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CENTRAL AND
EASTERN SYDNEY
An Australian Government Initiative

St George and Sutherland Hospitals GP Antenatal Shared Care Protocol

The GP Antenatal Shared Care Protocol was produced by Sutherland Division of General Practice and St George Division of General Practice (now Central and Eastern Sydney PHN) in collaboration with the South Eastern Sydney Local Health District.

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Aim

The Antenatal Shared Care Program aims to provide a high standard of antenatal care for women who have a low-risk pregnancy. The women are cared for by the antenatal services at the hospital in conjunction with their accredited General Practitioner (GP).

Objectives

- To provide choice, continuity of care and greater accessibility for women by seeing their GP during pregnancy.
- To enable registered GPs to provide a high standard of antenatal care to women who are considered suitable for Antenatal Shared Care.
- To provide GPs with a recommended 'Best Practice' standard of antenatal care.
- To reduce demands on hospital outpatient services.

Registration, education, and GP requirements

To be eligible as a member of the Antenatal Shared Care Program in South Eastern Sydney Local Health District (SESLHD) the GP needs to fulfil the requirements for registration:

Registration

Registration for Antenatal Shared Care requires:

- Current medical registration.
- Current membership of a Medical Defence Association.
- Attendance at an orientation, conducted by the GP Liaison Midwife.
- 12 points of Central and Eastern Sydney PHN (CESPHN)-delivered or endorsed Antenatal Shared Care educational activities for each triennium. CESPHN will monitor the number of points achieved by each GP. If GPs attend an activity conducted by a party other than CESPHN, they must inform CESPHN by email (ansc@cesphn.com.au) so the points may be approved and recorded.

Quality management

Quality management activities will be conducted periodically by the Women's Health and Antenatal Care Advisory Committee.

Booking into hospital process

Women should contact their preferred hospital when they become pregnant, by completing the **online antenatal appointment** form (preferred option) for St George or Sutherland Hospital or by phoning **9113 2162 or 95407240** respectively.

The woman will arrange their antenatal booking appointment and receive a booking in package via email which includes a GP referral form to take to their initial GP visit.

If a woman presents prior to this, the GP can organise the initial investigations, check they are on the correct supplements and direct them to contact the hospital for booking ASAP. A review appointment can be arranged to complete the paperwork and less urgent aspects of the initial visit.

Initial GP visit

Assess suitability for Antenatal Shared Care

Generally not suitable for GP shared care	Generally suitable for GP shared care
Serious medical conditions	Low risk pregnancies
Pre-existing hypertension	IVF conception
Previous significant obstetric complications (preeclampsia, preterm birth etc)	Thyroid Disorders
Twin pregnancies	
Drug addictions	
BMI > 35	

- If a woman is not suitable for GP shared care, then arrange investigations as below and refer to the hospital antenatal clinic.
- Suitability may be individualised and can be discussed with the Obstetrician involved at booking.
- An interpreter service is available by phoning 131 450 (free call).

Arrange initial screening investigations

Routine investigations (all women)	Targeted investigations (per clinical circumstance)
FBC	Chlamydia PCR (urine) if < 25 years or risks
Blood group and antibody screen	TSH
Rubella IgG	HbEPG (if at risk of thalassaemia e.g. MCV<86 and certain ethnic groups, refer to flowchart – see Appendix 1)
Syphilis serology	75gGTT (early screening if risk factors for diabetes mellitus) at 13-16 weeks gestation. Refer to flowchart. – see Appendix 1)
Hep B surface antigen	Cervical screening test (if > 25 years and due; safe at any time during pregnancy; click here for clinical guidelines)
Hep C and HIV (with counselling and consent)	Varicella screening (if unknown)
MSU for M/C/S	
Vitamin D	

- Please forward a copy of all results to the antenatal clinic at the relevant hospital
  SGH email to: **SESLHD-ANCResults@health.nsw.gov.au**

Estimate the date of birth (EDB)

- To determine the estimation of EDB:

Certain LMP	Add 9 months and 7 days (280days) to first day of LMP If cycle shorter or longer than 28 days, subtract or add that number of days from the EDB as required
Uncertain LMP	Arrange US scan. The earliest scan after 6 weeks gestation is the most accurate for dating
IVF pregnancy	Use the EDB provided by the fertility centre

- Only change menstrually determined dates if:
  - The USS at less than 12 weeks gestation is more than 5 days different.
  - The USS at 12 to 20 weeks is more than 10 days different.
  - Dates should not be changed by a third trimester ultrasound scan.

- Inform the woman that the hospital *eMaternity* program algorithm may slightly alter the EDB.

Discuss options for genetic screening and testing

- Offer women either:

A First trimester Screen (NT+) at 11-13 weeks gestation
or
Non-invasive prenatal testing (NIPT) from 10 weeks gestation with an early fetal anatomy scan at 12-14 weeks gestation
or
Invasive (diagnostic) testing: CVS at 10-12 weeks or Amniocentesis (15 weeks) Refer to genetic counsellor if these tests are considered.

- The increased risks of aneuploidy for women over 35 years should be considered.
- Women with a history of genetic conditions should be referred for genetic counselling.

  Ph 9113 3635 and complete referral form available on CESPHN website.

Perform physical examination.

- A general physical exam (including a breast check) should be performed per referral form.

Discuss frequency of visits and options of care

Shared care options	
St George Hospital	**Sutherland Hospital**
Antenatal clinic	Antenatal Clinic
Midwifery Group Practice Level 1 Tower Block	Midwifery Group Practice
Active Birth	Midwifery antenatal postnatal service
Djurali Naba Program formally New Directions	Djurali Naba (at Sutherland Hospital and Menai Community Health)

- **Antenatal Clinic -** is a hospital based mixed-risk antenatal clinic service with care by midwives and obstetric doctors, with intrapartum and postnatal care by Birth Unit and postnatal ward midwives. Early discharge program available.
- **Djurali Naba** is a **Aboriginal and Torres Strait Islander Maternal and Infant Health Service -** contact the Djurali Naba team on 0439 391 192. The program has a full-time midwife and Aboriginal Health Worker who is available Monday - Friday 0830-1700.
- **Midwifery Group Practice (MGP) -** a nominated midwife, with antenatal, intrapartum and postnatal care delivered by a small team of midwives. Should a woman choose the Maternity Support Program (early discharge), one of the MGP midwives will visit her at home. Midwifery led models of care are only available to women who live in the local area. GP ANSC is available; visits alternate between GP and midwife.
- **Maternity Antenatal Postnatal Service (MAPS) -** a known midwife provides antenatal and early postnatal care. GP ANSC is available; visits alternate between GP and midwife.
- **Active Birth team -** care for low-risk women by a team of midwives during pregnancy, labour, birth and postnatally with a natural low-intervention birth focus. GP ANSC is available; visits alternate between GP and midwife.

Frequency of visits for GP Antenatal Shared Care clients	
Standard shared care	Additional hospital visits that may be required
Initial visit with GP	
Hospital booking-in visit (10-14 weeks)	20 weeks at SGH for NBAC women
4 weekly with GP till 28 weeks	Anti D at hospital for Rh neg women at 28 weeks
Hospital visit at 28 weeks	
31 weeks with GP	Anti D at hospital for Rh neg women at 34 weeks
34 weeks at GP (Except Rh neg and NBAC)	NBAC at SGH at 34 weeks
Hospital visit at 36 weeks	
37, 38 and 39 weeks with GP	
Hospital visit at 40 and 41 weeks (if required)	

- More frequent visits or referrals may be necessary. If the woman develops significant complications, e.g. hypertension or diabetes, her care will be transferred back to the Antenatal Clinic for the remainder of her pregnancy.

- If a GP participating in Antenatal Shared Care is unable to see his/her patient (i.e. during holidays or sickness), she should be referred back to the Antenatal Clinic or to another colleague who is also registered with the Antenatal Shared Care Program.

- If a woman is not returning to the family doctor for Antenatal Shared Care, a letter should be sent to explain the reason. Similarly, if a GP feels a woman is unsuitable for Antenatal Shared Care a letter should be sent to the clinic.

Nutritional advice and good health

- Discuss nutrition, advise folate 500mcg (or 5mg in specific cases – see Appendix 2) and iodine 150mcg daily supplementation. Consider Omega 3 fatty acid intake and refer to information from Mothersafe NSW.

- Discuss food safety and refer to NSW Government food safety during pregnancy brochure.

- Discuss weight management and exercise, complete referral to Get Healthy in Pregnancy if required.

- Discuss strategies to reduce or cease smoking (as required).

- Encourage antenatal education/antenatal classes available at both hospitals.

- Discuss alcohol cessation and other drug use.

- Review medications.

Assess whether a woman may need low-dose aspirin treatment

- Low dose aspirin (150mg nightly) should be commenced as early as possible for women who meet the following criteria:

History of pre-eclampsia in a previous pregnancy
Pre-existing diabetes (Type 1 or 2)
Antiphospholipid syndrome
Chronic kidney disease
Consider if at least two other risk factors such as nulliparity, multiple pregnancy, family history of preeclampsia, obesity, age $\geq$ 40
Chronic (pre-existing) hypertension
12-week ultrasound shows high risk for pre-eclampsia

- If in doubt, err on the side of commencing aspirin as it is safe and associated with few side effects, and early commencement is important.

- These women will often be seen in the high risk clinic and may be excluded from the ANSC program.

- Reasonable to abstain until 12 wks in the presence of first trimester bleeding or significant GIT symptoms. There is no benefit in commencing after 20 wks.

- Calcium supplementation should be considered if dietary calcium is less than 1.2g a day.

Subsequent antenatal visits and investigations

Antenatal history and examination

- It is suggested that the antenatal visits include the following:

History	Examination
Fetal movements	Blood pressure
Presence of uterine activity	Urinalysis (where indicated)
Shortness of breath or palpitations	Evidence of oedema
Calf pain and or oedema	Fetal heart rate (after 16 weeks)
Vaginal bleeding and or discharge	Symphysial-fundal height (after 20 weeks)
Mood and emotional wellbeing	Fetal presentation (after 26 weeks)
Domestic and family violence	Engagement of fetal head (after 37 weeks)

- Fundal height should be measured from the fundus of the uterus to the top of the symphysis pubis, with the tape measure lying in contact with the skin of the abdominal wall. The measurement at the fundus should be made by palpation vertically downward.

Subsequent investigations and immunisations

Timing	Routine investigations (all women)	Optional investigations (per clinical circumstance)
At any time		Flu vaccine (as per season)
18-20 weeks	Morphology ultrasound	Early GTT (if indicated)
20 weeks		Boostrix for women at high risk of premature birth
26-28 weeks	Antibody Screen FBC Syphillis screening 75g 2 hour GTT (if GDM not already present) Be aware of Safer Baby Bundle incl. eLearning	Vitamin D (if low at booking) Ferritin (if iron deficiency suspected)
28-32 weeks	Boostrix (optimal timing)	
36 weeks	Low vaginal swab	FBC (if anaemic)

Antenatal record card

- Medical records are the key to good communication, and good communication is the essence of successful Antenatal Shared Care.

- For the sake of uniformity, the Antenatal Record Card will be the only form used. These cards will be issued to the woman at the antenatal booking visit.

- The record should be completed in a uniform manner using only standard and widely accepted abbreviations. Entries in the Antenatal Record Card should be written legibly and signed.

- GPs should add their details to the antenatal card so it is easily visible.

- Women involved in Antenatal Shared Care will be given this Antenatal Record Card and this should be carried by her at all times. Since this Antenatal Record Card becomes the official hospital record (and sometimes the only one available at the time the woman is admitted) it is important that it be as complete as possible.

- Should the woman forget her card at a visit, it can be completed at the next visit or filled in as soon as possible. GPs should print a copy of their notes to give to the woman if they forget their card at a visit.

- All pathology tests, vaccinations and ultrasound results are to be recorded on the front side of the Antenatal Record Card.

- Pathology investigations or ultrasounds ordered by the GP or the ANC, need to have the results documented in the Antenatal Record Card. It is helpful if the pathology or the radiology is noted on the Antenatal Record Card. The results need to be cc'd both to the Antenatal Clinic and the GP. At the St George Stie, results may be scanned and sent to:
  SESLHD-StGeorgeGPSC@health.nsw.gov.au
  For non urgent matters, the GP may contact the GP Shared care Liaison midwife on this email. It will receive a response within 7 days.

Postnatal check

- Arrange routine postnatal check 6 weeks after birth.

- The discharge summary will be electronically transmitted or sent with the woman to the GP.

- Some women may attend the hospital clinic for postnatal review if they had complications e.g. the Pelvic Floor Unit for 3rd and 4th degree perineal tears; Perinatal Loss Clinic.

History

- Assess:
  a. Psychological state (e.g. Postnatal Depression).
  b. Feeding/settling problems.
  c. Lochia (usually stopped by 6 weeks, first period may occur at 6 weeks. Lochia is usually clear of blood by 2 weeks).
  d. Physical sequela of confinement. (e.g. backache/urinary symptoms etc.).
  e. Enquire about intercourse and any associated problems.

- Discuss Contraception.

Examination

- BP (re-check again at 3/12 if high during pregnancy).
- Breast check.
- Abdominal examination to check for fundal height.
- Vaginal examination:
  a. Check episiotomy/tears, cauterise granulomas,
  b. Check for prolapse

c. Assess pelvic floor muscle strength.
d. Cervical screening test (if due)

Follow-up investigations

- Hb (if significant PPH or previously anaemic).
- 75g OGTT for gestational diabetes follow-up.(refer to flow chart – see Appendix 1)
- Any medical problems if diagnosed during pregnancy.

Offer

- Vaccination of new parents for Pertussis as per NHMRC guidelines if not given previously or during pregnancy.
- 2nd MMR to mother who had low immunity and given the first MMR vaccine in hospital as per NHMRC guidelines[1].

Managing common problems

First trimester bleeding/ pain

- Women with pain or bleeding in the first 12 weeks of the pregnancy may be referred to the Early Pregnancy Assessment Service (EPAS). EPAS at St George Hospital is a drop-in service; patients are asked to arrive at the 1 West Gynaecology Ward/Ward Tower Block at 8am-9am Monday-Friday (takes women from Sutherland area also).
- Women with excessive pain or bleeding should be referred to the nearest Emergency Department.

The GP is encouraged to return the woman to the first available Antenatal Clinic if any of the following conditions problems arise:

- Gestational diabetes requiring oral medication or insulin or further complications.
- Uterine growth is unusually small or large: i.e. Symphysial-fundal height (cm) $\leq$3 or $\geq$3 gestation (weeks).
- Increased uterine activity is noted or reported i.e. preterm labour (attend Birth Unit).
- Placenta Previa detected (if placenta less than 2cm from cervix at 34 weeks scan).
- Foetal abnormality is suspected/detected.
- Generalised pruritus.
- Hb <95g/l.
- Rhesus D alloimmunisation.
- Mal-presentation after 36 weeks. Formal ultrasound to be arranged ASAP and appointment at ANC.
- Necessity for support services such as Social Worker or Drug and Alcohol Services.
- Any other problem which represents a significant departure from a normal antenatal course and which will require attention before a routine clinic.
- Shortening of cervix on ultrasound.

Managing hypertensive disorders

Women should be referred to the Birth Unit urgently for assessment if:

- SBP >/= 160bpm or DBP >/= 110bpm
- If SBP 140-160bpm or DBP 90-110bpm, perform urinalysis, if proteinuria and/or symptomatic, refer to Birth Unit urgently. If no proteinuria and asymptomatic, contact Day Assessment Unit at St George Hospital (ph 9113 3145) or Sutherland Hospital (ph 9540 7981) to arrange referral.
- Advice should be sought from the on-call Obstetric Registrar if uncertain.
- Women who have a relative increase in blood pressure of > 30 systolic or > 15 diastolic from booking who do not reach 140 systolic or 90 diastolic may require referral for further assessment at hospital in the presence of proteinuria, a small for gestational age baby or hyperuricaeamia.

Anaemia in pregnancy

The St George and Sutherland Hospitals protocol for management of anaemia outlines that the first line of treatment is with oral supplementation and an increase dietary iron and vitamin C. A follow-up blood review of FBC and ferritin levels after 4-6weeks should then be reviewed. The use of an iron infusion

[1] NHMRC Immunisation 10th edition 2012 guidelines

should only be considered if the woman does not tolerate the medication or there has not been an increase in the blood results. The infusion process needs to be closely monitored within the hospital setting (usually the Ambulatory Care unit) followed by fetal surveillance in the Birth Unit. Due to the risk of an adverse reaction, it is recommended that it is not performed in the community setting.

Cholestasis
Women who have unexplained persistent and generalised itch (involving palms and soles of feet is particularly suggestive) require bile acids and liver function tests (LFT). Blood tests may be fasting or non fasting.

The diagnosis is made with:

- Serum bile acids >10 and/or deranged LFT.
- May also have an unexplained persistent generalised itch in the absence of a visible rash.

If results are abnormal, refer woman to the Birth Unit for antenatal assessment as soon as possible.

COVID-19 in Pregnancy
Consult current guidelines for management of Covid-19 during pregnancy.

Women should also be referred for immediate assessment (<20 weeks to Emergency Department, >20 weeks to Birth Unit) if:

- Intractable vomiting with dehydration and ketosis.
- Preterm rupture of membranes.
- Threatened preterm delivery.
- Undiagnosed severe abdominal pain.
- Antepartum haemorrhage.
- Decreased foetal movements.
- Suspicion of death in-utero.
- Unusual headaches or visual disturbances.
- Seizures or "faints" in which seizure activity may have occurred.
- Dyspnoea on mild-moderate exertion, orthopnoea or nocturnal dyspnoea.
- Symptoms or signs suggestive of deep vein thrombosis.
- Pyelonephritis.
- Symptoms or signs of pre-eclampsia.

Women referred to the Hospital will be assessed by the Obstetric Registrar. The Obstetric Registrar should be notified of the referral. If unsure whether the situation requires urgent Birth Unit assessment or an earlier clinic appointment, phone Birth Unit to discuss with the Registrar.

Complications arising that may not need hospital assessment should be discussed with the Registrar.
Please note that for women in these urgent categories, vaginal speculum examinations *would not be appropriate* in the GP rooms.

References and resources

You can access this protocol on the Central and Eastern Sydney PHN website, under Maternal Health: https://cesphn.org.au/general-practice/help-my-patients-with/child-and-maternal-health/st-george-sutherland-hospital/resources-for-general-practitioners

NHMRC Pregnancy Care Guidelines
http://www.health.gov.au/internet/main/publishing.nsf/Content/pregnancycareguidelines

SESLHD Gestational Diabetes Policy (March 2020)
https://www.seslhd.health.nsw.gov.au/node/9346

Glossary

BMI – body mass index

CMV – cytomegalovirus

CVS – chorionic villus sampling

EDB – estimated date of birth

GDM – gestational diabetes mellitus

GTT – glucose tolerance test

IVF – in vitro fertilisation

LMP – last menstrual period

MAPS – midwifery antenatal postnatal service

MGP – Midwifery Group Practice

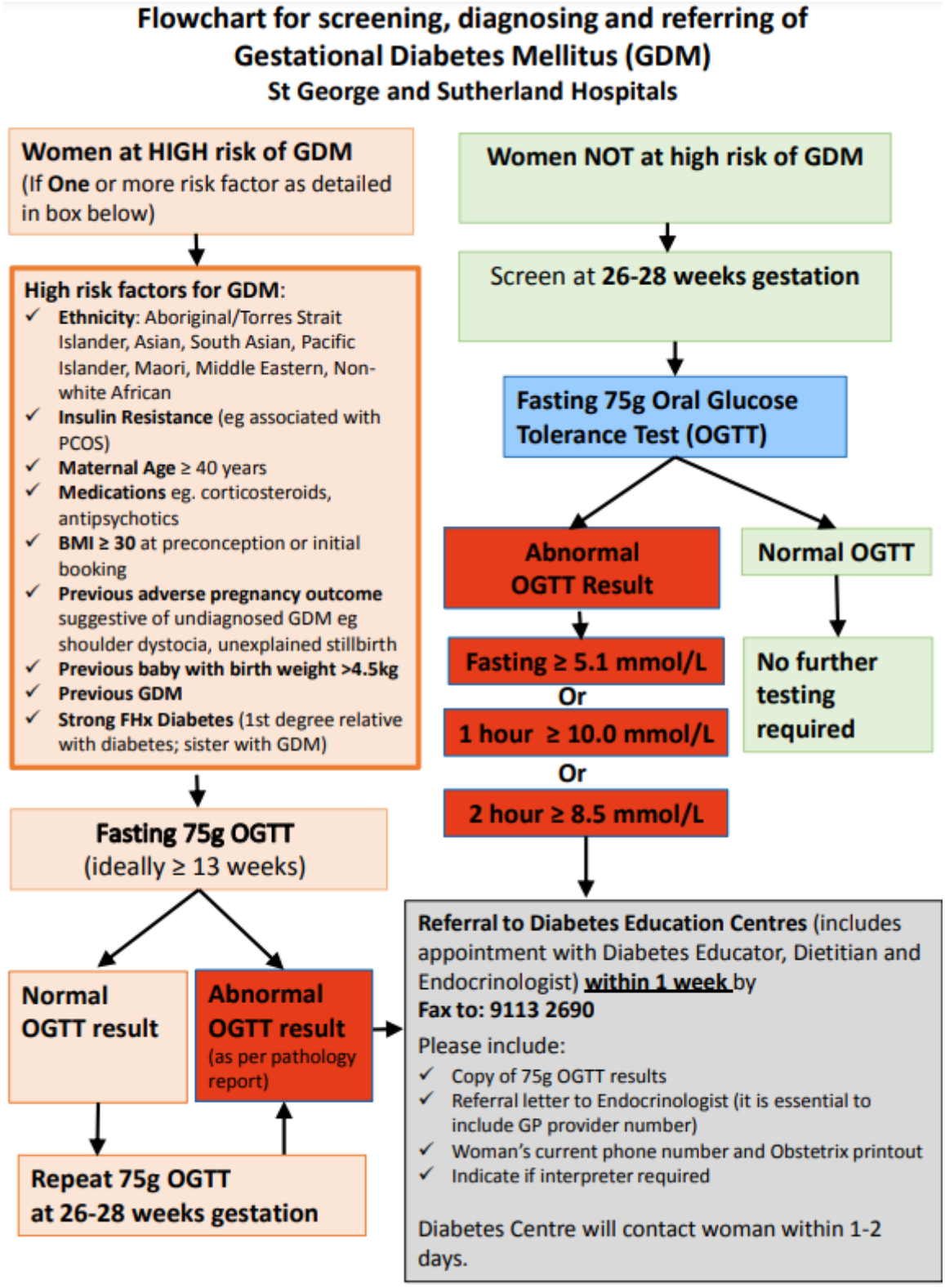
NBAC – next birth after caesarean

NIPT – non-invasive prenatal testing

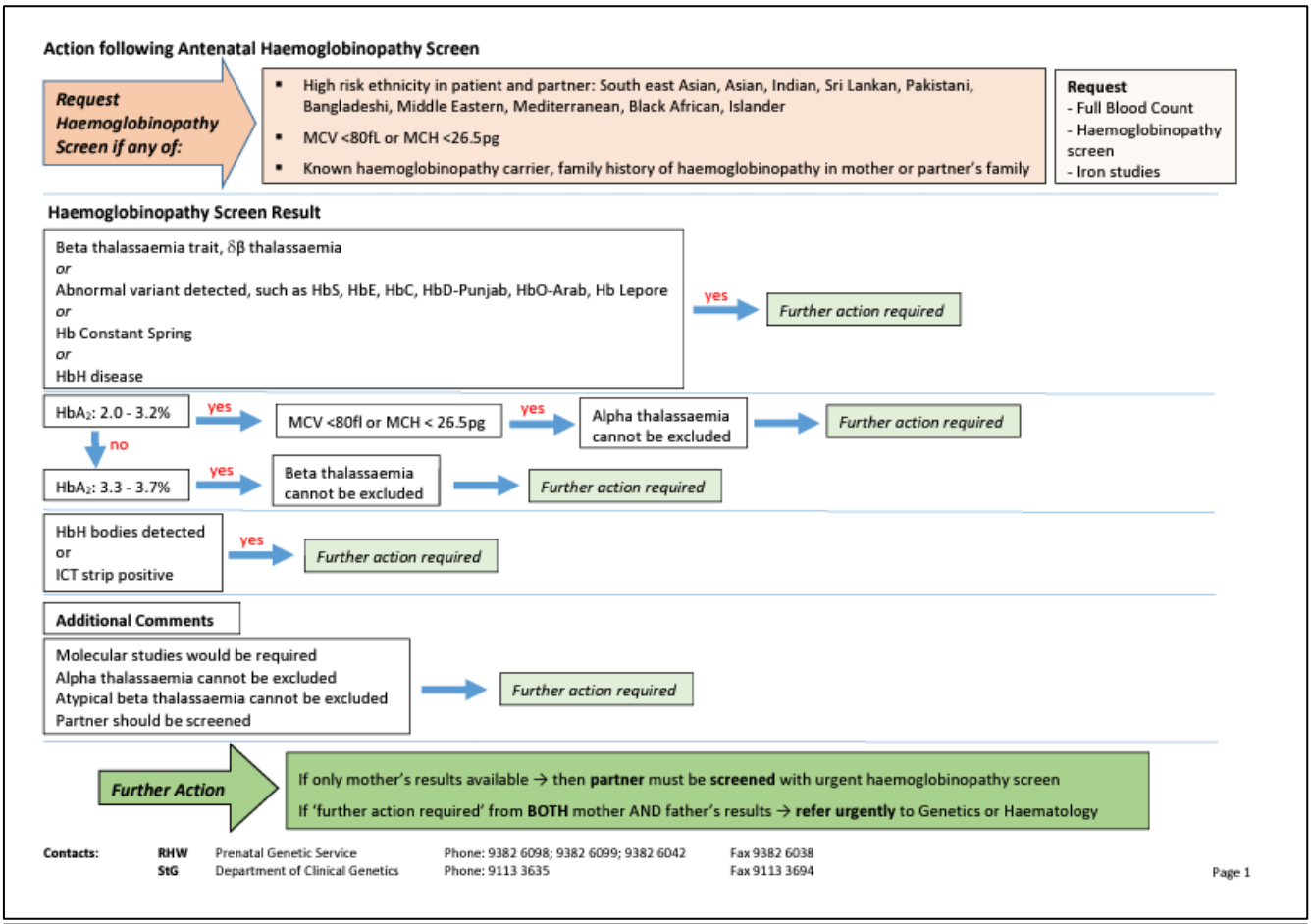
NT-PLUS – nuchal translucency scan and blood test

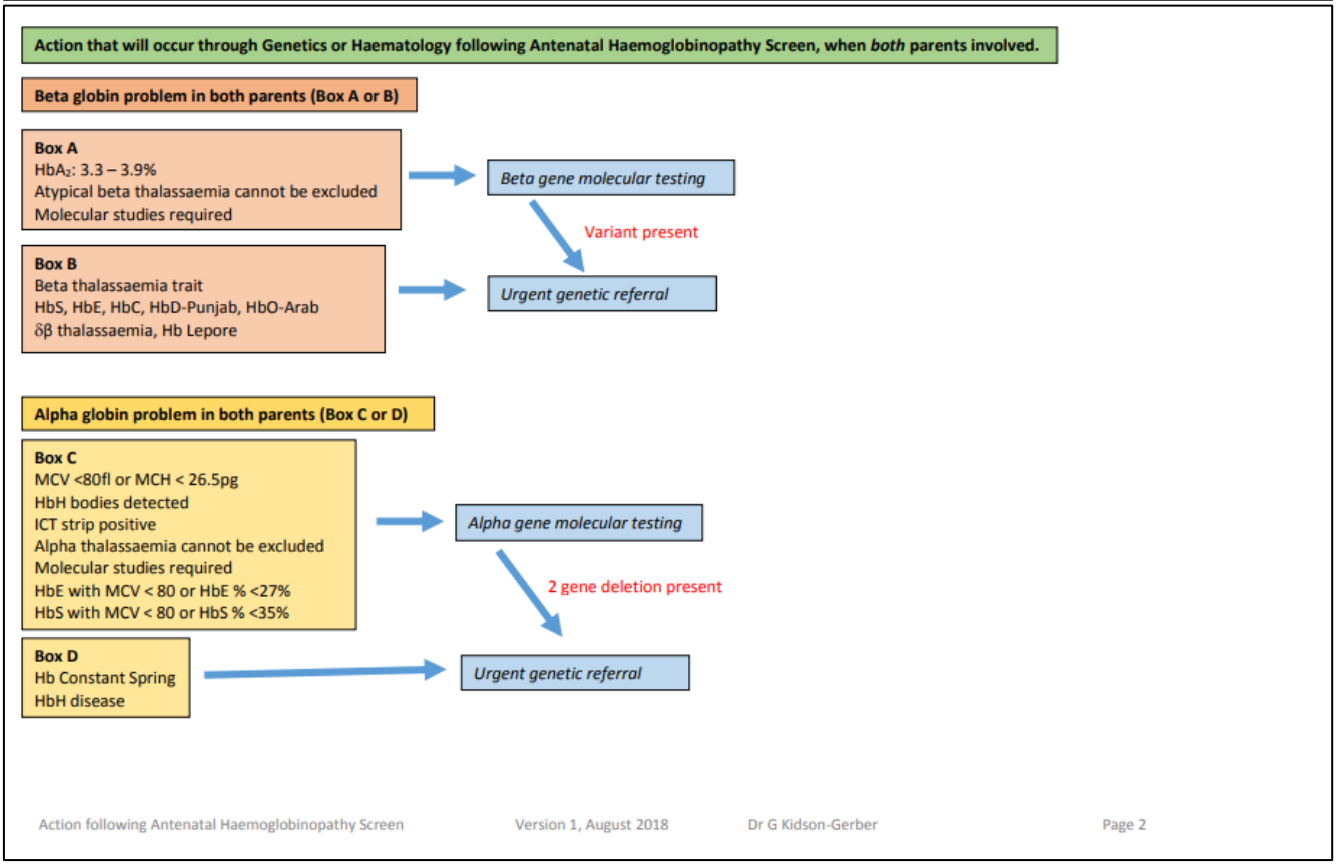
TSH – thyroid stimulating hormone

Appendix 1 – Flowcharts



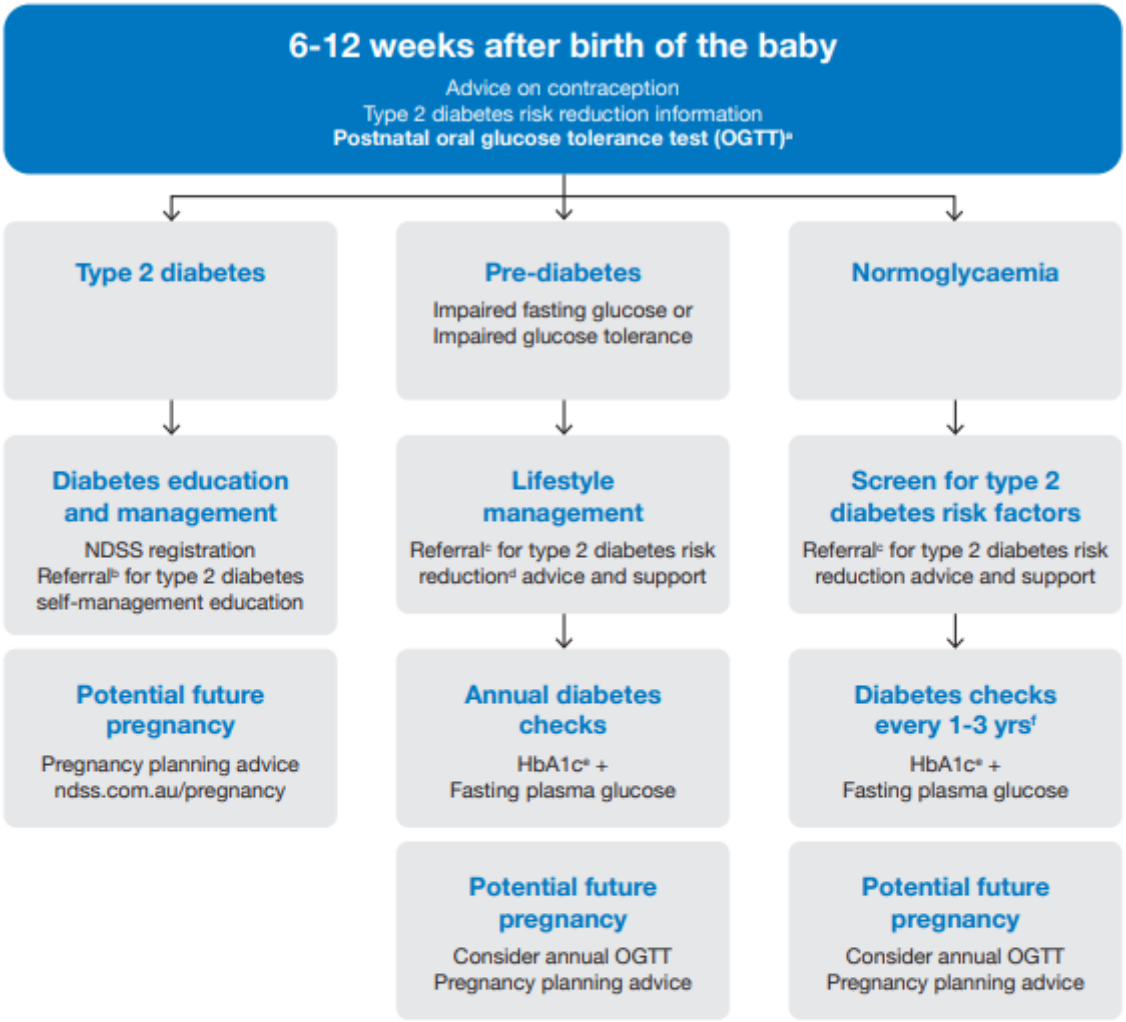
Flowchart for screening, diagnosing and referring of Gestational Diabetes Mellitus (GDM)
https://cesphn.org.au/wp-content/uploads/2022/10/20220603_GDM_flowchart_2022-1-1.pdf





Thalassaemia screening in pregnancy https://cesphn.org.au/wp-content/uploads/2022/10/Action_following_Antenatal_Haemoglobinopathy_Screen_Final_August_2018.pdf

Gestational diabetes follow-up



Notes:

a. OGTT is the preferred postpartum test due to the low sensitivity of HbA1c to detect impaired glucose tolerance. HbA1c is not a suitable test in the first 3-4 months post-gestational diabetes pregnancy as blood glucose levels during pregnancy and postpartum blood loss may influence results.
b. Referral to a Credentialled Diabetes Educator, Accredited Practising Dietitian, local diabetes education service or an NDSS type 2 diabetes education program.
c. Referral to Accredited Practising Dietitian, Accredited Exercise Physiologist or a local/state-based diabetes prevention program.
d. Pharmacotherapy with metformin has also been shown to be effective in reducing the progression to type 2 diabetes in those with pre-diabetes; noting metformin does not have Therapeutic Goods Administration or Pharmaceutical Benefits Scheme approval for this indication in Australia. (Prediabetes: a position statement from the Australian Diabetes Society and Australian Diabetes Educators Association. Med J Aust 2007; 186 (9): 461-465. || doi: 10.5694/j.1326-5377.2007.tb00998.x; Published online: 7 May 2007)
e. HbA1c is a continuous variable. As it increases so does the risk of type 2 diabetes. An HbA1c above 5.5% (36 mmol/mol) is above the normal range and indicates increased risk of both diabetes and heart disease. An OGTT may be considered for high risk women where abnormal glucose tolerance or type 2 diabetes is suspected.
f. The frequency and nature of this testing depends on the perceived risk of converting to type 2 diabetes (e.g. HbA1c high end of normal or increasing, obesity, polycystic ovary syndrome, family history).

Source: National Diabetes Service Scheme
National Gestational Diabetes Register – Gestational diabetes follow-up flowchart
https://www.ndss.com.au/health-professionals/resources/ngdr-for-hps#flowchart

Appendix 2 – Folate supplementation

Where there is a known increased risk of neural tube defect, a 5mg daily dose of folic acid is recommended. Women who should take 5mg of folic acid are those taking anticonvulsant (epilepsy) medication, women with diabetes, women who are obese, or who have had a previous child or a member of their family affected by a neural tube defect, and those who are at a risk of poor absorption of their food, including women who have had bariatric surgery.

Source:
https://ranzcog.edu.au/wp-content/uploads/2022/06/Planning-for-pregnancy-pamphlet.pdf
https://www.nichd.nih.gov/health/topics/ntds/conditioninfo/causes