymptomatic women with a short cervix (<25 mm) on transvaginal cervical length assessment in the midtrimester.	Consensus-based recommendation
Recommendation 2	**Grade**
Progesterone therapy should be considered for women with a singleton pregnancy with a history of previous spontaneous preterm singleton birth.	Consensus-based recommendation

200mg Nocte Progesterone Pessary, streamline PBS x45 (5 repeats)

History indicated Cerclage

Women with previous pregnancies requiring an emergency cerclage should be recommended to have an elective vaginal cerclage at 13-14 weeks gestation



Ultrasound indicate Cerclage

- The management of these women needs to be individualised, and options discussed with the woman depending on the gestation, cervical length and any clinical features of labour or chorioamnionitis:
    - Ongoing cervical surveillance without any other intervention is not recommended as there is a high risk of fetal loss.
    - If cervical length is less than 25 mm, vaginal progesterone pessary 200 mg nocte should be commenced and continue until 34 weeks.
    - Consider cervical cerclage in a woman with cervical length 15 mm or less, or if there is a rapid decline in cervical length and gestation is less than 23 weeks.
    - If cervical dilatation has occurred, the gestation is less than 23 weeks with no signs of chorioamnionitis or PPROM, consider a rescue cerclage. The risks and potential morbidity associated with this procedure should be considered carefully and subsequent referral to a tertiary obstetric unit may be indicated at 23 weeks. Rescue cerclage should be undertaken by surgeons with experience in this procedure and considerable vaginal surgery experience.
- Cervical cerclage should be removed at 36-37 weeks unless there are signs of infection, rupture of membranes or

Transabdominal cerclage

* Remember option of transabdominal cerclage MAVRIC Study, SNEHA
GOPC Referral

In a cohort of almost 400 insertions, it is a very safe to perform procedure, with an incidence of bladder and bowel injury of 0.2%, uterine perforation 0.2% and post-operative wound infection 0.4%. A total of 276 women completed pregnancies, giving birth to 283 babies. Importantly, 90% of these babies were born > 34 weeks. Prior to cerclage, the perinatal survival rate in this cohort was 33.2% and only 12% delivered at term. Following insertion of a laparoscopic TAC this increased to 99% perinatal survival with 68% delivering at term.[1,2]

Placement of TAC is based on clinical history and examination. Suitable patients include:

- Functional cervical insufficiency:
  - Multiple mid-trimester miscarriages or early preterm birth with history suggestive of painless cervical dilatation.
- Structural cervical insufficiency:
  - One significant or multiple cervical procedures – LLETZ, cone biopsy, trachelectomy which have resulted in insufficient vaginal portion of cervix in which to place a vaginal cerclage – proven on examination/Examination Under Anaesthetic (EUA).
- History of "failed" vaginal cerclage:
  - Mid trimester loss or preterm birth despite placement of vaginal cerclage.
- Any other patients deemed suitable by MFM/cervical surveillance team:
  - E.g. Those in which the risk of trial of vaginal cerclage is not deemed acceptable (History of one mid-trimester loss and older patient). Refer to *Management of the Short Cervix in Pregnancy*.

Social determinates of health

https://www.ogmagazine.org.au/21/1-21/social-determinants/

Smoking

Housing and environmental safety

Early life foundation/Chronic health

Employment

Diet

Stress / safety

Ethnicity

* Indigenous population double the incidence 14% Rate of PTB

-> Access

-> Cervical surveillance fly in and out service

There is still much work to do to reduce the preterm birth rates nationally and globally. However, there will be little to gain unless we address the root cause of the problem. Babies will continue to be born preterm if we do not address the basic health needs of the mothers growing them. Health status cannot be fixed without addressing the social determinants. Without quality housing, food security, transport, access to good healthcare, education, income and social standing, health in disadvantaged populations will not improve. And we will continue to see high rates of poor outcomes. Unfortunately, there is no quick fix.

Management of PTL

Steroids give even if birth is imminent, benefit even 6 hours.

Magnesium sulphate <30 weeks

Location of delivery so important NIC- PREDICT *

->quick labour

Neonatology team present at delivery for resuscitation

Medication considerations

Corticosteroids

•Where birth is considered likely within the next 7 days, and the gestation is below 35+0 weeks, antenatal
• Corticosteroid administration should be considered prior to transfer.
•Ideally within 48 hours TIMED STEROIDS
•Rescue dose steroids
•Give even if delivery immanent

Magnesium Sulphate

•Where preterm birth prior to 30 weeks is considered likely within the next 24 hours, Magnesium sulphate
• Administration should be considered for the purposes of neuroprotection.
•While this can be administered prior to transfer, infusion should be discontinued for transfer.
•Transfer should not be delayed just to administer magnesium sulphate.
•Women with severe pre-eclampsia or eclampsia at preterm gestations should always be stabilised prior to transfer.

Benzylpenicillin

If labouring

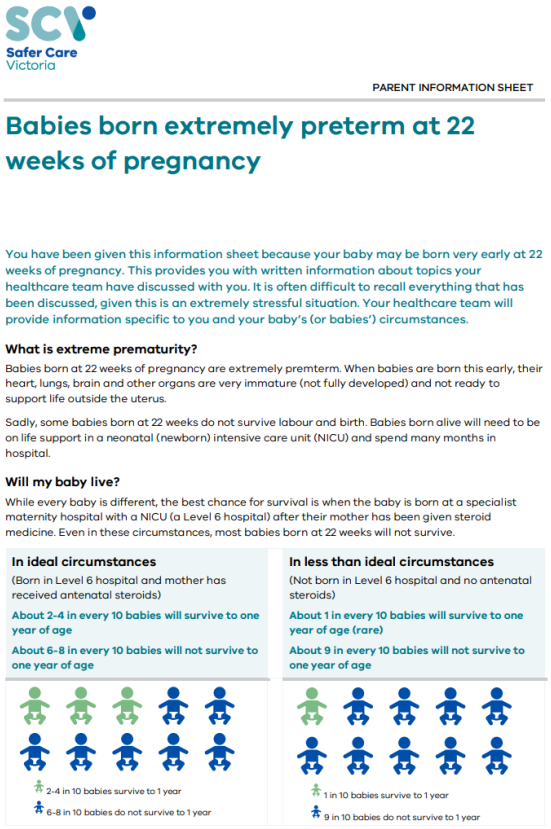
Peri- viable gestations 22+0 -23+6

	Zone of Parental Discretion		
<22⁺⁰ weeks	**22⁺⁰–22⁺⁶ weeks**	**23⁺⁰–23⁺⁶ weeks**	**≥24⁺⁰ weeks**
Life sustaining interventions not supported	Palliative care recommended but parental views respected unless significant adverse risk factors	Active management recommended but parental views respected	Active management unless significant adverse risk factors

The Safer Care Victoria guidance surrounding management of threatened extremely preterm labour (22^{+0} to 24^{+6} weeks' gestation) should be followed. Staff at JKWC refer to *Appendix 1* and staff at BMM should refer to *PIPER Antenatal Transfers.*

*Consultant Obstetrician/Consultant Neonatologist
*Setting up expectations from beginning communication:
" Only some very premature babies meet the criteria to be offered intensive care"
*No harm giving steroids/Magnesium Sulphate while counselling/decision making takes place. It doesn't commit you

NIC-PREDICT/Safer care Victoria



Safer Care Victoria

PARENT INFORMATION SHEET

Babies born extremely preterm at 22 weeks of pregnancy

You have been given this information sheet because your baby may be born very early at 22 weeks of pregnancy. This provides you with written information about topics your healthcare team have discussed with you. It is often difficult to recall everything that has been discussed, given this is an extremely stressful situation. Your healthcare team will provide information specific to you and your baby's (or babies') circumstances.

What is extreme prematurity?

Babies born at 22 weeks of pregnancy are extremely premterm. When babies are born this early, their heart, lungs, brain and other organs are very immature (not fully developed) and not ready to support life outside the uterus.

Sadly, some babies born at 22 weeks do not survive labour and birth. Babies born alive will need to be on life support in a neonatal (newborn) intensive care unit (NICU) and spend many months in hospital.

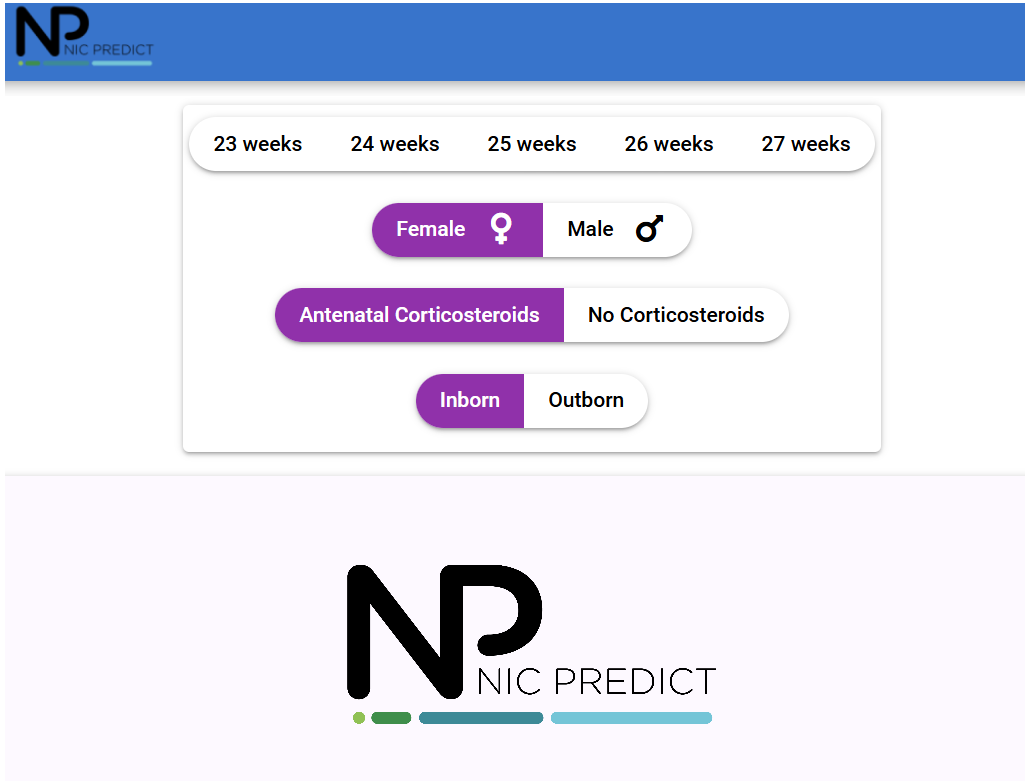
Will my baby live?

While every baby is different, the best chance for survival is when the baby is born at a specialist maternity hospital with a NICU (a Level 6 hospital) after their mother has been given steroid medicine. Even in these circumstances, most babies born at 22 weeks will not survive.

In ideal circumstances	In less than ideal circumstances
(Born in Level 6 hospital and mother has received antenatal steroids)	(Not born in Level 6 hospital and no antenatal steroids)
About 2-4 in every 10 babies will survive to one year of age	About 1 in every 10 babies will survive to one year of age (rare)
About 6-8 in every 10 babies will not survive to one year of age	About 9 in every 10 babies will not survive to one year of age

2-4 in 10 babies survive to 1 year
6-8 in 10 babies do not survive to 1 year

1 in 10 babies survive to 1 year
9 in 10 babies do not survive to 1 year



Practical points

- Treat infections prompt -> Urine MCS, HVS
- Morphology US to include cervical length -> if <25mm send to MAC for review same day. Will be screen for infection, commenced on progesterone and considered for a cerclage with follow up made.

Practical points-> Highlight in Referrals

- Previous Cerclage -> Aim repeat cerclage 13-14 weeks
- Cervical surveillance aim to commence 14-16 weeks
    - X2 LLETZ/ Cone Biopsy of cervix
    - Congenital uterine malformation ie Bicornuate, didelphys
    - Fully dilated Caesarean
    - Multiple cervical instrumentations >4 D&C, IVF
    - PTB <32 weeks
    - PPROM <32 weeks
    - Mid trimester loss 16-26 weeks
    - Progesterone use in prior pregnancy for short cervix

Western Health

Questions:

Measuring outcomes for today

To obtain Measuring Outcomes hours for this session use the RACGP's Measuring Outcomes Tool.

Follow these five steps:

1. Log-in to myCPD
2. At very top of myCPD, click on 'Log'
3. From drop-down menu, click on 'Measuring Outcomes Tool'
4. Complete the form
5. Once you have completed the form, go to top of form and click 'Submit'



Thank you for attending. What's next?

After this session you will receive:

1. *Slides, resources and the recording of this session within the week*
2. *RACGP CPD hours will be uploaded within 14 days.*
3. *Attendance certificate will be received within 4-6 weeks.*

- ***Register for more education sessions here:*** *nwmphn.org.au/resources-events/events*
- ***Past education sessions can be found here:*** *nwmphn.org.au/resources-events/resources*
- ***Session Survey Link*** https://www.surveymonkey.com/r/6VXM2TC

Feedback - QR code

We welcome your feedback. Let us know if you got what you needed from this session.