Government of **Western Australia**
South Metropolitan Health Service
Fiona Stanley Fremantle Hospitals Group

FIONA STANLEY hospital

Antenatal Shared Care

Guidelines for General Practitioners

2nd edition

Contents

1.0	**Introduction**	**3**
2.0	**National Woman Held Pregnancy Record**	**3**
3.0	**Referring women to FSH**	**3**
4.0	**Antenatal shared care visits**	**7**
5.0	**Documentation and routine assessments**	**11**
6.0	**Early Pregnancy Assessment Service (EPAS) is available through the Acute Gynaecology Clinic (AGC)**	**12**
7.0	**Emergency Department**	**13**
8.0	**Guidelines for exclusion from shared care**	**14**
9.0	**Preterm birth (WA Preterm Birth Prevention Initiative)**	**15**
10.0	**Guidelines for problems requiring immediate antenatal assessment**	**16**
11.0	**Infectious diseases and immunisation in pregnancy**	**17**
12.0	**Investigations**	**18**
13.0	**Gestational Diabetes Mellitus (GDM) screening**	**20**
14.0	**Fetal anomaly screening**	**22**
15.0	**Screening for Neural Tube Defects**	**25**
16.0	**Screening for haemoglobinopathies**	**26**
17.0	**Maternal Fetal Assessment Unit**	**30**
18.0	**Perinatal mental health and alcohol and drug services**	**30**
19.0	**Postnatal complications**	**31**
20.0	**Quality initiatives, continuous professional development, governance and peer review**	**34**
	Appendix 1 – Edinburgh Postnatal Depression Scale (EPDS)	35
	Appendix 2: Care choices provided at FSH	37
	Care choices provided at FSH continued	38
	Appendix 3 – Important telephone numbers	39
	Appendix 4: Antenatal shared care summary	40

1.0 Introduction

The aim of this booklet is to provide clear guidelines for general practitioners (GPs) involved in the shared care of low-risk antenatal patients with Fiona Stanley Hospital (FSH). The purpose of shared care is to improve the quality and convenience of care for women.

2.0 National Woman Held Pregnancy Record

The Australian Health Ministers endorsed a National Woman Held Pregnancy Record (NWHPR) and the WA Health Acting Director General mandated its use via *Operational Directive 0605/15 National Woman Held Pregnancy Record* (15 May 2015).

The purpose is to ensure the pregnancy record is formatted in line with Australian Standards, improves visibility for the most relevant clinical information and now includes the newborn consents, Edinburgh Postnatal Depression Scale (EPDS), Safer baby bundle, alcohol and tobacco screening, safe sleeping information for parents and a birth plan.

A nationally consistent client-held pregnancy record for use by all Australian women will ensure reduction in local variations in service and practice. Women can move between different jurisdictions and health professionals during their pregnancy; taking their records with them, so the history-taking process is not repeated with each health professional. This promotes improved communication and improved risk management in maternity care provision.

The FSH digital medical record recognizes each page of this record, ensuring its inclusion in a chronological format. Therefore, it is necessary for all GPs wishing to enter a share care relationship with the woman and FSH to participate in the utilization of this record.

3.0 Referring women to FSH

3.1 Antenatal routine referrals

Fiona Stanley Hospital's Maternity Service focuses on providing a woman-centred model of care. We offer care for all women within our postcode catchment and care for women with complex medical and obstetric problems in the South Metropolitan Health Service (SMHS) catchment area. See Table 1 below for FSH postcodes.

Ideally the referrals for antenatal women are made after 19 weeks gestation or after the first trimester screen and mid trimester ultrasound results have been reviewed by the referring GP. All women will have a booking visit between 24–25 weeks gestation with a midwife.

The schedule of visits and the model of care provided to each woman will be based on the information provided by their GP as well as the information established at their booking visit.

It is imperative that all referrals are fully completed to ensure accurate triage by the Midwifery Manager Ambulatory and allocation to appropriate care pathway.

3.2 Referrals for women requesting shared care with their GP

GPs are requested to refer low risk antenatal patients to their local maternity service based on their postcode of residence.

GPs are requested to clearly indicate their intention to share care on the referral.

For low risk women who are referred to FSH, requesting **shared care**, the first visit is usually at 24–25 weeks gestation. If GPs are unsure if a woman is low or high risk, they can refer to FSH earlier to assess the referral and suggest an appointment schedule. All secondary maternity services (except Bentley Health Service) are able to take women with a BMI up to 40.

High risk antenatal patients may be referred directly to FSH Obstetric referrals. Please refer early as these women may need to be seen at an earlier gestation.

Fax: **6152 9762**

3.3 Referrals for women requiring review within 7 days

If the woman resides within FSH catchment area, the GP should contact FSH Midwifery Manager (Ambulatory Services). Phone: **6152 9416**.

If the woman resides outside FSH catchment area, the GP needs to contact their local maternity service to discuss the referral unless it is high risk whereby FSH will triage the referral.

3.4 Urgent Antenatal Clinic referrals

All gestations contact the Midwifery Manager Ambulatory on **6152 9416** or fax to **6152 9762** marked **URGENT.**

The FSH Antenatal GP referral form can be downloaded from the GP section of the FSH website. Referrals using GP software that include all the relevant history and information are also welcome. The following information is required on all referrals to the hospital:

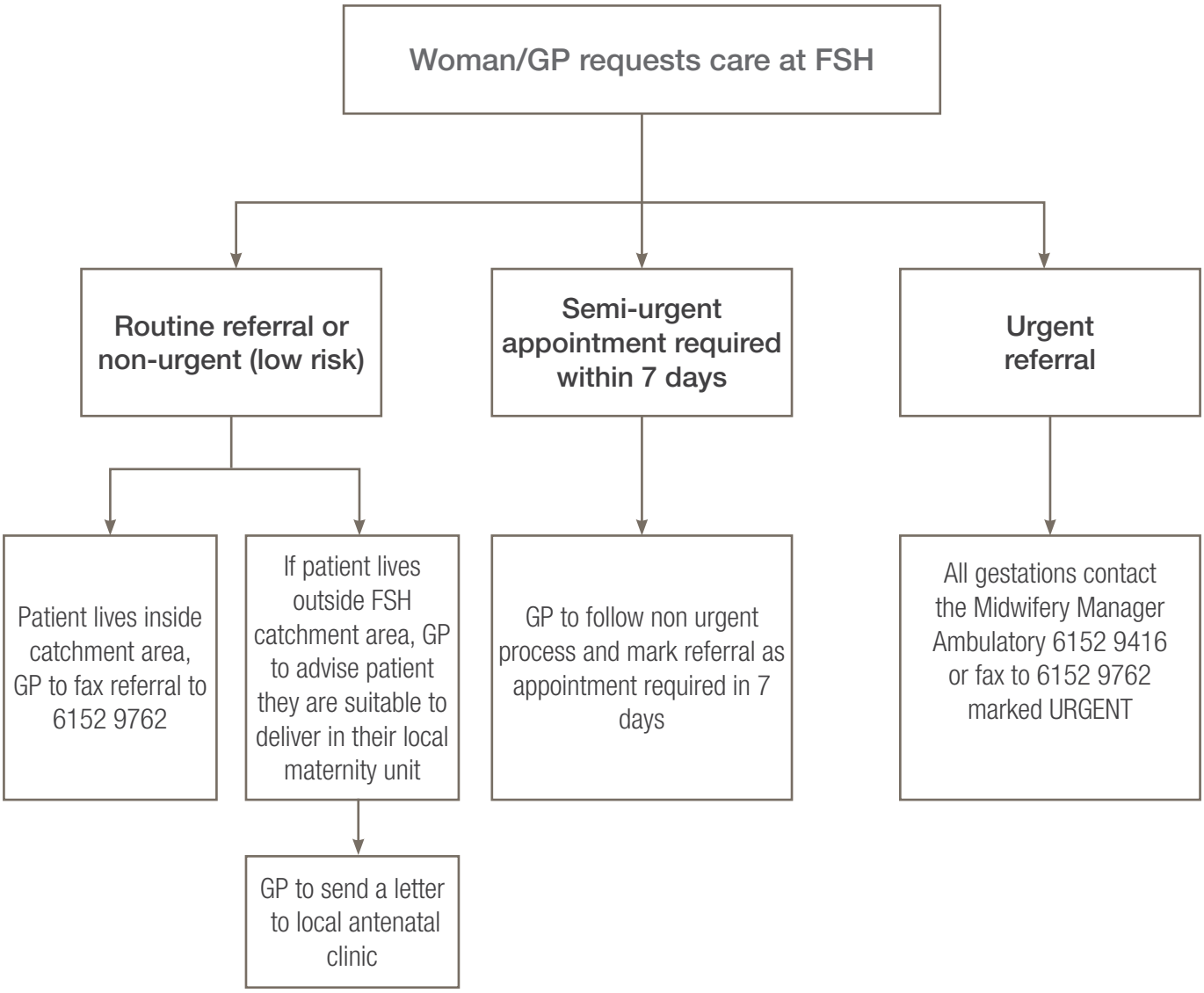
- Woman's current contact details
- Last menstrual period (if known)
- Estimated due date
- Gravida and parity
- Weight, height and BMI
- GP's intention to share care
- Any relevant medical and obstetric history
- if interpreter services are required.

Table 1: FSH postcodes

Hospital	Postcodes (inclusive of all numbers within range)
Fiona Stanley Hospital	6148–6150, 6153–6160, 6162–6164, 6166

3.5 Referral pathways

Antenatal Clinic referral pathways



At the time of publication, antenatal referrals were outside the scope of the Central Referral Service

3.6 Special requests for specific practitioners

Patients at FSH will be seen by medical practitioners on the basis of their clinical need, without reference to the medical practitioner's gender, age, religion, race or nationality. FSH doctors are well qualified medical practitioners who conduct themselves professionally and the hospital does not discriminate between doctors on the basis of the above criteria. This information should be made clear to patients who book at FSH.

3.7 Which general practitioners can provide antenatal shared care with FSH?

All GPs who undertake shared care must be registered medical practitioners in WA, have appropriate personal medical defence cover to undertake shared antenatal care, be of good character and have adequate antenatal experience or supervision.

3.8 Obstetric medication information

The Pharmacy Department at Fiona Stanley Hospital provides a statewide information service on the safety of medications taken during pregnancy, which is available for all health service providers. The Obstetric Drug Information Service can be contacted on **6152 5024**.

3.9 For all other queries:

The Midwifery Manager (Ambulatory Services) can be contacted on **6152 9416** from 8.00am to 3.00pm Monday to Friday, if you have any queries regarding these guidelines.

For urgent issues call **6152 2222** and ask for the appropriate staff member below:

- For gestation less than 20 weeks – Gynaecology registrar, phone directly **6152 8851**.
- For gestation over 20 weeks – Obstetric registrar, phone directly **6152 8811**.
- For gynaecology issues – Gynaecology registrar, phone directly **6152 8851**.

For conditions that need expert or urgent advice, consultant on call may be contacted from 8.00am to 6.00pm through the FSH switchboard on **6152 2222**.

3.10 Summary

These guidelines are available on the FSH website, along with a one-page summary on Antenatal Shared Care for the desktop.

4.0 Antenatal shared care visits

4.1 Overview antenatal shared care visits

The table below details the recommended practice for women with low risk pregnancies undertaking shared care. More frequent visits may be relevant depending on the clinical situation. **Please note:** women may not be seen by a doctor at the FSH antenatal clinic.

All women entering a shared care model of care with their GP/FSH must sign a consent for this model of care. This is to ensure a true partnership with the consumer, FSH and the GP is documented and agreed upon.

Please note all other referrals for NON share care are to be made after the results of the first trimester screen have been discussed with the woman.

This will ensure a midwife booking is made for 17–18 weeks gestation.

Table 2

Visit	Encounter	Provider
1st visit	Confirm pregnancy and expected date of delivery. Medical history and cardiovascular, respiratory and breast examination. Complete initial routine investigations – see page 16. Counsel and offer first trimester screening for 11 to 13 weeks, regardless of woman's age (ideally 10 weeks for blood test, 12 weeks for ultrasound scan) – see page 21. Complete Edinburgh Postnatal Depression Scale – page 37. Discuss alcohol, smoking, diet, exercise, back care, minor discomforts, illicit drug use. Check for use of folate tablets and iron supplements.	GP
14 weeks	Routine assessment – ensure patient has the results of first trimester genetic screening test performed at 11 to 13 weeks. Refer to booking hospital; see antenatal referrals – page 1. If you are ordering maternal serum screening or 19 week ultrasound indicate this on the referral letter. Counsel and offer maternal serum screening at 15 to 17 weeks if first trimester screening has not been undertaken. Book 19 week ultrasound anatomy scan – see page 25. Discuss parent education classes. FSH provides weekly drop in sessions that cover lactation, birth, pregnancy and parenting-specific topics. This information can be found on the **FSH website**.	GP

Visit	Encounter	Provider
24 to 25 weeks	First antenatal booking visit at FSH – assess suitability for shared care, rebook for 36 weeks. Women are to be given information on GP shared care model at FSH and sign consent sticker to enter this model of care. This will be recorded in the NWHPR. 20 week USS review. Discuss breastfeeding, when to go to hospital and parent education classes (metropolitan area). Women advised to commence iron supplements. Routine assessment as per NWHPR. Order 28 week investigations: full blood count +/- iron studies (if at risk of anaemia), blood group and antibody screen if Rhesus negative and all women receive a 75 gm GTT.	FSH
28 weeks	Routine assessment as per suggested schedule or routine antenatal care NWHPR. Administer prophylactic anti-D if Rhesus negative - see page 32. Review investigation results.	GP
32 weeks	Routine assessment as per suggested schedule or routine antenatal care NWHPR. Edinburgh Postnatal Depression Score – see page 39.	GP
34 weeks	Routine assessment as per suggested schedule or routine antenatal care NWHPR. Blood group and antibody screen if required. Administer anti-D if Rhesus negative – see page 32.	GP
36 weeks onwards	Follow up by FSH Obstetric / Midwifery team (dependent on risk status). Routine assessment as per suggested schedule or routine antenatal care NWHPR. Remainder of care at FSH.	FSH
Postnatal check 6–8 weeks	**Baby check:** weight and head circumference, full examination, first immunisations (8 weeks). **Mother check:** discuss delivery, check blood loss/uterine size and perineum or LUSCS wound, breastfeeding, screen for post-natal depression (PND), discuss contraception, Pap smear if due, update immunisations (whooping cough, rubella and varicella), Oral Glucose Tolerance Test (if Gestational Diabetes Mellitus repeat 1–2 yearly). **Medications:** review/adjust any changes made during pregnancy e.g. thyroxine, anticonvulsants, anti-hypertensives. **Third and fourth degree tears:** All women with third degree tears should have an appointment at approximately six weeks postpartum at the General Gynaecology Clinic (Consultant team). FSH will arrange as part of the discharge plan.	GP

4.2 Preconception counselling, iron and folate

Identify women who are thinking about pregnancy.

- For those at high risk of fetal abnormality, referral for genetic counselling may be appropriate.

Folate:

- Encourage folate supplements until the end of the first trimester (see table 3 for doses).
- Pregnancy formulations should not contain Vitamin A.

Table 3 : Recommended Folate dose during Pregnancy.

Supplement	Dose	Indication
Folate	0.5mg per day	Preconception to 14 weeks gestation.
Folate	5mg per day	Preconception to 14 weeks gestation for women considered at high risk for an open neural tube defect: - Personal history of an open neural tube defect - A previous pregnancy with an open neural tube defect - PMHx of diabetes mellitus - Women taking anticonvulsants - Obese women

Iron:

- All women should be offered screening for anaemia:
  - in first trimester
  - with the next screening bloods (usually 24–28 weeks)
  - and at 36 weeks gestation.
- Women who commence oral iron supplementation in early pregnancy are less likely to need intravenous iron therapy.
- Oral iron if taken at the appropriate dose, and for a sufficient time, is an effective first line treatment for most women in pregnancy.
- Sub-optimal iron dosing is common as there are many different brands of iron available and they may contain low, medium or high doses or elemental iron.
- Iron preparations with high elemental iron content (>100mg/unit) are recommended to reverse anaemia.
- If cost is a barrier, consider providing a written prescription for those with a Health Care Card to purchase iron at a subsidised rate (Ferro-tab and Ferro-f-tab are PBS listed).
- See table 4 for brands and doses of elemental iron.

Table 4: Brands of Iron

High dose elemental iron >100 mg/unit	Medium dose elemental iron 30–99mg/unit	Low dose elemental iron <30mg/unit
Ferrograd C	Fefol	Iron Maxx
Ferrogradumet	Elevit	Pure Innovation
Ferro-f-tab **Ferro-tab**		Pregnancy multivitamin Spatone Fab Iron Swisse Multi Metagenics Veggie Caps Floradix (liquid iron)

- Many women do not volunteer to health professionals if they have stopped taking their iron supplements. It is therefore important for GPs and other health professionals to be proactive in formally assessing adherence to oral iron supplementation at every antenatal visit.
- Research suggests it is not possible for pregnant women to obtain adequate iron from their diet alone, particularly in subsequent pregnancies.
- Iron absorption is impaired if women take their iron supplement at the same time as supplements containing calcium. Vitamin D/Calcium supplements should therefore be taken at a different time to iron supplements.

5.0 Documentation and routine assessments

At each visit ensure routine checks are recorded in the National Woman Held Pregnancy Record. Writing should be clear, concise and legible. If using Medical Director or other software, please print out each visit and include this in the hand-held record.

A routine check consists of:

- Blood pressure (<140/90)
- Weight (please see the table below for recommended weight gain based on BMI)
- Urinalysis (< + protein)
- Fundus should be measured

Note: Some peripheral oedema is now usually regarded as normal in pregnancy.

Table 5: Recommended total weight gain during pregnancy in relation to pre-pregnancy BMI

Pre-pregnancy BMI	Total weight gain	Rate of weight gain second and third trimester
Underweight BMI <18.5	12.5kg–18kg	510g/week
Normal Weight BMI 18.5–24.9	11.5kg–16kg	420g/week
Overweight BMI 25–29.9	7kg–11.5kg	280g/week
Obese BMI >30	5kg–9kg	220g/week

6.0 Early Pregnancy Assessment Service (EPAS) is available through the Acute Gynaecology Clinic (AGC)

FSH has a specialised service to review patients with problems in the first trimester of pregnancy including pain and bleeding which may represent suspected miscarriage or ectopic pregnancy.

Patients need to be referred to the Acute Gynaecology Clinic (AGC) and are given an appointment to attend. AGC is open Monday to Friday 8.00am to 12 noon. It is a one-stop clinic with ultrasound scan facility.

Referral is via fax **6152 9762** – please mark as urgent.

Who may be referred?

Women in the first trimester of pregnancy who have had a positive pregnancy test and one or more of the following:

- abdominal/pelvic pain
- vaginal bleeding
- previous ectopic
- previous tubal surgery
- two or more previous miscarriages
- Confirmed incomplete or missed miscarriage from a previous scan
- IUCD in-situ

Please advise patients to fast from 7.00am (they may have water only) in case they need to go to theatre that day.

If the patient is haemodynamically unstable, has severe pain or heavy vaginal bleeding please refer to FSH Emergency Department.

7.0 Emergency Department

7.1 Overview

Women will be seen at any time in the FSH Emergency Department if they are less than 20 weeks gestation and have severe pain, heavy vaginal bleeding or an ectopic pregnancy is suspected.

Note: An ultrasound may not necessarily be performed, particularly out of hours.

If you are referring a patient, notification by phone is always appreciated by the staff in the Emergency Department. Please advise patients to fast from 7.00am (they may have water only) in case they need to go to theatre that day.

For early pregnancy loss, the Acute Gynaecology Service offers management by

- expectant management
- medical management using misoprostol
- dilatation and curettage (D&C).

This will be discussed with patients on an individual basis and if a woman elects to have medical management, she will be followed up in the Acute Gynaecology Clinic.

If you require clinical advice, a registrar is available all hours **6152 8811** or consultant is available in-hours through FSH switchboard **6152 2222**.

Alternatively, phone the FSH switchboard **6152 2222** and ask for the appropriate staff member depending on the time of day:

8.00am–10.00pm	Gestation <20 weeks	Gynaecology Registrar
	Gestation >20 weeks	Obstetric Registrar
10.00pm–8.00am	Any gestation	Obstetrics and Gynaecology Registrar

When you refer a patient to the Emergency Department, please send any reports with the patient, such as ultrasound, blood group or quantitative BhCG, but do not worry if these tests have not been done.

7.2 Anti-D

It is recommended that anti-D is given to all Rhesus negative and antibody negative women if there is risk of fetal-maternal transfusion of blood, such as a miscarriage. If women do not require a medical review at FSH it is usually more convenient for them to be given anti-D by their GP.

For further information on how to obtain anti-D, see page 28.

8.0 Guidelines for exclusion from shared care

The following are guidelines to help GPs identify women who are not suitable for antenatal shared care. Any concerns can be discussed with the Midwifery Manager (Ambulatory Services).

General

No documented evidence of antenatal care prior to 24 weeks gestation.

Medical history

- Significant cardiac disease
- Essential hypertension
- Previous deep vein thrombosis or pulmonary embolus
- Renal disease
- Type 1 or Type 2 Diabetes Mellitus please refer to KEMH Diabetes clinic
- GDM requiring insulin
- Unstable thyroid disease
- Chemical dependency
- Epilepsy/seizures or use of anticonvulsant drugs
- Bleeding disorders
- Chronic carriers of Hepatitis B – see page 18
- HIV infection
- Known bony pelvic deformity
- Systemic lupus erythematosus
- Current malignant disease
- Asthma requiring hospitalisation or requiring oral or parenteral steroid therapy in the past five years
- Rubella titres indicating recent infection
- Significant anaemia (Hb <100 g/L)
- Maternal Phenylketonuria (PKU)
- Any significant condition for which the woman is being monitored by a physician or psychiatrist.

Previous obstetric/gynaecological history

- Previous pregnancy requiring intensive monitoring or with poor outcome
- History of preterm delivery (prior to 34 weeks) – see below
- One or more pregnancies with Intra Uterine Growth Restriction (IUGR)
- Gestational Diabetes Mellitus requiring insulin
- Severe pre-eclampsia.
- Uterine surgery e.g. Caesarean section, myomectomy, cone biopsy
- Recurrent miscarriage including mid-trimester loss
- Infertility requiring surgery or fertility drugs other than clomiphene
- Previous infant with major congenital anomaly and/or inherited disorder
- Previous preterm delivery <34 weeks.

Current pregnancy

- Multiple pregnancy (perform 12 week ultrasound to determine chorionicity). If monochorionic (MC) , arrange a 16 week scan to look for twin to twin transfusion and refer to FSH with the notation – **Pregnancy Con 2 Clinic** as these women need counselling regarding MC pregnancy and scans every 2 weeks for early detection of TTTS and fetal growth problems. If initial scan results are abnormal contact the on call obstetric registrar to discuss.
- Atypical red cell antibodies
- Adolescent pregnancy – refer to antenatal clinic at FSH. Please highlight for social work input or perinatal mental health
- Morbid obesity BMI >40.

9.0 Preterm birth (WA Preterm Birth Prevention Initiative)

- Many cases of preterm birth may now be preventable.
- Women with prior spontaneous preterm birth between 20–34 weeks should be prescribed natural vaginal progesterone 200mg daily from 16–36 weeks.
- Measurement of cervical length should be routine in the “anatomy” scan.
- Women with a shortened cervix (10–20 mm) in mid-pregnancy should be prescribed natural vaginal progesterone 200mg daily until 36 weeks.
- Babies should be delivered from 38 weeks, unless unavoidable.
- Practitioners should continue to support pregnant women to reduce smoking.
- Serial transvaginal scan monitoring for cervical length is available for women with short cervix on progesterone and for women with cervical cerclage at FSH.
- For more information contact MFM Service KEMH: Phone **6458 2843**, fax or see website www.thewholeninemonths.com.au

10.0 Guidelines for problems requiring immediate antenatal assessment

Listed below are problems which should be discussed with the patient's booking hospital to organise patient review. This is not an exhaustive list.

For women booked at FSH, please contact the Obstetric Registrar for advice.
Phone: **6152 2222** and ask switchboard to page or call on **6152 8811**.

Pregnancy complications

- Antepartum haemorrhage
- Hypertension (>140/90)
- Threatened preterm labour
- Premature rupture of membranes
- Abnormal fetal anatomy ultrasound scan
- Reduction in fetal movements
- High presenting part and unstable lie in late pregnancy
- Polyhydramnios
- Intrauterine growth restriction (IUGR)
- Abnormal fetal presentation after 36 weeks e.g. breech
- Rhesus antibodies
- Proteinuria greater than one plus (>1+).

11.0 Infectious diseases and immunisation in pregnancy

- Women with infectious diseases in pregnancy often do not need referral to FSH. Please phone: Gynaecology and Obstetrics registrar **6152 8811**.
- Live attenuated vaccines are not recommended during pregnancy (e.g. MMR, varicella, rotavirus, BCG, oral typhoid vaccine). If given inadvertently, specialist consultation is advised.
- Inactivated influenza vaccine is safe to give during pregnancy and is recommended as pregnant women are at increased risk of influenza related infectious complications.
- Pertussis vaccine is recommended in the third trimester.
- For other clinical advice, please contact the on-call microbiologist at FSH through the switchboard.
- For routine advice on pregnancy, travel and vaccinations, please contact a specialised travel medicine clinic.

12.0 Investigations

Investigations may be ordered privately or at FSH. Photocopies of all tests should be sent to FSH – Fax: **6152 9762**.

This needs to be attended to at referral and prior to the 36 week return visit to FSH. Please write '**copy to FSH Antenatal Clinic**' to assist clerks.

12.1 Routine investigations

1. Initial routine investigations for each pregnancy at first antenatal visit (obtain informed consent for each test):
    - Full blood picture
    - Blood group and atypical antibody screen
    - Syphilis serology
    - Rubella titre
    - Hepatitis B surface antigen
    - Hepatitis C antibodies
    - HIV antibodies
    - Blood sugar level
        - if random BSL >7.8 needs oral glucose tolerance test (OGTT)
        - if fasting BSL >5.5 indicates gestational diabetes
    - Midstream urine
    - Chlamydia screening
2. All women should be counselled and offered fetal anomaly screening (see page 22).
3. Investigations to be considered depending on the woman's clinical circumstances:
    - Early dating ultrasound if dates uncertain
    - Pap smear (if not done within two years)
    - Early OGTT if high risk of gestational diabetes (see page 19)
    - Haemoglobinopathy screening if in high risk group e.g. high risk ethnic background, FHx of haemoglobinopathy (see page 26)
    - Twin pregnancy: Ultrasound to determine chorionicity plus 16 week scan for twin-to-twin transfer syndrome and subsequent fortnightly scans if monochorionic diamniotic.
    - Iron studies if at risk of anaemia.
    - Vitamin D screening if at risk for Vitamin D deficiency e.g. women who have reduced sun exposure, veiled women and dark skinned women.
    - If Vitamin D deficiency is identified (Vitamin D serum level <50 nmol/mL, supplementation is required: 5000 IU Vitamin D3 per day plus calcium 1000mg per day. (Vitamin D is available in tablet form e.g. Ostelin 1 capsule = 25microgram = 1000 IU or solution form e.g. Bio-Logical Vitamin D3 solution 1000 IU/0.2mL).
    - Repeat Vitamin D assay after 6–8 weeks and continue this dose if level <50nmol/L.
    - Repeat serum levels again in four weeks if this dose was continued.
    - Maintenance dose: 25 microgram = 1000 IU per day plus 1000mg calcium per day until cessation of lactation.

4. 19 weeks gestation:
    - Fetal anatomy ultrasound (GP to organise)
5. 28 weeks gestation (arrange prior to 28 week visit e.g. at 24 week visit):
    - Full blood picture +/- iron studies (if at risk of anaemia)
    - Blood group and atypical antibody screen (for rhesus negative women)
    - Glucose tolerance test 75gm (for all women)
6. 36 weeks gestation (FSH will organise)
    - Full blood picture
    - Blood group and atypical antibody screen if rhesus negative (only if the woman missed her 28 week anti-D)
    - Low vaginal swab and rectal/perianal swab for group B streptococcus screening. Patients with a positive result will receive intravenous antibiotics during labour.

12.2 Group B streptococcus (GBS) infection

All patients with the following risk factors will need to receive intravenous antibiotics during labour to reduce the risk of infant infection:

- previously infected infant with Group B streptococcus
- Group B streptococcus identified in the urine in pregnancy (GBS urinary tract infection or bacteruria), regardless of GBS swabs at 36 weeks
- positive vaginal/rectal/perianal swabs at 36 weeks.

12.3 Chlamydia screening

- For all women at booking – self obtained lower vaginal swab (SOLVS) and first void urine PCR (FVU)
- Women living in STI endemic areas (Kimberley, Pilbara and Goldfields) should be offered additional screening:
    - at booking include testing for gonorrhoea with chlamydia specimens
    - between 28 and 36 weeks gestation repeat HIV and syphilis serology
    - at 36 weeks gestation repeat chlamydia and gonorrhoea screening and HIV screening.

12.4 Hepatitis B – chronic carriers

- Chronic carriers of Hepatitis B have core Antigen positive and e Antibody negative.
- Check viral load and refer to Hepatology Service at FSH advising that the woman is pregnant.
- Antiviral therapy in pregnancy may reduce vertical transmission to the fetus.
- Lifelong antiviral therapy may reduce cirrhosis and hepatocellular carcinoma.

13.0 Gestational Diabetes Mellitus (GDM) screening

The Australian Diabetes in Pregnancy Society (ADIPS) recommends universal screening for diabetes in pregnancy.

The routine screening tool is a 75g Oral Glucose Tolerance Test (OGTT) which is recommended at 24–28 weeks for low risk women. However if there is a clinical suspicion of GDM (e.g. previous GDM or symptoms or signs suggestive of diabetes such as heavy glycosuria, fetal macrosomia, polyhydramnios), a random venous plasma glucose or OGTT may be performed at any gestation. If early screening is negative, women at high risk should be monitored closely and undergo a repeat OGTT.

13.1 Screening tests

- Fasting plasma glucose: GDM if >= 5.1mmol/L
- Random (non-fasting) plasma glucose. Proceed to OGTT if >= 7.8mmol/L
- Oral Glucose Tolerance Test (OGTT): fasting, 75g glucose load, performed in a laboratory, takes two hours
- No longer recommended: the Oral Glucose Challenge Test (OGCT): a non-fasting test using a 50g glucose load.

13.2 Diagnostic criteria for GDM after OGTT ADIPS and FSH recommended

- Fasting plasma glucose >= 5.1mmol/L
- One hour plasma glucose >= 10mmol
- Two hour plasma glucose >= 8.0mmol/L.

If a woman is diagnosed with GDM, she will need to be referred to the diabetes educators/dietitian at FSH for education and to learn how to monitor her blood glucose levels at home.

Please send referral to FSH Diabetes Education on **6152 9762**.

13.3 Maternal steroids

An OGTT should not be performed within a week of maternal steroid administration.

13.4 Further information

Any queries about testing, screening, diagnosing or managing diabetes should be directed in business hours to Midwifery Manager **6152 9416**.

Any woman with GDM who has unstable blood sugar levels should be referred to the Diabetes in Pregnancy (DIP) Clinic.

Referral faxed on DIP referral form to **6152 9762**.

This clinic is held Wednesday and Friday from 8.30 am to 12 noon in outpatients clinic 5 and is a multidisciplinary clinic.

Urgent out-of-hours queries can be referred to the Senior Obstetric Registrar on **6152 8811**.

Please note: The proposed Australian Diabetes in Pregnancy Society (ADIPS) guidelines have been adopted at FSH.

Table 7: Criteria for low and high risk pregnancy

	Pre 24 weeks gestation*	24 to 28 weeks gestation
Low risk	Blood sugar level with booking bloods	OGTT
High risk • Maternal age > or = 40 years • Women with a family history of diabetes • Maternal obesity • Hypertension prior to 20 weeks • Previous macrosomic baby (>4000g) • History of unexplained stillbirth • Previous baby with congenital anomalies • Ethnicity – Aboriginal, Asian, Indian, Middle Eastern	1. Standard 75g OGTT before or at first opportunity after conception 2. If OGTT not feasible, fasting plasma glucose or non-fasting plasma glucose 3. If early screening is negative, monitor every 6–8 weeks and request OGTT at 24 to 28 weeks	OGTT

14.0 Fetal anomaly screening

14.1 Overview

All women, regardless of age, should be counselled and offered the option of fetal aneuploidy and anomaly screening. First trimester screening is the recommended screening test for fetal chromosomal abnormalities (mainly trisomy 21, 13 and 18).

Women with high risk screening tests for chromosomal abnormalities should be referred to the Maternal Fetal Medicine (MFM) service at KEMH. A referral for opinion/management does not satisfy Medicare requirements for an ultrasound or diagnostic test such as chorionic villus sampling or amniocentesis. It is therefore necessary to include a request for ultrasound or diagnostic test in your referral so that the MFM midwives do not have to contact the GP/referring doctor for another referral. For example – 'Please provide assessment and management +/- ultrasound +/- CVS/ amniocentesis as appropriate'.

Please also indicate on the referral if you would like KEMH or FSH to take over management if an anomaly is found. In the case of an actual anomaly, it is suggested that the woman is referred directly to Maternal Fetal Medicine. In this case, to ensure Medicare requirements are met and the woman's experience is as efficient as possible, the referral will need to include the following information: '**Please provide counselling, tertiary review ultrasound and management**'.

For enquiries, please contact the MFM Clinical Midwife Consultant.
MFM: **9340 2848** Fax: **9340 1060.**

Ultrasound Department: **9340 2830**

For more information on the MFM service see page 26.

For women who require assessment and management of third trimester growth and wellbeing, please contact the Maternal Fetal Assessment Unit at FSH on **6152 8853**.

14.2 Screening for Down syndrome

1. First trimester screening (FTS)

- The first part of this test is a blood test to determine the levels of the hormones free BHCG and PAPP-A. This is ideally done at 10 weeks (but can be done anytime from 9 weeks to 13 weeks 6 days). The blood test was previously routinely done on the day of the ultrasound; however the Fetal Medicine Foundation has found that an earlier test improves the sensitivity and specificity of the test.
- The second part of the test is an ultrasound that is performed between 11 weeks, 4 days and 13 weeks, 4 days (ideally 12 weeks). The ultrasound determines the thickness of the nuchal translucency – an area behind the neck and under the skin of the fetus that appears black on the ultrasound image.
- Based on a woman's age, the nuchal thickness and the hormone levels, a result is given in terms of the particular woman's risk of carrying a fetus with Down syndrome, compared to her age-related risk.

Table 8: Maternal age vs Down syndrome risk

Maternal age	Chance of having a live-born baby with Down syndrome
20 to 24	1:1500
25	1:1350
30	1:900
35	1:400
40	1:110
45	1:30

2. Maternal serum screening (Triple Test)

This test involves a blood test which is performed between 15 and 17 weeks gestation.
No pre-test ultrasound is required unless the EDD needs to be confirmed. The test gives two results:

- The risk of a chromosomal abnormality (Down syndrome most commonly)
- The risk of an open neural tube defect – based on the maternal serum alpha fetoprotein level (MSAFP).

3. **Non-invasive prenatal testing**

Non-invasive prenatal testing (NIPT) has recently become available in some countries as a high-level screening test for trisomy 21, 18 and 13. This technology utilises cell-free fetal DNA in the maternal circulation and can be used from 10 weeks gestation onwards.

At the time of publication, NIPT was not being provided by any laboratory in Australia and was not being funded by Medicare. For women who have the financial resources to pay, this service can be accessed through external private laboratories (e.g. Western Diagnostic Pathology, Sonic Health Care) and sent internationally for testing with a turnaround time of about 10–14 days.

There are now position statements on NIPT by several professional bodies available (e.g. American Congress of Obstetricians and Gynaecologists and the International Society for Prenatal Diagnosis) and these can be accessed online.

4. **Pregnancy associated plasma protein-A (PAPP-A)**

Maternal serum pregnancy associated plasma protein-A (PAPP-A) is one of the blood tests taken at 9–14 weeks (ideally 10 weeks) as part of the first trimester screen. A low PAPP-A is associated with poor early placentation.

A low PAPP-A in the first trimester may indicate an increased risk of Trisomy 21. A low PAPP-A in the first trimester with normal chromosomes is associated with stillbirth, infant death, intrauterine growth restriction (IUGR), preterm birth and pre-eclampsia. A low PAPP-A is defined as a maternal serum PAPP-A value <0.4MoM, with increased frequency of adverse obstetrical outcomes noted below this level.

14.3 Key points

- All women should be counselled and offered first trimester screening (blood tests including measurement of PAPP-A level done ideally at 10 weeks and ultrasound ideally at 12 weeks) with adequate pre-test counselling.
- If a woman returns a low PAPP-A result (<0.4MoM), a referral should be made to a specialist obstetrician or specialist obstetric service by 20 weeks gestation with assessment regarding the need for closer maternal and fetal surveillance.
- Routine anatomy scan with Doppler assessment at 18–20 weeks.
- Growth scan with Doppler assessment at 24, 28, 32 and 36 weeks.
- Assessment of BP and urinalysis for presence of proteinuria at each antenatal visit.

15.0 Screening for Neural Tube Defects

15.1 Overview

This can be done as part of the maternal serum screening test at 15 to 17 weeks or by testing Maternal serum alpha –fetoprotein (MSAFP) alone at 15 to 17 weeks. If the screening test shows the pregnancy to be at increased risk for an open neural tube defect (MSAFP >2.5 MoM), referral for a targeted fetal ultrasound examination is indicated. This is a technically demanding ultrasound examination and should be conducted by practitioners with expertise in fetal ultrasound.

Who should be offered MSAFP testing?

1. Women considered at high risk for having a fetus with an open neural tube defect. This includes women with an open neural tube defect themselves, women who have had a previous pregnancy with an open neural tube defect, women taking anticonvulsant medication and women with Diabetes Mellitus who have poor peri-conceptual control (HbA1C >8.5%).
2. Morbidly obese women, in whom fetal ultrasound imaging quality is compromised, should also be offered MSAFP to potentially improve detection rates of severe structural fetal anomalies.

15.2 Fetal morphology ultrasound

Fetal anatomy ultrasounds are the recommended screening test for fetal structural anomalies and placental localisation. It is offered to all women between 18 and 20 weeks gestation (ideally 19 weeks).

As the FSH booking visit for low risk patients is done at 17–18 weeks gestation, general practitioners are requested to arrange this ultrasound externally prior to the booking visit and women should get the ultrasound done shortly after this appointment.

If ultrasounds are booked at FSH, this needs to be arranged 2–3 weeks in advance. Please take the referral to the Ultrasound Department and an appointment letter will be sent to the patient. Any queries should be directed to the Ultrasound Department on **6152 4924**.

15.3 Rural patients

FSH will endeavour to coordinate an ultrasound with a woman's antenatal clinic appointment if this is pre-arranged, either the day before the antenatal clinic appointment or early in the morning on the day of the appointment.

15.4 High risk pregnancies

If there is a history of a previous fetal anomaly, recurrent pregnancy loss, abnormal screening results, multiple gestation or morbid obesity, ultrasounds for these women may be booked at FSH or KEMH (MFM) depending on the condition identified in the current pregnancy.

16.0 Screening for haemoglobinopathies

16.1 Guidelines for investigation of patients at risk of a haemoglobinopathy

Haemoglobinopathies are autosomal recessive disorders which imply that they must be inherited through both parents who may have the disorder themselves, or be carriers. Normal haemoglobin contains a haem molecule that combines with four globin chains; two are classified as alpha and two as beta chains.

Thalassaemia results from decreased synthesis of the globin chains in adult haemoglobin. It is classified as alpha (α-thalassaemia when there is absent or decreased α-chain synthesis, or beta (β)-thalassaemia when there is absent or decreased β-chain synthesis.

Sickle cell disease occurs when the structure of the beta globin chain is abnormal. Defective genes produce abnormal haemoglobin beta chains resulting in Haemoglobin S (HbS). Sickle cell disease (HbSS) occurs when abnormal genes are inherited from both parents. A sickle cell trait is when a person inherits only one sickle cell gene and does not have disease.

Table 9: Effect of Haemoglobinopathies

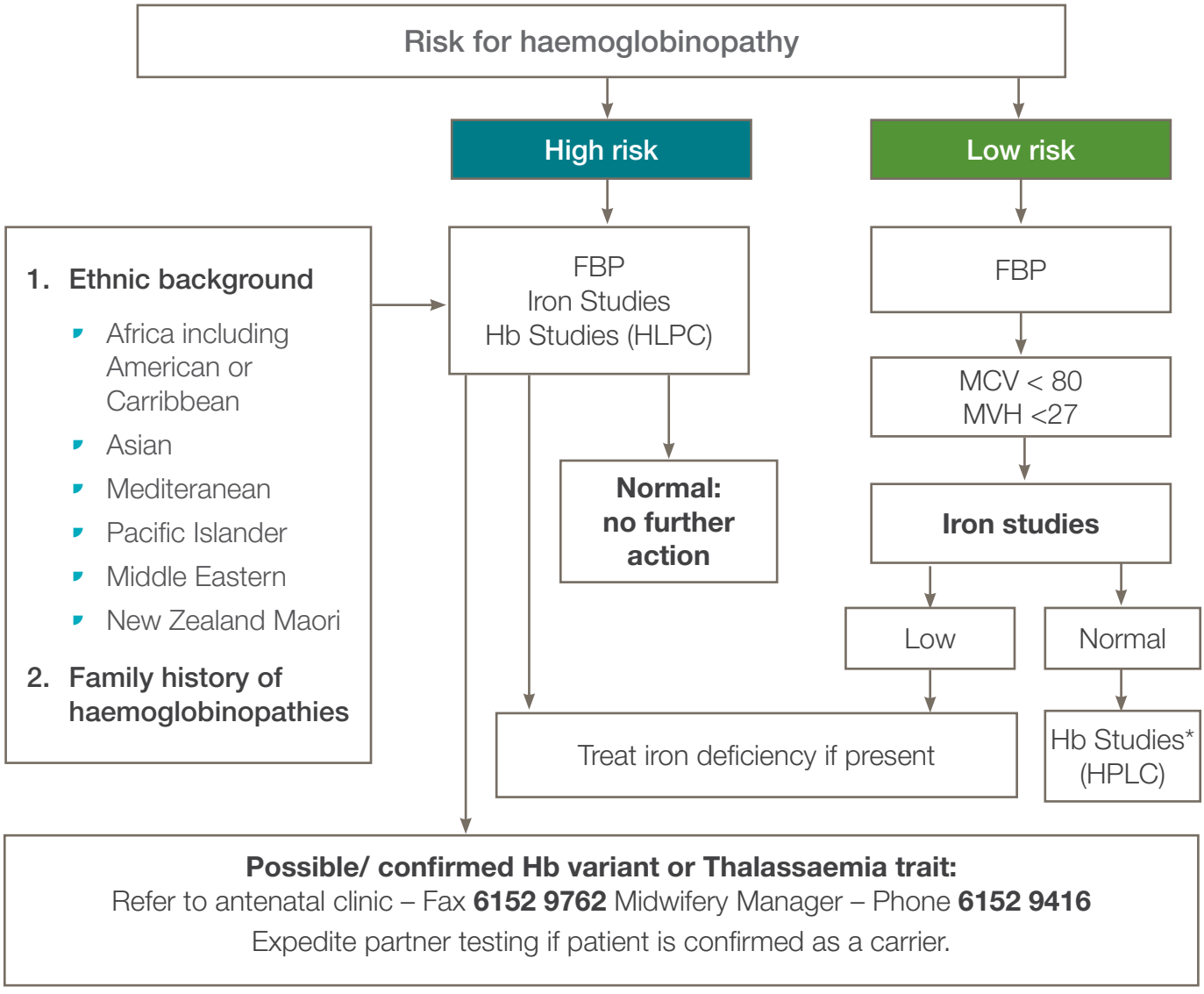
Haemoglobinopathy	Gene inheritance	Effect
Alpha thalassaemia minor or α-thalassaemia trait	One or two defective α genes	Asymptomatic normally. May have mild anaemia.
Beta thalassaemia minor or β-thalassaemia trait.	One defective β gene	Asymptomatic normally. May have mild anaemia.
HbH Disease	Three defective β genes	Ranges from asymptomatic to requiring regular blood transfusion.
Alpha thalassaemia major	Four defective α genes	Bart's disease / Hydrops fetalis
Beta thalassaemia major	Two defective β genes	Severe anaemia. Require frequent blood transfusions. May result in death in early childhood.
Sickle Cell trait	One defective β gene	Asymptomatic.
Sickle Cell Disease	Two defective β genes	Spontaneous abortion. Pre-term birth, intra-uterine growth restriction, perinatal death.

Screening

- The aim of screening (or carrier testing) is to identify carriers of haemoglobin disorders in order to assess the risk of a couple having a severely affected child and to provide information on the options available to manage their risk.
- Ideally, high risk individuals are offered pre-conception testing.

- In the antenatal setting, time is important. Early (first trimester) screening is recommended since it can be difficult to achieve antenatal screening and fetal diagnosis within a suitable timeline if the couple is unaware of the risk.
- Diagnosis of the haemoglobin disorders requires combined assessment of the FBP, iron status and Haemoglobin HPLC (High performance liquid chromatography). See algorithm below.
- Where a woman is pregnant and a carrier, organise partner testing and refer to the FSH antenatal clinic.
- If results show there is no risk of significant haemoglobinopathy to the offspring of the couple, the woman will be referred back to the GP to organise local antenatal care and birth at her local hospital. This may occur without a face-to-face consultation with the woman.
- Genetic counselling is available from Genetic Services of Western Australia **9340 1525** for couples if both partners are carriers.

16.2 Investigations of patients for Haemoglobinopathy



*Hb studies can be requested as an add-on to the FBP

16.3 Use of anti-D in pregnancy

It is recommended that anti-D (625 IU) be given to all rhesus negative, antibody negative women at 28 and 34 weeks gestation. These women will therefore need to be seen at 28 weeks and 34 weeks. Anti-D is also given to these women at FSH after the birth of their baby if the baby is rhesus positive. A blood test for blood group and antibodies needs to performed prior to administering the 28 week dose of anti-D.

It is recommended that anti-D be given to all rhesus negative, antibody negative women if there is risk of fetal-maternal transfusion of blood.

Anti-D should be given within 96 hours of the onset of bleeding (the earlier the better). The dose is as follows:

First trimester – 250 IU (minidose vial).

Indications are threatened or inevitable miscarriage, termination of pregnancy, chorionic villus sampling and ectopic pregnancy.

Note: For a multiple pregnancy give 625 IU.

Second and third trimester, postnatally – 625 IU (full dose vial).

Indications are at 28 weeks, 34 weeks, postnatally (if baby is rhesus positive) and episodes when a fetal-maternal haemorrhage may occur such as amniocentesis, external cephalic version, antepartum haemorrhage or abdominal trauma.

Note: For second and third trimester, a Kleihauer test should be performed.

(1–24 hours after the bleeding or sensitising event) so additional anti-D may be given if required.

How to obtain anti-D

FSH prefers women in the metropolitan area, who have a small early pregnancy bleed or minor antepartum haemorrhage and do not need a tertiary assessment, to see their GP for anti-D. This is usually more convenient as women who are referred to the Emergency Department at FSH for anti-D may have to wait a few hours during business hours while paperwork is completed, and blood group and antibody testing is performed (even if grouping has already been performed by a private laboratory).

After business hours, women may experience a longer delay.

Metropolitan GPs may obtain anti-D from the Red Cross by phoning (08) 9325 3030 anytime with patient details. Delivery is at the patient's expense. Patients or relatives may pick up GP orders from the Red Cross. Anti-D itself is free of charge. GPs who undertake ongoing antenatal shared care are able to obtain a small quantity of anti-D from the Red Cross to keep in their practice.

Certain private pathology laboratories are able to provide anti-D for patients in addition to performing antibody screening. Some laboratories will courier the anti-D to your GP surgery or may even be able to administer the anti-D to the patient. The following laboratories are able to provide anti-D:

- St John of God Pathology
  - Hollywood: 9346 7102
  - Murdoch: 9366 1750
  - Subiaco: 9382 6690
- Western Diagnostics Pathology Myaree: 9317 0863
- Clinipath West Perth: 9476 5222

A phone call to your laboratory will ascertain whether they stock anti-D and/or administer it. Regional hospitals usually keep a small stock of anti-D.

16.4 Record keeping

Anti-D is a blood product and must be traceable. GPs must keep a register of patients who are given anti-D and the batch number they receive. This register must be kept in a central location, not in the individual patient notes.

GPs may download an anti-D register.

16.5 Pathology request forms

When requesting blood testing for blood group and antibody screening, the request form should include the following information: current gestation, number and gestation of previous pregnancies, history of blood transfusions, any previous antibodies detected and dates of anti-D prophylaxis.

17.0 MFAU – Maternal Fetal Assessment Unit

17.1 Overview

The staff in the Maternal Fetal Assessment Unit (MFAU) assess women who develop complications after 20 weeks gestation including (but not limited to): hypertension, possible premature rupture of membranes, reduced fetal movements, threatened premature labour, antepartum haemorrhage, urinary tract infections and concerns about fetal growth and wellbeing.

The unit is open 24 hours a day.

Phone: **6152 4301**

18.0 Perinatal mental health and alcohol and drug services

There are clinical services at FSH that provide perinatal mental health and alcohol and drug care and advice. This service is only available for women with FSH catchment postcodes. Please send an early referral as per agreed process and they will be triaged as to their suitability. The schedule of visits may be modified to ensure their usual health care provider continues to provide cater throughout the pregnancy.

All other women not in the FSH postcode catchment need to be referred to the Women and Newborn Drug and Alcohol Service (WANDAS) and Childbirth and Mental Illness (CAMI) services at KEMH.

Perinatal Mental Health provides psychiatric, psychological and mental health nursing services social work to FSH patients and consultancy to staff in relation to patients' mental health care. Patients referred from medical specialists, clinics, wards of the hospital and the community are offered responsive triage, assessment, management, referral and treatment services as appropriate to their presenting mental health issues. Psychiatry staff are happy to be contacted by GPs who require clinical advice and the perinatal mental health liaison nurses can assist with procedural issues and making appointments. The department can be contacted via the help desk: **6152 2222**.

The Edinburgh Postnatal Depression Score (see page 37) is recognised as a very valuable screening test for possible depression, both in pregnancy and the postnatal period. It is recommended that scoring is undertaken at least once in early pregnancy and again at around 32 weeks. However, the scale can be used at any stage of the pregnancy and/or the postnatal period.

Ask the woman to mark the response that most accurately reflects how she has felt in the last seven days for each of the questions. The scoring is from zero to three except in the questions marked with an * where the scoring is reversed, i.e. three to zero. Add all of the scores together.

If the woman scores higher than zero in the last question or has a total score of 12 or above assess her clinically for depressive illness. If the score is 9, 10 or 11, she is at increased risk for mood disorder and should be monitored closely.

19.0 Postnatal complications

19.1 Post-partum haemorrhage (PPH)

Traditionally PPH has been defined as a blood loss of 500ml or more during puerperium and severe PPH as a blood loss of 1000ml or more. Post-partum haemorrhage can also be classified as primary (within 24 hours of delivery) and secondary (between 24 hours and six weeks postpartum).

Women who experience a major primary post-partum haemorrhage may require one or more of the following interventions:

- Urgent transfer to theatre for investigation / management
- Urgent return to theatre for investigation / management
- Placement of Bakri tamponade balloon or similar
- Laparotomy

- Insertion of uterine compression suture (B-Lynch suture or similar)
- Uterine artery ligation
- Internal iliac artery ligation
- Arterial embolisation
- Hysterectomy.

19.2 Recommended GP follow up for major post-partum haemorrhage

Anaemia / Iron deficiency

Many women who experience a major post-partum haemorrhage receive packed cells while an inpatient. Packed cells have a shorter half-life than a patient's own red blood cells and thus, the patient may experience a fall in Haemoglobin (Hb) on discharge. Women are likely to be discharged on oral iron supplementation to counter this. Iron supplementation three times daily should result in a 2g/dL increase in Hb over 3 weeks if taken and absorbed properly. FSH has the capacity to ensure all women meeting the criteria for an iron infusion in the Antenatal or postpartum period can be accommodated in the Day Medical Procedure Unit (DMPU).

A check of Hb at 4 weeks is helpful to determine if your patient requires further iron supplementation (possibly parenteral) or rarely, a packed cell transfusion.

Debriefing

Prior to discharge, a woman who has experienced a major post-partum haemorrhage, and if possible their support person, should have been debriefed by a senior member of her treating team regarding her delivery and post-partum haemorrhage management.

Post-partum haemorrhage can occur very quickly and may involve a sudden requirement for transfer to an operating theatre, a general anaesthetic, being parted from a newborn infant and in severe cases being asked to consent to a hysterectomy. For many women it is not until they leave hospital that questions and concerns regarding what was occurring at this time emerge.

It is important that any issues are addressed promptly as postnatal depression and rarely post-traumatic stress disorder have been seen in women following major PPH. If you feel your patient requires further debriefing or discussion please contact the treating team at FSH who will organise a time to see her.

Implications for future pregnancies

Post-partum haemorrhage has up to a 10 per cent recurrence rate. Your patient's history should be made aware to any obstetrician or obstetric unit you refer her to. Maintaining an adequate antepartum Hb and active management of the third stage of labour would be recommended in future pregnancies.

Rare complications

- **Asherman's syndrome**, intra-uterine adhesions caused by endometrial damage from curettage, is a rare complication following PPH. Infertility is the most common clinical presentation but patient's may also present with hypomenorrhoea or amenorrhoea, cyclical pelvic pain or recurrent pregnancy loss. If Asherman's syndrome is suspected the patient should be referred to a gynaecologist for a hysteroscopy.
- **Sheehan's syndrome**, infarction of the pituitary gland after PPH resulting in hypopituitarism, occurs in the setting of severe hypotension complicating PPH. Severe cases present in the first few days to weeks post-partum with lethargy, anorexia, loss of weight and an inability to lactate. Less severe cases may not present for many weeks to months and involve an inability to lactate, failure to resume menses and a loss of pubic hair. Mild fatigue, anorexia and weight loss can also occur in less severe cases. On investigation growth hormone, prolactin, gonadotrophin and thyroid stimulating hormone levels are all deficient. Patients should be referred to an endocrinologist for further management.

18.3 Pre-eclampsia

Recommended GP follow up for pre-eclampsia

- Early return to GP around two weeks post discharge
- Wean hypertensive medication if still on them
- Regular blood pressure checks for three months
- If still hypertensive at three months postpartum, there is likely to be underlying hypertension. Investigate for the cause
- All patients with early pre-eclampsia should be screened for antiphospholipid syndrome and be referred for obstetric physician review at three months postpartum
- Recurrence risk
  - **early onset pre-eclampsia** (<34 weeks): recurrence rate 25–65% (more likely if underlying thrombophilia, connective tissue disease or renal problems)
  - **late onset pre-eclampsia** (>34 weeks): recurrence rate 5–7%
- Severity of disease is lower with subsequent pregnancies

If women have a history of pre-eclampsia and are considering a subsequent pregnancy:

- Preconception counselling is helpful
- Preconception referral (or early referral in pregnancy) if she is likely to have a high risk of recurrence and/or she has underlying disease
- Identify the 'hidden' pre-eclampsia – intra-uterine growth restriction in the first pregnancy
- In the next pregnancy
- Always record a first trimester blood pressure for comparison (blood pressure routinely drops in the second trimester)
- Start calcium supplement (1.5gm calcium) and low dose aspirin (100 mg) in the first trimester

- Low PAPP-A on the first trimester screen is associated with an increased risk of pre-eclampsia
- Monitor more closely in late second and third trimesters
- Consider serial scans for intra-uterine growth restriction
- Cease aspirin at 36 weeks.

20.0 Quality initiatives, continuous professional development, governance and peer review

- All GPs who participate in Antenatal Share care will be invited to participate in the monthly Peer Review meetings.
- Clinical Review meetings are held monthly and if a woman has participated in the GP share care program and is being presented at the Clinical Review meeting the GP will be formally invited to participate.
- All GPs who participate in the GP share care arrangement will be invited to the medical education sessions relevant to obstetrics.
- All clinical incidents will be reported via the Datix reporting system
- All local lessons learnt will be distributed to the GP involved in the share care arrangement.

Appendix 1 – Edinburgh Postnatal Depression Scale (EPDS)

Ask the woman to mark the response that most accurately reflects how she has felt in the last seven days for each of the questions.

The scoring is from 0–3 except in the questions marked with an * where the scoring is reversed, i.e. 3–0. Add all of the scores together.

Note: The new National Women-Held Pregnancy Record EPDS does not include scoring for individual questions.

In the past 7 days		First visit	32 weeks
I have been able to laugh and see the funny side of things	As much as I could		
	Not quite so much now		
	Definitely not so much now		
	Not at all		
I have looked forward with enjoyment to things	As much as I always did		
	Rather less than I used to		
	Definitely less than I used to		
	Hardly at all		
I have blamed myself unnecessarily when things go wrong*	Yes, most of the time		
	Yes, some of the time		
	Not very often		
	No never		
I have been anxious or worried for no good reason	No, not at all		
	Hardly ever		
	Yes, sometimes		
	Yes, very often		
I have felt scared or panicky for no good reason*	Yes, quite a lot		
	Yes, sometimes		
	No, not much		
	No, not at all		

Things have been getting on top of me*	Yes, most of the time I haven't been able to cope at all		
	Yes, sometimes I haven't been coping as well as usual		
	No, most of the time I have coped		
	No, I have been coping as well as ever		
I have been so unhappy that I have had difficulty sleeping*	Yes, most of the time		
	Yes, sometimes		
	Not very often		
	No, not at all		
I have felt sad or miserable*	Yes, most of the time		
	Yes, quite often		
	Not very often		
	No, not at all		
I have been so unhappy that I have been crying*	Yes most of the time		
	Yes, quite often		
	Only occasionally		
	No, not at all		
The thought of harming myself has occurred to me*	Yes, quite often		
	Sometimes		
	Hardly ever		
	Never		
TOTAL			

Appendix 2: Care choices provided at FSH

	Antenatal Clinics (ANC) – low risk
Description	Midwives provide care for women with low risk pregnancies in the antenatal clinic. These clinics are available during normal clinic hours, Wednesday evenings
Pregnancy care	Midwife can provide antenatal care and will refer to medical team if required. Option for shared care with GPs. If home visits required VMS midwife will visit.
Planned place of birth	FSH Birth Suite (BS)
Care provider during labour and birth	BS midwife BS medical team
Care provider following the birth	Postnatal ward midwife Medical team
Possible referrals of care	Nil referrals required
Transfer home	Vaginal births within 24–48 hours. Caesarean births within 72 hours.
Midwifery care at home	VMS midwife visits daily until day five.
Contact number	Midwifery Manager (Ambulatory Services) **6152 9416**

	Antenatal Clinics (ANC) – high risk
Description	The ANC has a team of doctors, midwives and other health professionals who care for women who may have pregnancies with a high risk of complication. Specific clinics for the following are available: • **Medical disorders in pregnancy** – pregnant women with complications in pregnancy e.g. Hypertension, heart disease, kidney disease, endocrine other than DIP, Haematological conditions , immunological disorders and Liver disease. • **Diabetes in Pregnancy Service** – women with pregnancies complicated by gestational diabetes requiring insulin. • **Karri clinic** (complex care women) – Tuesday all day • **Aboriginal maternal health program** – Thursday all day • **Next birth after caesarean section (NBAC)** – Tuesday 8.00 am to 12 noon • **Maternal Fetal Medicine (MFM)** – Tuesday 8.00 am to 12 noon

Pregnancy care	Referral to appropriate medical team at ANC. After seeing the consultant, antenatal care can be provided by the midwife, if the woman requests. Option for shared care with GPs for some appointments. If home visits required VMS midwife will visit.
Planned place of birth	FSH Birth Suite (BS)
Care provider during labour and birth	BS midwife BS medical team
Care provider following the birth	Postnatal ward midwife Medical team
Possible referrals of care	Nil referrals required
Transfer home	Vaginal births within 6 –48 hours. Caesarean births within 48–72 hours.
Midwifery care at home	VMS midwife visits daily until day five.
Contact number	Midwifery Manager (Ambulatory Services) 6152 9416

Appendix 3 – Important telephone numbers

Antenatal Clinic	6152 3160
Antenatal Clinic Fax	6152 9762
Midwifery Manager (Ambulatory Services)	6152 9416
Diabetes Educator	6152 2222
Emergency Department FSH (24 hours)	6152 2222
Genetics Services of WA	9340 1525
Gynaecology Senior Registrar	6152 0901
FSH Switchboard (24 hours)	6152 2222
Maternal Fetal Assessment Unit (24 hours)	6152 8853
Obstetric Drug Information Service (7 days)	9340 2723
Obstetric Senior Registrar	6152 0901
Pathology	6152 2222
Pharmacy	6152 2222
Physiotherapy	6152 2222
Social Work	6152 2222
Ultrasound Department	6152 4901

Appendix 4: Antenatal shared care summary

GP first visit (6–12 weeks)

- Confirm LMP and arrange dating ultrasound if indicated.
- Obstetric/Gynaecological Hx.
- Past medical and surgical Hx.
- Psychosocial risk factors.
- Medication, allergies.
- Recommend folic acid.
- Lifestyle advice re: smoking, alcohol, recreational drug use.
- Advice re: listeria avoidance. Discuss and offer influenza vaccine.
- Physical exam: BP, weight, heart, breasts, abdominal examination.

Patients are seen in the Antenatal Clinic at approx 25 weeks. GP to continue care until then. Please refer earlier if high risk.

First trimester routine tests

- Blood group / rhesus / antibodies. Full blood picture.
- Hepatitis B surface antigen. Hepatitis C antibodies.
- HIV antibodies. Rubella titre.
- Syphilis serology.
- Blood sugar level: if random BSL >7.8 needs OGTT, fBSL >5.1=GDM.
- Midstream urine.
- Chlamydia screen: 1st void urine + SOLVS (self-obtained low vaginal swab).

Other tests

- Pap smear if due: may be done up until 24 weeks gestation.
- OGTT if high risk of diabetes.
- Vitamin D (vit D) screening if at risk.
- Women at risk include: those with darker skin, limited exposure to sunlight, malabsorption and obesity or veiled women.
- Women who are Vit D deficient (<50 nmol/ml) require supplementation with 5000IU Vit D3 + 1000mg calcium for 6–8 weeks, then repeat Vit D levels. If still deficient, continue treatment and recheck levels in 4 weeks.
- Haemoglobinopathy screening if at risk.
- Women at risk include:
  - MCV <80 or MCH <27and Ferritin NAD
  - PMHx or FHx of anaemia
  - PMHx or FHx Haemoglobinopathy
  - Ethnic groups: Mediterranean, Middle East, African, Asian, Pacific Island, South America, Maori.
  - Also screen partner if woman is known to have a Haemoglobinopathy.

All antenatal referrals and results for women who reside in the FSH catchment area should be sent directly to FSH Antenatal Clinic, Fax: 6152 9762.

For an updated list of the postcodes within the catchment area for each maternity service, please see the FSH Antenatal Shared Care Guidelines for GPs (search under Health Professionals).

Fetal screening

GP to organise:

- Preferred: first trimester screen (10–13 weeks) USS and blood test.
- Ideal time: blood test at 10 weeks and USS at 12 weeks.
  OR
- Second trimester screen (maternal serum screen).
- Blood test only 15–17 weeks. 19 weeks anatomy ultrasound.

April 2006 HP 3131 Prenatal screening and diagnostic tests.

High risk women:

- Non-invasive prenatal testing is a high-level screening test for Trisomy 21, 18 and 13.
- Available at KEMH if high risk for pregnancy loss or vertical transmission with invasive testing.
- Contact Maternal Fetal Medicine on 9340 2848 for more information.

Assessments – guide only

(See more frequently if indicated)

NULLIPS: 4 weekly till 28 weeks, fortnightly until 36 weeks, thereafter seen at FSH. **MULTIPS:** 4–6 weekly then at 28, 32, 36, thereafter seen at FSH.

At each appointment check:

- Weight
- BP
- Urinalysis
- Fetal heart rate from 20 weeks (or earlier if Doppler available).
- Fundal height from 24 weeks. Fetal movements from 24 weeks.

At 20 weeks:

Recommend iron supplements if not already taking them (see full Antenatal Shared Care Guidelines for more information on iron supplements).
Iron and vit D/calcium supplements should be taken at different times to prevent malabsorption.

At 26–28 weeks:

- Full blood picture +/- iron studies. Blood group and antibody screen if Rhesus negative.
- Anti-D given if Rhesus negative. Diabetes screen: Oral Glucose Tolerance Test for all women.
- Fasting, 75g load, two hour test (NOT Glucose Challenge Test).

Women at risk of anaemia

- Full blood picture and iron studies on booking.
- Dietary advice at booking.
- Recommended iron supplements.
- Recheck full blood picture and iron studies at 28 weeks.
- Exclude folate and B12 deficiency if Hb unchanged from booking.

At 36 weeks seen in antenatal clinic:

- Antenatal clinic will organise low vaginal and rectal swab for group B streptococcus screening.
- Anti-D given if Rhesus negative.
- Full blood picture if indicated.

Rhesus negative women

Prophylaxis:

- All rhesus negative women need:
- Blood group, rhesus and antibody screen at 26–28 weeks followed by first anti-D injection 625IU at 28 weeks (injection to be given by GP. See below for where to access anti-D).
- Second anti-D injection 625IU at 34–36 weeks.
- No blood test required pre-injection. (Injection to be given at KEHM).
- Anti-D is also required after sensitising events and postnatally if baby Rhesus positive.
- First trimester sensitising events: Give 250IU (threatened miscarriage, abortion, chorionic villus sampling, ectopic) if multiple pregnancy give 625IU.
- First/third trimester sensitising events/postnatal:
  - Give 625IU (amniocentesis, external cephalic version, abdominal trauma, antepartum haemorrhage)
    Perform Kleihauer test prior to giving anti-D to check adequacy of dose.

Australian Red Cross January 2006

Anti-D is available from:

Red Cross (Perth)	9325 3030
Western Diagnostics (Myaree)	9317 0863
SJOG Path (Subiaco)	9382 6690
SJOG Path (Murdoch)	9366 1750
Clinipath (West Perth)	9476 5222

Postnatal GP check 6–8 weeks

- Women with GDM need an OGTT, then repeat 1–2 yearly.
- Pap smear (if due).
- Check perineum, uterine size. Discuss breastfeeding.
- Postnatal depression screen. Contraception.
- Update immunisations especially pertussis. Medications: review/adjust any changes made during pregnancy e.g. thyroxine, anticonvulsants, antihypertensives.
- Third degree tears: if women have problems. Please refer to Gynaecology clinic for an outpatient review.
- Fourth degree tears: women are routinely reviewed at FSH General Gynaecology clinic at approx 6 weeks postpartum.
- Vit D deficiency, women who are treated for vit D deficiency in pregnancy and reach normal vit D levels still require a maintenance dose (1000IU vit D3 + 1000mg calcium) until breast feeding ceases.
- Babies born to vit D deficient women will require vit D supplementation.
- Baby check +/ - needles.

This information has been adapted, with permission, from a booklet produced by the Women and Newborn Health Service.

This booklet forms part of the Shared Care Program at Fiona Stanley Hospital (FSH), initiated in 2016 to meet the requirements of the Policy Statement of the Joint Consultative Committee on Obstetrics of 4 February 2002.

The information in this booklet has been revised by FSH with GP input and is up-to-date at the time of publishing. These guidelines are also available on the Fiona Stanley Hospital website.

Copies of this booklet can be obtained by contacting the FSH Midwifery Manager Ambulatory on 6152 2222.

Contact

Obstetrics and Gynaecology and Women, Children and Newborn Services

Fiona Stanley Hospital
11 Robin Warren Drive, Murdoch WA 6150
Phone Helpdesk: **6152 2222**
www.fsh.health.wa.gov.au

This document can be made available in alternative formats on request.

Compiled: FSH Obstetrics and Gynaecology and Women, Children and Newborn Services
Adapted: Fiona Stanley Hospital, Midwifery Manager Ambulatory, February 2021
Approved: Fiona Stanley Hospital, Midwifery Manager Ambulatory, September 2021
Publication number - 2021-SMHS-701