


SOUTH AUSTRALIAN GP OBSTETRIC SHARED CARE PROTOCOLS

A STATEWIDE MODEL

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Although the clinical material offered in this guideline provides a minimum standard it does not replace or remove clinical judgement or the professional care and duty necessary for each specific patient case. Where care deviates from that indicated in the guideline contemporaneous documentation with explanation should be provided.

This guideline does not address **all** the elements of guideline practice and assumes that the individual clinicians are responsible to:

- > Discuss care with consumers in an environment that is culturally appropriate and which enables respectful confidential discussion. This includes the use of interpreter services where necessary
- > Advise consumers of their choice and ensure informed consent is obtained
- > Provide care within scope of practice, meet all legislative requirements and maintain standards of professional conduct
- > Document all care in accordance with mandatory and local requirements

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The GP OSC SA Program was established in 2002 as a result of an initiative by SA Health, facilitated by the Healthy Start Clinical Reference Group (now known as the SA Maternity & Neonatal Clinical Reference Work Group).


This document outlines the clinical protocols that support the GP OSC SA.

These protocols have been developed in accordance with contemporary professional standards of care and outline the minimum standards of clinical practice required by General Practitioners providing maternity services in South Australia.

The SA Perinatal Practice Guidelines underpin the SA GP Obstetric Shared Care SA (now called GP OSC SA) Protocols outlined within.

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SA Health has contracted GP partners Adelaide as the co-ordinating body for the statewide GP OSC SA as of September 2009. GP Partners Adelaide is managing the statewide framework for the GP OSC SA by on behalf of the GP Divisions of South Australia. Contact details are listed below.

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ADMINISTRATION SECTION

1. OBSTETRIC SHARED CARE

'Shared Maternity Care represents an opportunity to practise collaborative holistic obstetric care by combining the varied skills of Midwife, GP and Obstetrician to the benefit of the community and mutual understanding between colleagues'. RANZCOG statement WPI- November 2009

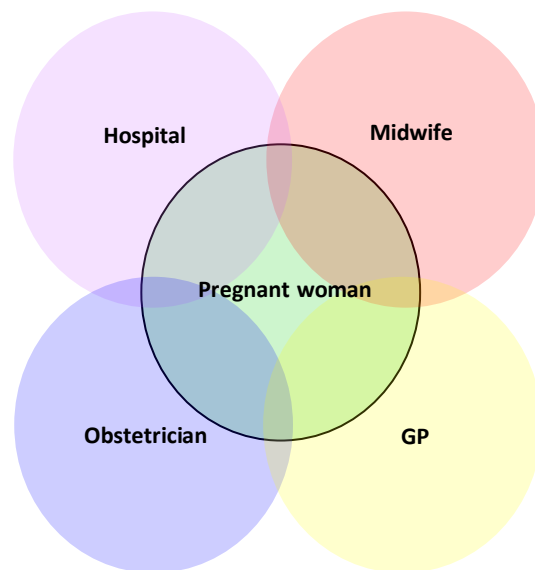
Women wishing to attend a South Australian public hospital for childbirth have the option of GP obstetric shared care if they meet the designated criteria. In this model, the General Practitioner (GP) provides most of the antenatal and postnatal care, while the public hospital staff provide the inpatient and some outpatient obstetric care.

Entry into an obstetric shared care arrangement should be recommended for all low risk women with access to an accredited GP and a participating public hospital. At this stage women choosing obstetric shared care are unable to access midwifery group practice


A GP wishing to participate in an obstetric shared care arrangement must be accredited as competent in obstetric care and be familiar with the policies of the participating hospital.

A GP who is accredited for OSC can provide antenatal care in collaboration with the participating public hospital throughout the pregnancy in accordance with these protocols and the enclosed visit schedule. A shared care arrangement requires additional effort to be given to communication between all parties involved in the shared care arrangement including the pregnant woman.

It is essential that the GP ensures that their current details are accurate and available on the SA Health Provider Registry: www.gpsa.org.au/programs/health-provider-registry



The GP should refer the pregnant woman wishing to birth in a public hospital to the Pregnancy SA Infoline (Ph: 1300 368 820) to enable her to secure an appointment for the patient at the participating hospital before 20 weeks gestation.



Women opting for GP obstetric shared care must be referred to the participating hospital for consultation before 20 weeks gestation.

In a shared care arrangement, a woman who develops complications can be referred to the hospital for reassessment at any time.

2. GP OSC SA PROTOCOLS

The GP OSC SA Protocols outline the framework for the provision of Obstetric Shared Care in South Australia. The protocols are updated every 2 years and are available on the website at <http://www.gppadelaide.org.au/LinkClick.aspx?fileticket=LEI%2fdwxXrxo%3d&tabid=288&mid=1172>

The clinical practices outlined in these protocols have been developed in accordance with the **SA Perinatal Practice Guidelines** (SA PPG), which provide perinatal care providers with evidence-based standards to support clinical practice. The SA PPG's are accessible on the web at <http://www.health.sa.gov.au/PPG>

3. MEDICAL INDEMNITY

The risk of litigation in the practice of obstetrics mainly relates to the conduct during labour, although litigation has occurred when antenatal screening tests have been omitted, or when serious medical problems or obstetric complications have not been detected during the pregnancy.

While the responsibility for the health of the woman and her baby is shared in obstetric shared care, obstetric medical indemnity insurance is not required while the pregnancy management is under the overall direction of a public hospital maternity unit. Most medical indemnity insurers (e.g. MIGA) require that women in obstetric shared care not only be referred to the participating hospital before 20 weeks gestation but also at 36 weeks gestation. Different medical insurers may have other specific requirements, and it is recommended that GPs clarify these with their medical indemnity insurer.

To be indemnified for the practice of obstetric shared care, the appropriately qualified GP must adhere to the requirements of their insurance provider.

GPs who are qualified GP Obstetricians and who provide antenatal care that does not comply with the GP OSC SA guidelines must be insured under the GP Obstetrics or GP Rural Obstetrics category, irrespective of whether the woman is being managed as a public or private patient.

4. GP OSC SA ACCREDITATION AND CONTINUING PROFESSIONAL DEVELOPMENT (CPD) REQUIREMENTS

GP Partners Adelaide facilitates the management of the GP accreditation of the GP OSC SA in liaison with SA Health.

4.1 Initial Accreditation

All GPs undertaking obstetric shared care in South Australia are required to meet the accreditation requirements of the GP OSC SA and be familiar with both the program protocols and the policies of the participating hospital.



Approval for full accreditation is subject to both:

- Satisfactory obstetric experience, *and*
- Completion of an Accreditation Seminar.

Full accreditation with the GP OSC SA will not be approved until the applicant has attended an accreditation seminar and completed the associated knowledge questionnaire satisfactorily.

However, provisional accreditation may be approved for a period up to 12 months on the basis that the GP attends an accreditation seminar in that time. Provisional accreditation will usually be approved for GPs who have one of the following:

- DRANZCOG with current recertification, or equivalent qualification;
- Diploma Obstetrics RACOG, or CSCT in Women's Health, plus recent involvement in antenatal care provision;
- FRANZCOG, FRACOG or FRCOG;
- GPs who can demonstrate recent significant obstetric experience such as having spent a minimum 3-month placement in obstetrics at a teaching hospital.

GPs who do not meet the obstetric experience requirements may apply to undertake supervised obstetric clinical attachment at one of the public metropolitan maternity hospitals. The GP undertaking this supervised obstetric clinical attachment will be expected to attend a number of antenatal clinics. The number of antenatal clinics to be attended will vary depending on experience and clinical competence. As a guideline, GPs with previous obstetric experience will require 3 to 6 antenatal clinic attendances. If satisfactory clinical performance is demonstrated provisional accreditation will be granted.

4.2 Ongoing Accreditation

The ongoing accreditation of GPs for the GP OSC SA Program is managed within a 3-year accreditation cycle, which is conducted in parallel with the Continuing Professional Development (CPD) triennium as defined by the RACGP and ACRRM.

To maintain accreditation a GP must demonstrate over the 3 year period that they have engaged in CPD activities equivalent to a minimum of 12 CPD points specific to Obstetric Shared Care. Assessment of activities will be a role and function of the GP OSC SA Advisors and will be allocated, where relevant, as 2 points per hour in line with the RACGP QA&CPD Program. The same 2 points per hour allocation will apply for ACRRM members. Ongoing accreditation points will be administered by the GP OSC SA Program.

Such CPD activities could include:

1. GP OSC (SA) Accreditation Seminar
2. GP OSC (SA) CPD events
3. RANZCOG Diplomates Days
4. DRANZCOG Revision course
5. Online CPD activities eg gp learning
6. Women's health activities and other events conducted by GP Divisions/Networks
7. Other educational activities that can be demonstrated to be relevant to OSC eg part of a 40 point Active Learning Module

4.3 Revoking of Accreditation

To maintain ongoing GP OSC SA accreditation all accredited GPs must ensure they keep up to date with current perinatal practices as per the SA Perinatal Practice Guidelines and the GP OSC SA Protocols. GPs that are found not to be adhering to these may have their accreditation status reviewed. A GP's GP OSC SA accreditation may be revoked if the clinical management provided by a GP is deemed to be compromised. The process of revoking a GP's accreditation with the GP OSC SA may involve counselling and/or temporary provisional accreditation status.

5. GP OSC SA MIDWIFE CO-ORDINATORS

Midwife Coordinators are available at six public hospitals to coordinate the GP OSC SA program. The key responsibilities of the Midwife Coordinators are to coordinate and direct antenatal/postnatal activities, ensuring that the professional standards of the Program and appropriate documentation are maintained.

Each GP OSC SA Coordinator is a Registered Midwife who through experience and education is an expert clinical practitioner in antenatal/postnatal management.

The GP OSC SA is supported with antenatal clinics held at:


- Women's and Children's Hospital
- The Queen Elizabeth Hospital
- Flinders Medical Centre
- Lyell McEwin Hospital
- Modbury Hospital
- Gawler Hospital

The GP OSC SA Midwife Coordinator also identifies and improves the liaison role between GPs, the participating hospital and health workers involved in the care of antenatal/postnatal women and their infants, ensuring that the management of clinical activities is effective, professional and caring.

The GP OSC SA Midwife Coordinator acts as an advocate, both for women involved in the GP Obstetric Shared Care Program and for the GP. The GP OSC SA Midwife Coordinator is also available to rural GPs who require information even if the woman is not giving birth at a metropolitan hospital.

The GP can contact the GP OSC SA Midwife Coordinator for advice or information regarding the program.

A database of accredited GPs from each metropolitan Division is maintained by GP Partners Adelaide and is available to the Midwife Coordinators.



**GP OSC SA Midwife Coordinators can be contacted only between 8:00 am to 4:00 pm
Monday – Friday (excluding Public Holidays)**

Women’s and Children’s Hospital:	(08) 8161 7000 Pager 4259 (Also co-ordinates the Queen Elizabeth Hospital program)
The Queen Elizabeth Hospital Flinders Medical Centre:	as per Women’s and Children’s Hospital Coordinator (08) 8204 4650 Pager 20109
Lyell McEwin Hospital	(08) 8182 9000 Pager 6470 Mobile: 0417840062 (Also co-ordinates the Modbury Hospital program)
Modbury Hospital Gawler Hospital	as per Lyell McEwin Hospital Coordinator (08) 8521 2060



CLINICAL SECTION

6. SOUTH AUSTRALIAN (SA) PREGNANCY RECORD

SA Health has endorsed the SA Pregnancy Record as **the substantive record of a woman's pregnancy**. The aim of the SA Pregnancy Record is to improve continuity of care, involve the woman's family in the care, and promote early and appropriate use of antenatal services, particularly amongst disadvantaged groups. **The SA Pregnancy Record must be used to document the care provided for all women involved in GP Obstetric Shared Care.**

The perinatal care provider must record at each visit all relevant antenatal information in the SA Pregnancy Record. Information must be sufficient to meet the care provider's duty of care in diagnostic and treatment decisions.

Information need not be duplicated, but clinicians may do so by choice. If duplication is required, it is recommended that the SA Pregnancy Record be photocopied. Pathology and ultrasound results are to be filled in and included in the SA Pregnancy Record.

The SA Pregnancy Record should be given to the woman at her first antenatal visit after confirmation of pregnancy, when she should be instructed to carry this to all appointments during her pregnancy, including those with other health professionals. The woman should be made aware that the SA Pregnancy Record is the ONLY complete medical record maintained for her antenatal care, is vital for the quality of her care at each visit, and becomes part of the obstetric hospital's medical records after the birth of her child.

As the substantive record, the SA Pregnancy Record will be filed in the medical records at the hospital where the birth occurs. **The SA Pregnancy Record is not to be destroyed under any circumstances.**

The *Guidelines for the use of the SA Pregnancy Record* can be viewed at <http://www.dh.sa.gov.au/pehs/pregnancy-record.htm>

7. RELATIVE CONTRAINDICATIONS TO SHARED CARE

Obstetric shared care arrangements can be provided for most pregnant women, but may not be recommended for women with the specific contraindications listed below. It is recommended that GPs seek advice from an Obstetric Registrar/Consultant to clarify the required management of women with these contraindications. With obstetric consultant support some GPs may be able to manage with these conditions.

Women presenting with a contraindication, including those listed below and in consideration of their clinical status, should be referred to the participating hospital for assessment, where it will be decided whether she can continue in the obstetric shared care arrangement. In some circumstances a modified arrangement can be provided. GPs must remember that the reasons for the decision to undertake obstetric shared care in the presence of these relative contraindications must be recorded in the SA Pregnancy Record.

The following conditions, identified before or during pregnancy, present a relative contraindication for the woman to be managed in an obstetric shared care arrangement:



From General History

- endocrine disease including diabetes mellitus
- cardiac disease
- renal disease
- hypertension
- respiratory disease
- neurological disease including epilepsy on medication
- thrombo-embolic disorders or antiphospholipid syndrome
- illicit drug use
- haematological disorders including haemoglobinopathy, thrombocytopenia, significant anaemia
- psychiatric disorders
- gastro-intestinal disease
- obesity – BMI > 35 kg/m²

From Obstetric History

- severe pre-eclampsia
- perinatal death
- placental abruption
- preterm birth at less than 34 weeks
- intra-uterine growth restriction
- recurrent pregnancy loss
- suspected cervical incompetence

From Early Pregnancy Assessment

- Rh or other blood group antibodies
- anaemia
- multiple pregnancy
- haemoglobinopathy

Arising During Pregnancy

- any of the above conditions
- antepartum haemorrhage
- fetal abnormality
- suspected intra-uterine growth restriction
- recurrent urinary tract infection
- gestational diabetes
- deep vein thrombosis or embolism
- placenta praevia
- non-cephalic presentation after 36 weeks
- gestational hypertension
- pre-eclampsia
- threatened preterm labour
- cholestasis of pregnancy

8. BOOKING THE OBSTETRIC SHARED CARE WOMAN AT THE PARTICIPATING HOSPITAL

The GP should ensure the GP OSC SA woman is referred to a participating hospital before 20 weeks and preferably in the first trimester. To initiate the process of referring an obstetric shared care woman to a participating SA public hospital, it is a requirement of SA Health that the woman wishing to birth in a public hospital in metropolitan Adelaide needs to secure a reference number from the Pregnancy SA Infoline before she will be accepted for her first antenatal visit.

The Pregnancy SA Infoline telephone number is: 1300 368 820. The service is available 8.30am-5pm Monday to Friday (excluding public holidays).

The woman opting for an obstetric shared care arrangement should be directed by the GP to the Pregnancy SA Infoline when booking her first antenatal appointment. The woman opting for an obstetric shared care arrangement will be referred to the obstetric shared care midwife coordinator at the participating SA public hospital when she contacts the hospital to secure her first antenatal appointment.

The GP can contact the obstetric shared care midwife coordinator at the participating hospital directly to discuss any issues related to the pregnant woman. It is suggested that this may be warranted for a woman more advanced in pregnancy, with obstetric complications, or who wishes to have counselling about amniocentesis/chorionic villus sampling (CVS), so the earliest possible appointment at the participating hospital can be secured.

The GP can refer any woman they deem to require complex care, i.e. high risk, disadvantaged or of Aboriginal or Torres Strait Islander background, directly to the participating hospital without first securing the reference number from the Pregnancy SA Infoline. Clinical care of these women should not be compromised by having them secure the reference number from the Pregnancy SA Infoline before they seek care.

9. OBSTETRIC SHARED CARE VISIT SCHEDULE

This is the suggested antenatal visit schedule for all 'normal' risk nulliparous and parous women who have been determined as suitable for GP OSC SA either at the first hospital visit or following obstetric review. Additional visits can be scheduled for the 'at risk' woman.

SCHEDULE OF VISITS		
	GESTATION	LOCATION
1 st visit	Diagnosis	GP
2 nd visit	10-12 Weeks	GP or Hospital
3 rd visit	22 Weeks	GP if the woman has been seen at the participating hospital otherwise at participating hospital
4 th visit	28 Weeks	GP
5 th visit	32 Weeks	GP
6 th visit	34 Weeks	GP
7 th visit	36 Weeks	Hospital
8 th visit	38 Weeks	GP

SCHEDULED		OUTLINE OF ASSESSMENT/TASKS REQUIRED
VISIT	40 Weeks	(Assessment details in hospital the SA Pregnancy Record must be recorded every visit)
9 th visit	40 Weeks	(Assessment details in hospital the SA Pregnancy Record must be recorded every visit)
1st visit with GP and completed at 2nd visit with GP or hospital usually 10-12 weeks		<ul style="list-style-type: none"> - Diagnose pregnancy - Calculate EDC by dates and cycle. If uncertain, order dating ultrasound (copy to participating hospital) - Commence SA Pregnancy Record - Order routine blood and urine tests (copy to participating hospital) <ul style="list-style-type: none"> - Complete blood picture - Blood group and antibody screen - Rubella titre - Syphilis serology - Hepatitis B screen - Hepatitis C screen - HIV test - Mid stream sample of urine (MSSU) - Screen for perinatal mental health as per the National Perinatal Mental Health Initiative - Commence Iodine supplement - Commence Vitamin D regime for at risk women - Book woman into the participating hospital for birth - Discuss breastfeeding and antenatal education - If woman 11 – 13⁶ weeks offer first or second trimester Down Syndrome screening (copy to hospital). Discuss options of CVS or amniocentesis to women at increased risk - If woman 14 – 20⁶ weeks second trimester Down Syndrome and NTD screening if indicated - Book morphology ultrasound for 19-20 weeks. Consider delaying ultrasound to 22 weeks if woman's BMI > 35 kg/m² (copy to the participating hospital). - Refer to hospital by 20 weeks
22 weeks with GP (only if woman has been seen at hospital, otherwise visit at hospital)		<ul style="list-style-type: none"> - Discuss prophylactic Anti-D with Rhesus negative women - Discuss maternal blood screening, morphology & ultrasound results (record these results in SA Pregnancy Record and add hard copy)
28 weeks with GP		<ul style="list-style-type: none"> - Order (copy to the hospital) <ul style="list-style-type: none"> - Complete Blood Picture - Oral Glucose Challenge Test - Blood group antibodies - Administer prophylactic Anti-D to Rh (-) women without antibodies
32 weeks with GP		<ul style="list-style-type: none"> - Check-up
34 weeks with GP		<ul style="list-style-type: none"> - Administer prophylactic Anti-D as per protocol for Rh (-) women - Discuss breastfeeding
36 weeks at hospital		<ul style="list-style-type: none"> - Discuss birthing plan - Undertake Group B Strep Screening (copy to GP)
38 weeks at GP		<ul style="list-style-type: none"> - Check-up
40 weeks at		<ul style="list-style-type: none"> - Discuss induction of labour



hospital	
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10. FIRST APPOINTMENT WITH OBSTETRIC SHARED CARE

The GP managing the woman in an obstetric shared care arrangement should commence documentation in the SA Pregnancy Record at the woman's first antenatal visit. The GP should also arrange the woman's first antenatal visit, through the Pregnancy SA Infoline (Ph: 1300 368 820) from which the woman's first antenatal clinic appointment can be secured.

The GP should book all required blood tests and ensure copies of results are addressed to the antenatal clinic at the participating hospital and give consideration to a 'dating' ultrasound if clinically necessary.

At the first appointment, the GP should also explain the obstetric shared care protocols, including the timing and nature of the antenatal visits shared between the participating hospital and GP. It is suggested that the GP also spends time early in the pregnancy discussing breastfeeding with the woman.

The following areas must be addressed in the early antenatal appointments.

10.1 History

Personal details and history should be obtained and must be recorded in the SA Pregnancy Record.

10.2 Family History of Genetic Condition

Wherever possible, appropriate genetic counselling is best undertaken prior to a pregnancy. An increasing number of genetic conditions can be screened for and/or diagnosed. If the woman has a relevant history, the GP should contact the GP Shared care Midwife at the participating hospital for advice before any testing.

10.3 Examination

A general examination must be performed. Blood pressure should be assessed (measured on the right arm with the woman seated, with appropriate size cuff i.e. large cuff when arm circumference is > 32 cm). Weight (kg), height (cm) and BMI must be measured and calculated. Any woman who records a BMI > 35 kg/m² or > 125 kg at any time during the pregnancy should be referred to a Specialist Obstetrician for assessment of pregnancy risk and to determine the presence of co-morbidities.

A cervical smear should be performed, if this has not been done within the last 18 months. All findings must be recorded in the SA Pregnancy Record.

10.4 Booking Tests

The GP ordering and booking the antenatal tests must ensure that copies of the woman's results are available at the participating hospital at the time of her first antenatal visit. The

GP should ensure that any investigations requested are followed up and that there is no expectation that these results will be followed up and acted upon by the participating hospital.



10.5 Booking Investigations

The GP should provide appropriate counselling and secure consent before booking the following investigations for the woman:

- Complete blood picture
- Blood group and antibody screen
- Rubella titre
- Syphilis serology
- Hepatitis B screen
- Hepatitis C screen
- HIV test
- Mid stream sample of urine (MSSU)
- Vitamin D Screen for those identified at risk (i.e. women who are darker skinned, wear veils, are housebound or are newly arrived refugees)
- Morphology ultrasound 19 – 20 weeks (if woman has BMI > 35kg/m² - ultrasound at 22 weeks)

All women should be offered screening for chromosomal anomalies. This should be offered in the first and second trimester. The first trimester screening involves nuchal translucency at 11 – 13w6d and biochemistry at 9w0d - 13w6d. The second trimester screening involves biochemistry at 14w0d – 20w6d.

It should be remembered that the first trimester nuchal translucency ultrasound scan is not available at all maternity hospitals, but if clinically appropriate can be ordered through a private medical imaging service.

The blood test is arranged through the SAMSAS (South Australian Maternal Serum Antenatal Screening) Program, which provides services accredited by the Maternal Fetal Medicine Foundation. SAMSAS uses the information from the blood tests and nuchal translucency scan to calculate the risk of chromosomal anomalies for a particular woman and sends the result to the referring doctor.


A pregnant woman with an abnormal maternal serum screening results must be promptly referred to the participating hospital for counselling with a view to offering Chorionic Villus Sampling (CVS) or Amniocentesis.

It is suggested that GPs read and are familiar with the section on “Risks and screening for Down Syndrome” and the table “Maternal Age and Risk”.

It is suggested that the GP discusses Chorionic Villus Sampling (CVS) and Amniocentesis with any woman who has an increased risk of a chromosomal disorder or those with a family history of genetic disorder. This should be undertaken at 11w0d – 13w6d, and amniocentesis should be undertaken at 15-20 weeks. The GP should refer the woman to the participating hospital for appropriate counselling as soon as possible.

10.6 Medications in Pregnancy

The pregnant woman should be advised to only take medications that have been prescribed by a doctor. Likewise, she should not stop any necessary medication without prior discussion with the doctor concerned. The pregnant woman should only use paracetamol



for the treatment of pain and fever, not aspirin or other non-steroidal anti-inflammatory drugs, e.g. ibuprofen.

The GP can seek advice regarding the woman taking long term medication in pregnancy from the Medicines and Drug Information Centre at the Women's and Children's Hospital Pharmacy (Phone (08) 8161 7222 Monday- Friday 9 am – 5 pm).

10.7 Immunisations in Pregnancy

The National Immunisation Program Schedule recommends the influenza vaccination for all pregnant women who will be in their second or third trimester during the influenza season, including those in the first trimester at the time of vaccination. The GP should refer to the NHMRC Australian Immunisation Handbook for further information.

10.8 Supplements in Pregnancy

The GP should consider the following suggestions regarding advice given to the woman for the use of vitamins in pregnancy:

- Calcium, vitamins and fluoride are not usually necessary
- Supplemental iron will only be required if haemoglobin is below 100g/L
- Folic Acid 0.4-0.5 mg should be taken at least one month prior to conception and until 12 weeks gestation. If the woman is at increased risk of neural tube defect, on antiepileptic drugs or has hyperhomocysteinaemia, a daily dose of 5 mg is recommended
- Vitamin D if required, as per the SA Perinatal Practice Guidelines - refer to website at <http://www.health.sa.gov.au/ppg/>
- Iodine 150mcg(µg)/day should be taken during pregnancy and for the duration of breastfeeding

10.9 Perinatal Mental Health

The recognition of depression in the antenatal period is important as it may require treatment during the pregnancy and is a strong predictor for post partum depression. It is appropriate to use the Edinburgh Postnatal Depression Scale to assess antenatal depression (see Section 17.5). The Australian 'National Perinatal Depression Initiative' (NPDI) recommends routine screening of all women in the antepartum and postpartum period using the Edinburgh Postnatal Depression Scale (EPDS) and Antenatal Risk Questions & PNRQ (NPDI 2010)

In metropolitan areas, Hospital midwives will undertake screening of perinatal mental health at the first hospital visit using the Antenatal Risk Questionnaire and EPDS. In country areas, GPs or antenatal clinic Midwives will undertake screening early in pregnancy and refer for assistance as necessary. See Appendix (ANRQ;PNRQ;EPDS and scoring.)

Section 8 of the SA PPG outlines the guidelines for perinatal mental health. Chapter 140b provides specific information about screening for perinatal anxiety and depression. These guidelines should be referred to directly as they provide the most up to date information www.health.sa.gov.au/ppg

EPDS score	0-9	10-12	>13
Likelihood of depression	Considered low	Considered moderate	Considered high Very high scores can be suggestive of a woman in crisis or with a personality disorder. It warrants further investigation
Referral – Tertiary & Rural	Mothers group for support. CYH for help with baby issues. Help involve family and friends for support	GP Perinatal Mental Health Team Post natal Depression Group	GP ACIS - 131465 Emergency Department Perinatal Mental Health Team Consider risk to child/ren
Referral timeframe	As needed	As soon as able	Immediate – especially if risk of suicide / infanticide
Symptoms	Anxiety, particularly about baby and mothering, overwhelmed, lowered mood but some fluctuation and ‘good days’	Anxiety, particularly about baby and mothering, overwhelmed, lowered mood, panic attacks, hopelessness and helplessness, life not worth living, lowered mood most of the time.	Anxiety - vague and not necessarily directed, overwhelmed, labile, low or elevated mood, preoccupied, vague and distracted, psychotic symptoms (delusions and hallucinations), suicidal
Risk assessment	Any risks more related to personality and any concomitant substance use	Risk of suicide but baby often protective. Neglect of baby and/or poor parenting secondary to the depression or underlying risk factors (eg. Child abuse and subsequent personality issues)	May be significant to self and baby due to poor judgement, severe depression, suicidal ideation, command hallucinations or delusional beliefs- needs hospitalisation.
Differential diagnosis	Consider other causes for symptoms such as anaemia, poor sleep and lack of energy. Thyroid function, anaemia or bereavement should be excluded before diagnosing depression/		

Multilingual EPDS is available in over 20 languages from the Western Australian Department of Health at wapmhu@health.wa.gov.au



Referral Services

There are a variety of services available for GP's seeking assistance with managing perinatal mental health issues. Specific services available may depend on geographic location, but these include:

- Assessment and Crisis Intervention Service (ACIS), Statewide Emergency Mental Health Services can undertake urgent assessments, telephone 131465
- GP Psych Support (RACGP) offers urgent psychiatrist advice on patient management by telephone within 24 hours, telephone 1800 200 588
- Helen Mayo House (CYWHS) is a state wide specialist perinatal and infant mental health service. Inpatient, outreach day patient and group treatment programs are available, as well as brief telephone consultations for advice regarding patient care. Contact telephone (08) 8303 1183
- Mental health/perinatal mental health teams at the participating hospitals (see Section 18 for contacts). In 2010 additional metro and rural clinicians have been funded by NPD1 to provide mental health liaison /assessment and treatment.
- GP-PASA 291 offers a one-off psychiatric assessment and management plan in situations where the GP is prepared to continue management after this one-off option. Call 1800 721 899 to arrange an appointment. Further information is available from GPSA (www.gpsa.org.au)
- Access to Allied Psychological Services (ATAPS) Program - The ATAPS Program is administered by Divisions of General Practice to enable General Practitioners to refer clients with high prevalence disorders (e.g. depression and anxiety) for six sessions of evidence-based mental health care, with an option of a further six sessions following a mental health review by the referring GP. The Program is directed towards clients who are financially disadvantaged (eg: unemployed, health care card holder, pensioner, single parent, perinatal mental health and chronically ill), youth and Aboriginal and Torres Strait Islander people. Referral occurs via a faxed Mental Health Treatment Plan (2710) to the Division.
- Contact the local GP Division/Network regarding other available referral options
- Health Services Finder <http://www.hsfinder.sa.gov.au> to look for available services
- Beyond Blue Infoline 1300 22 4636. Beyond blue is a national organisation working to address issues associated with depression & anxiety in Australia. www.beyondblue.org.au
- The Post and Antenatal Depression Association (PANDA) National Helpline provides information, support and referral to anyone affected by depression and anxiety during pregnancy and after childbirth www.panda.org.au



11. SUBSEQUENT ANTENATAL APPOINTMENTS

11.1 Routine Assessment

All designated sections in the SA Pregnancy Record **must be completed and documented in the SA Pregnancy Record at each antenatal visit**, including the following:

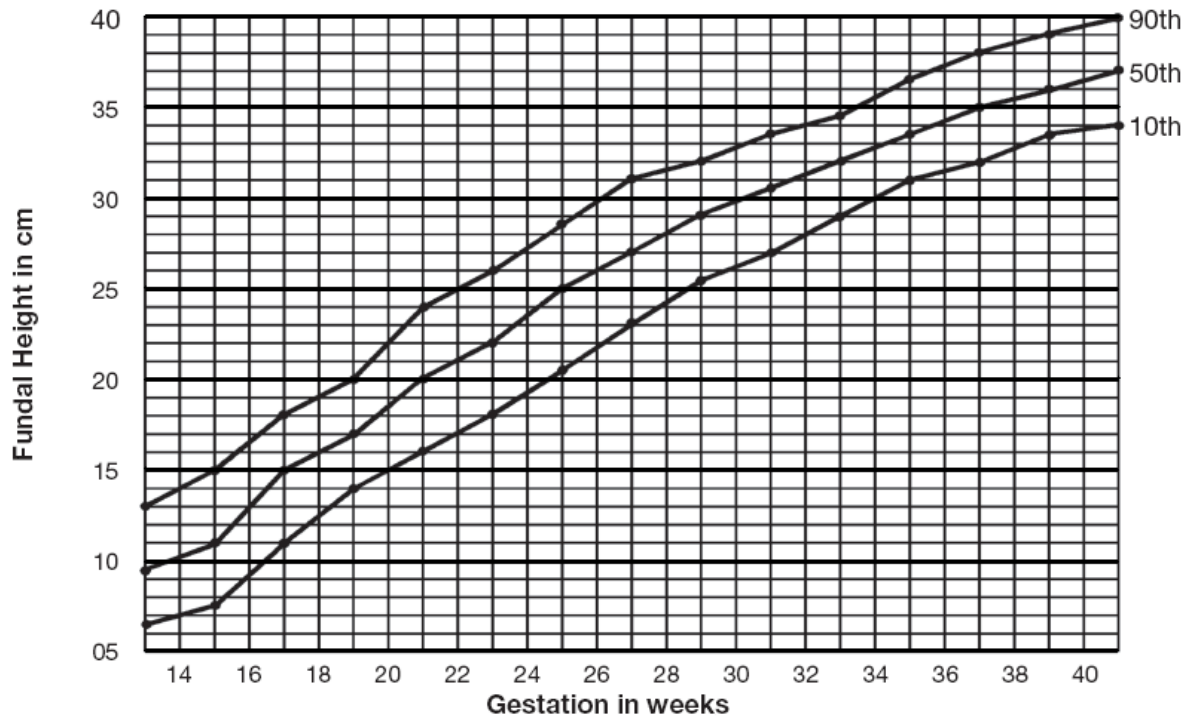
- gestation in completed weeks
- symphysis-fundal height in centimetres, also recorded on graph in SA Pregnancy Record
- blood pressure (measured on the right arm with the woman seated, with appropriate size cuff i.e. large cuff when arm circumference is > 32 cm) at cessation of Korotkoff IV
- presentation and descent (fifths of fetal head palpable) after 30 weeks gestation
- fetal heart and fetal movements
- laboratory test results
- smoking assessment
- use of illicit drugs

It is recommended that the GP refers the woman with any abnormalities of blood pressure, growth or routine tests to the Antenatal Clinic at the participating hospital.

11.2 Guidelines for Measuring Symphysis-fundal Height

Accurate symphysis-fundal height will aid in antenatal assessment. The GP should ensure the following is undertaken to optimise an accurate symphysis-fundal height measurement.

- Lay the woman in the supine position with her head supported on a single pillow. The couch should be flat.
- Measure the highest point of the fundus to the top of the symphysis pubis. Begin measuring from the fundus since this is the more variable end point.
- Measure with the tape scale facing downwards so avoiding less influenced by previous results.
- Record the measurements to the nearest 0.5 centimetre and enter them in the woman's SA Pregnancy Record.
- Plot the measurement against the gestation in weeks on the symphysis-fundal height chart.



Symphysio-Fundal Chart

Taylor P, Coulthard AC, Robinson JS. Symphysio-fundal Height from 12 weeks Gestation. Aust NZ J Obstet Gynaecol 1984; 24 (3):189-91

11.3 Schedule of Visits

It is recommended that the GP schedule the pregnant woman for antenatal assessment as per the guidelines provided in Section 9 of this document.

12. HOW TO MANAGE ABNORMAL RESULTS

Any investigations requested by the GP for the pregnant woman under his/her care must be followed up by the GP concerned. It is the GP's responsibility to follow up all abnormal results irrespective of whether a copy has been sent to the participating hospital.

12.1 Complete Blood Picture

When a pregnant woman presents with a haemoglobin 110g/L or less (particularly if red cell abnormalities are present), fasting iron, folate and B12 studies are recommended as follow up for the woman.

The GP should also consider testing for thalassaemia (haemoglobin electrophoresis) where appropriate. Low white cell or platelet counts should prompt discussion with, and/or referral to the participating hospital.

12.2 Blood Group and Antibody Screen

Any positive test for antibody levels should prompt immediate referral to the participating hospital.

12.3 Rubella Titre

In the instance that the pregnant woman shows a "non immune" level in a Rubella Titre, the GP should discuss with the woman the need for immunisation in the postnatal period.

Under no circumstances should immunisation be given in pregnancy. The pregnant woman should be advised to avoid contact with young children with rubella.

12.4 Syphilis Serology

In the instance that the pregnant woman shows a positive result to Syphilis, the GP should promptly refer the woman to the participating hospital.

12.5 Hepatitis B and C and HIV Tests

In the presence of complications, a pregnant woman with positive result to Hepatitis B, C or HIV may warrant referral to an Infectious Diseases Consultant and/or consultant obstetric advice at the participating hospital.

12.6 Maternal Serum Screening

A pregnant woman with an abnormal maternal serum screening results must be promptly referred to the participating hospital for counselling with a view to offering CVS or Amniocentesis.

12.7 Morphology Ultrasound

In the instance that an abnormality is noted on the Morphology Ultrasound the GP should seek obstetric advice from and/or referral to the participating hospital.

12.8 Oral Glucose Challenge Test

The following guidelines are provided for the GP managing a pregnant woman with suspected glucose intolerance.

If the woman undertaking an un-fasted blood glucose test one hour after a 50g glucose load produces a result of ≥ 7.8 mmol/L, it is recommended that the GP undertakes a fasted 75g glucose tolerance test.


If the woman undertaking a fasted glucose tolerance test produces a result of ≥ 5.5 mmol/L or alternatively a 2 hour fasted glucose tolerance test produces a result of ≥ 8 mmol/L indicates the need for dietary advice, and home glucose monitoring . The GP should diagnose gestational diabetes and immediately refer her to the shared care midwife coordinator at the participating hospital.

A copy of all blood test results should be sent to the participating hospital, where diabetes education and monitoring will promptly be arranged.

For more information refer to the SA Perinatal Practice Guideline "Diabetes mellitus and abnormal glucose tolerance" - www.health.sa.gov.au/ppg

13. HOW TO MANAGE ABNORMAL FINDINGS/SYMPTOMS

While most women will have a normal pregnancy, it is imperative that thorough, comprehensive antenatal assessments are undertaken to ensure early and accurate detection of adverse clinical outcomes. The GP should, where required, contact the



obstetric Registrar/Consultant at the participating hospital for additional management advice.

13.1 Intrauterine Growth Restriction (IUGR)

GPs should ensure they measure the woman's symphysis-fundal height (SFH), and plot this on the Growth Chart in the SA Pregnancy Record (Refer Section 11.2). It should be remembered that if the SFH <10th percentile or serial SFH measurements are flattening, then the GP should refer the woman for an ultrasound and request:

- fetal size/growth compared with previous ultrasound (BPD, abdominal circumference);
- Doppler of umbilical artery flow; and
- amniotic fluid index (ask for normal range).

The ultrasound results should be 'plotted' on the appropriate graph in the SA Pregnancy Record.

Further to this, if any parameters are abnormal, the GP should contact the Obstetric Registrar/Consultant at the participating hospital for advice.

13.2 Large for Gestational Age (LGA)

Management of the Large for Gestational Age fetus can be complex and it is recommended that in this instance the GP refers the woman to the participating hospital for advice.

13.3 Reduced Fetal Movements/Fetal Wellbeing

Assessment of fetal movements is recognised as difficult. If concerned, the GP should refer the woman to the participating hospital for appropriate assessment, including a Cardiotocograph (CTG).


13.4 Hypertension

Hypertension in pregnancy requires careful assessment. Hypertension is defined when the systolic BP is greater than or equal to 140 mm Hg and/or diastolic BP is greater than or equal to 90 mm Hg. Chronic hypertension is diagnosed prior to pregnancy or before 20 weeks. Gestational hypertension is diagnosed after 20 weeks (without pre-existing hypertension). Pre-eclampsia is diagnosed in the presence of gestational hypertension that is also associated with any sign of a multi-system disorder including proteinuria and/or one of the following:

- persistent cerebral symptoms (headache, visual disturbances, increased reflexes);
- epigastric or right upper quadrant pain;
- intrauterine growth restriction; or
- thrombocytopenia or abnormal liver function tests (LFT's).

Before a diagnosis of pre-eclampsia is made it is recommended that the GP completes a comprehensive history and clinical assessment of the pregnant woman to identify symptoms and signs of neurological and other systematic manifestation specific to pre-eclampsia.

A diagnosis of pre-eclampsia dictates immediate referral to the participating hospital. It is recommended in this instance, the GP contact the participating hospital and discuss referral with the on call Obstetric Registrar.



To assist in the diagnosis of pre-eclampsia it is recommended that the GP arranges the following laboratory investigations: Urea & Electrolytes, Complete Blood Examination, LFT's, Urate and Urine Protein Creatinine Ratio.

13.5 Vaginal Bleeding

Bleeding in pregnancy is recognised as a potential emergency. If there are any concerns in this regard, the GP should seek Obstetric advice from the participating hospital.

If the woman is Rh negative she will require Anti-D (refer to Section 14).

13.6 Abnormal Presentation

If the woman presents at >36 weeks gestation and has a suspected breech or transverse lie, the GP should refer her to the participating hospital for an assessment as soon as possible.

14. CARE FOR WOMEN WHO ARE Rh D NEGATIVE

Pregnant women who are Rh D negative fall into two categories: those with and those without Anti-D antibodies. **Women with Rh D antibodies are not suitable for shared care.** The following information therefore relates **only to women who are Rh D negative and have no preformed antibodies.**

Refer to the SA Perinatal Practice Guideline "Anti-D prophylaxis" for more information go to www.health.sa.gov.au/ppg

14.1 Testing for Anti-D Antibodies

The GP should test the woman for blood group antibodies at the first antenatal visit. If the woman is Rh negative and had no Rh D antibodies in early pregnancy, the GP should ensure she is tested again for the presence of antibodies at the end of the second trimester of pregnancy.

Ideally testing should precede administration of Anti-D. However, if both are done at the same clinic appointment, the sequence in which they occur does not matter. It takes some time (2-4 hours) before the Anti-D that has been injected can be detected in the circulation.

The GP should note that if antibody testing was undertaken at 26 or 27 weeks, there is no need to repeat this screening before Anti-D administration at 28 weeks.


The GP should note that further testing later in pregnancy (after administration of Anti-D) is superfluous because the test cannot distinguish between endogenous and administered Anti-D.

14.2 Anticipating Prophylactic Anti-D Administration in Pregnancy

If the woman is Rh D negative and has no preformed Anti-D antibodies, the GP should inform her about the need to prevent Rh D sensitisation. This includes:

- Anti-D administration if a sensitising event occurs in pregnancy;
- routine prophylaxis at 28 and 34 weeks gestation; and
- further prophylaxis after birth if the baby is not Rh D negative.

Recurrent vaginal bleeding requires discussion with/referral to the participating hospital before administering doses of Anti-D.



The GP should note that informed consent for prophylaxis should be obtained early in pregnancy (as soon as the Rh D status has been determined). This is to cover any and all occasions on which Anti-D may become indicated during pregnancy. The woman's consent for prophylaxis must be documented in her South Australian Pregnancy Record.

14.3 Obtaining Informed Consent

The GP should ensure that the woman understands what Rh D sensitisation means and the consequences it may have, if not necessarily for the current pregnancy, then at least for future pregnancies. The woman should be provided with an information leaflet and it should be ensured that she reads and understands it. Refer www.nba.gov.au/pubs/pdf/glines-anti-d.pdf

Antenatal administration of Anti-D to all Rh negative women is recommended by the NHMRC. Administration of Anti-D to all Rh negative women who give birth to an Rh positive baby has been practised for many years in Australia.

As Anti-D is a blood product and is made from human blood, there is a theoretical risk of transmission of blood borne diseases. However, the risk of transmission is extremely small because of the careful selection of blood donors and because of the way in which Anti-D is produced from the blood. More than 1½ million doses of Anti-D have been given in Australia without a single viral transmission thus far. The risk of HIV transmission, for example, is currently estimated to be less than 1 in 5 million Anti-D ampoules administered. Thus far, HIV has never been transmitted through Anti-D injections. There has been one reported case of transmission of Hepatitis C attributed to Anti-D administration, but this occurred overseas.

14.4 Anti-D Prophylaxis for Potentially Sensitizing Events

Potentially sensitising events are defined as any situation in which there is an increased likelihood of fetal red blood cells entering the maternal circulation. These include:

- any uterine bleeding in pregnancy ranging from (threatened) miscarriage to antepartum haemorrhage;
- any abdominal trauma in pregnancy; and
- any uterine or intra-uterine intervention (such as external cephalic version, amniocentesis, etc). However, the responsibility for prophylaxis rests with the hospital at which these interventions are performed.

If a sensitising event occurs before 13 weeks gestation the recommended prophylaxis consists of 250 IU (international units) Commonwealth Serum Laboratory (CSL) Rh D immunoglobulin.

If a sensitising event occurs at or after 13 weeks gestation the recommended prophylaxis consists of 625 IU (international units) CSL Rh D immunoglobulin.

If a woman has a sensitizing event after routine prophylaxis at 28 weeks, she should have a dose of Anti-D regardless of when the prophylactic dose was administered.

14.5 Routine Prophylaxis at 28 and 34 Weeks (with or without previous sensitizing events)

Rh D negative women without preformed Anti-D antibodies should receive 625 IU CSL Rh D immunoglobulin at 28 weeks (after or simultaneously testing for preformed Rh D antibodies) and again at 34 weeks.

Anti-D can be administered before the result of the test for endogenous Anti-D at 28 weeks becomes available provided that the woman had no Anti-D antibodies at the beginning of pregnancy.

Basic principles about the timing of the routine prophylaxis are:

- the Anti-D administration will provide cover for a minimum of 6 weeks
- the risk of sensitisation increases as pregnancy progresses

Thus, if the woman has received Anti-D slightly before 28 weeks, the 34 weeks injection should still be given as planned at 34 weeks.

If the woman has missed out on receiving Anti-D at 28 weeks (for example because they did not attend) Anti-D should be given at the next visit (better late than never). In that case, the second injection should be planned 6 weeks later, provided that the woman is still pregnant.

If the woman has received Anti-D for a potentially sensitising event, e.g. antepartum haemorrhage or trauma, before 28 weeks, she should still receive Anti-D at 28 and 34 weeks as scheduled unless the Anti-D for the sensitizing event was administered less than 1 week before the prophylactic dose being due.

14.6 Administration of Anti-D

Rh D immunoglobulin should be given slowly by deep intramuscular injection, using a 20 gauge needle.

Administration of Anti-D must be documented in the woman's SA Pregnancy Record.

If the Rh D status of the woman is known at the time of her first visit at the participating hospital, the midwife coordinator at the hospital will ensure that the shared care GP receives the Anti-D for routine administration at 28 and 34 weeks provided that the woman has given her consent to the prophylaxis.

14.7 Table: Summary of Dose Recommendations for Rh D Negative Women

	Dose of CSL Rh D immunoglobulin
<i>Sensitising events</i>	
before 13 weeks	250 IU
at or after 13 weeks	625 IU
<i>Routine prophylaxis</i>	
at 28 and at 34 weeks	625 IU



15. LABOUR AND BIRTH

Roles and Responsibilities

The care of the woman during labour and birth is the responsibility of the maternity team at the participating hospital.

The participating hospital is expected to provide a discharge summary of the pregnancy and birth outcome for the GP at discharge of the woman. Some hospitals perform this task electronically.

16. POSTNATAL CARE

Breastfeeding advice should be readily available during the immediate postnatal period whilst the woman is in hospital, and follow-up support post discharge is commonly arranged through the Domiciliary Midwifery Service.

Child and Youth Health nurses will attempt to make a Universal contact visit with the post natal mother and baby either in the hospital or home within 2 weeks of birth. It is estimated that 90% of women are covered by this visit. If any issues are identified during this visit the GP will be informed.

Women should be advised to seek follow-up postnatal visits with their GP at 2 and 6 weeks, unless needed prior to this. Some women may be required to return to the participating hospital if they have experienced particular problems during pregnancy or childbirth. This appointment should be made for the woman prior to discharge.

During the postnatal period, the GP may identify problems that require referral back to the participating hospital or to a Paediatrician.

16.1 Postnatal Visits – Baby

The GP should endeavour to see the woman and baby **two weeks** after the birth. This is an opportunity to check how the woman is coping, sleeping and what support is available to her, as well as the baby's health and development.

The GP take a **history from the mother** about the baby including:

- pregnancy, birth and delivery history including any complications
- recheck family history
- neonatal history, e.g. resuscitation needed, nursery admission
- feeding – breast/bottle/mixed; frequency; any difficulties
- feeding pattern – vomits/spills, “wind” colic, stools
- behaviour between feeds
- CYH contact/centre
- baby safety checks and SIDS advice, including sleeping (site, position), hygiene (bathing site, frequency), travel (pram, car)
- family and social supports
- any questions or concerns the mother/father/carer may have

The GP should **examine the baby** and review the following:

- weight, length and head circumference including percentiles
- head – shape, mobility, control
- eyes – movement, conjunctiva, cornea
- mouth – tongue, cheeks, ? thrush
- CVS – colour, heart sounds, murmurs, pulses (femoral)
- respiratory – effort, noises such as stridor or cough
- GIT/GUT – umbilicus, abdomen, groin (hernias), perineum, genitalia
- CNS – alertness/awareness, movement, tone
- MSS – jaundice, skin rashes, hips, feet position
- Observe parent’s handling technique and attachment (confidence, interaction)

The GP should **document the visit**, including examination findings, in the baby’s **CYH Child Health Record** (“blue book”).

At the **six-week visit** the GP should examine and review the **baby** as per the two week visit outlined above, as well as:

- check if any parental concerns about baby’s hearing or vision
- discuss immunisation plans
- developmental screen/guidelines
- eyes – appearance, fixation, following

The six-week visit should also be documented in the baby’s **CYH Child Health Record**.

The GP should **consider referral** if appropriate for the mother or baby:

- Children, Youth & Women’s Health Service (Child & Youth Health)
- Paediatrician
- community health centre
- lactation consultant
- Australian Breastfeeding Association
- social worker


16.2 Postnatal Visits – Mother

The GP should endeavour to assess the woman **two weeks** after the birth to examine the woman and review the following:

- lochia
- BP (if hypertension during pregnancy)
- examine perineum +/- abdominal wound (if caesarean section delivery)
- breastfeeding
- contraception
- apply the Edinburgh Postnatal Depression Scale, if necessary (see Section 10.8)

The GP should endeavour to assess the woman and baby again, **six weeks** after the birth. The GP should review the woman as per at the two week visit, as well as:

- intercourse
- urinary or faecal incontinence

- 
- breasts, nipples
 - abdomen – fundus, uterus involuted, caesarean section delivery scar
 - perineum, vaginal examination, uterus involuted, Pap smear if due
 - follow-up on pregnancy complications e.g. gestational diabetes, hypertension
 - apply the Edinburgh Postnatal Depression Scale, if necessary (see Section 10.8)

These visits can be documented on the **Postnatal Check Forms** that follow.

Consideration should be given to any referrals that may be appropriate (as per 10.8).

16.3 Two Week Postnatal Check Form (Mother)

General Practitioner to complete

(Date of Consult)

..... Weeks postnatal

Mother's Last Name

Mother's First Name

D.O.B

* (Mother to fill in before seeing doctor)

1. How are you feeling about yourself?
.....
2. How are you feeling about the baby and how is baby going?
.....
3. How are you sleeping?
.....
4. How is your partner feeling?
.....

* (Doctor to complete: this is a guide for assessing the mother)

1. Review above questions with the mother
2. Lochia: Normal Excessive
3. Breasts and Nipples: Breastfeeding Cracks/Grazes
Suppression Pain/discomfort (? Mastitis)
4. Contraception: Yes No
5. Perineum: (healing/sutures/pain).....
6. Family supports/relationships with:
7. National Perinatal Mental Health Initiative Tool: Yes No
Result:
8. Blood Pressure:
9. Perineum: (healing/sutures/pain)
10. Abdominal Wound: (sutures left?)
11. Referral: Child & Youth Health Australian Breastfeeding Assoc.
Lactation Consultant Social Worker
12. Other Issues (e.g. headaches, backache, haemorrhoids, incontinence)
Comments:.....

16.4 Six Week Postnatal Check Form (Mother)

General Practitioner to complete

(Date of Consult)

Mother's Last Name

Mother's First Name

D.O.B

1. General Health / Comments

How do you feel about yourself and your baby? How is your partner coping? Supports?

.....

2. Feeding: Breast Formula Mixed
3. Rubella Status: Immune Not Immune Vaccinated: Yes No
4. Intercourse: Resumed: Yes No Problems: Yes No
5. Contraception: Yes: No
6. Incontinence: Urinary: Yes No Faecal: Yes No
7. Follow up complications: *eg gestational diabetes, hypertension* Yes No

.....

8. Last Pap Smear: Date: Result:

9. Menstrual Cycle has returned? Yes No

10. B.P:

11. Breast/Nipples: Breastfeeding Cracked/grazes
Suppressions Pain/Discomfort

12. Abdomen Palpation: Wound (*if C- section*):

13. Perineum/Pelvic Examination: Vagina Vulva Pelvic Floor
Adnexae Uterus Perineum

14. National Perinatal Mental Health Initiative Tool

Result and action taken: Yes No

15. Referrals to other services:

Child & Youth Health

Community Health

Lactation Consultant

Australian Breastfeeding Assoc.

Social Worker

Other (*please state*).....

16. Other Issues (*e.g. headaches, backache, haemorrhoids, incontinence*)

Comments:



17. FURTHER INFORMATION FOR THE GP

17.1 Perinatal Practice Guidelines

The SA Perinatal practice Guidelines are available on the web at <http://www.health.sa.gov.au/PPG>. As they are continually being updated web access is the most appropriate means of accessing this information. The perinatal practice guidelines cover a broad range of topics that have not been repeated in these protocols.

17.2 Patient Assistance Transport Scheme (PATS)

The Patient Assistance Transport Scheme is an important access and equity program administered by Country Health SA in SA Health. The Scheme particularly considers those in greatest need and is administered with sensitivity to meet the financial and medical circumstances of people seeking assistance. Addressing the needs of Aboriginal and Torres Strait Islanders is seen as a specific priority.

Through PATS, eligible patients and their escort may be reimbursed for some travel and accommodation costs. This applies when South Australian families need to travel more than 100 kilometers (each way) to receive specialist medical treatment not available at a closer centre.

People who are eligible for reimbursement will need to pay a nominated fee for any travel costs and the cost of the first night's accommodation. They may also need to pay the cost of subsequent accommodation, depending on the cost of that accommodation.

Social workers at the metropolitan public maternity hospitals are able to help patients and their families with accommodation options and accessing the PATS. The telephone numbers for the Social Work departments of each hospital are listed in Section 16.

To optimise safety and birth outcomes, women who live more than a two hour drive from their maternity hospital should be advised to temporarily relocate closer to the hospital from 36 weeks of pregnancy.

NB: The GP must sign the PATS form before the woman travels to see her specialist to ensure the woman can qualify to receive the reimbursement.

Adelaide PATS Office (includes advice about accommodation and support services)

Health Consumer Support Service
SA Health
11 Hindmarsh Square
ADELAIDE SA 5000

(08) 8226 6550 Free call (office hours) on 1800 188 115

Application forms are also available from regional PATS offices (see below for details), or from local hospitals:

Mount Gambier & District Health Services	(08) 8721 1551
Port Augusta Hospital & Regional Health Service	(08) 8648 5500
Riverland Regional Health Service	(08) 8580 2400
Whyalla Hospital & Health Services	(08) 8648 8190

17.3 Infections

The woman's pregnancy may be complicated by any of the common infections. There are however infections which can impact adversely on fetal well-being. Discussion with an Obstetric Registrar/Consultant is required where these infections are suspected or there is a history of exposure.

Infections include:

- Coxsackie (Hand, Foot and Mouth Disease)
- Cytomegalovirus
- Epstein-Barr virus (Glandular Fever)
- Genital herpes simplex (HSV)
- Hepatitis B
- Hepatitis C
- HIV/AIDS
- Listeria
- Measles and measles contacts
- Mycobacterium tuberculosis
- Parasitic diseases
- Parvovirus (Slapped Cheek syndrome)
- Rubella infection
- Syphilis
- Toxoplasmosis
- Varicella-zoster (Chicken Pox)

For more information refer to the South Australian Perinatal Practice Guidelines *Section 3 Infection in Pregnancy* at www.health.sa.gov.au/ppg.

17.4 Management of Minor Conditions

The GP may find the following information useful when advising the pregnant woman on the following minor pregnancy-related conditions.

Morning Sickness

Morning sickness can be managed by:

- Eating small, frequent meals and drinking plenty of fluids.
- Taking Vitamin B6, 25mg three times daily.
- Taking Stemetil –oral or suppository if necessary.
- Receiving IV fluids (if the woman is becoming dehydrated).
- Using acupuncture and ginger.

Heartburn

Heartburn can be managed by:

- Eating small, frequent meals. Antacids or ranitidine may be used as necessary.
- Avoiding fatty foods, coffee, tea, and alcohol.
- Sleeping propped up or tilting head end of bed up.
- Avoiding eating prior to bedtime.



Constipation

Constipation can be uncomfortable during pregnancy and after the birth, but can be helped by:

- Eating plenty of fresh fruits, vegetables and wholegrain breads and cereals.
- Drinking plenty of water and exercising regularly.
- Taking extra fibre if needed.

Tiredness

Pregnant women may be more tired than usual in the first few weeks of pregnancy and need more rest than usual. The GP can recommend the pregnant woman tries:

- Lying down during the day or going to bed early.
- Lightening the load when doing household chores
- Sitting down while working, whenever possible.

Body Temperature

Any febrile illness in pregnancy should be treated with Paracetamol (not Aspirin) in appropriate doses. Pregnant women who exercise in pools should be advised they ensure the water temperature is less than 30°C and to avoid hot spas and saunas. This is particularly important in early pregnancy.

Leg cramps

Leg cramps in pregnant can be alleviated by:

- Increasing fluid intake.
- Calcium supplementation.
- Drinking a small glass of tonic water or bitter lemon before bedtime.

Dental care

The GP should advise the woman to attend the dentist for a check up if she has not had a dental examination with in the last six months or shows evidence of dental disease. Examination of the woman's mouth is now a requirement for the SA Pregnancy Record.


17.5 Edinburgh Postnatal Depression Scale (EPDS) (Refer Section 10.9)

Instructions for users

- The mother is asked to underline which comes closest to how she has been feeling in the previous seven days.
- All 10 items must be completed.
- Care should be taken to avoid the possibility of the mother discussing her answers with others.

How are you feeling?

As you have recently had a baby, we would like to know how you are feeling now. Please underline the answer which comes closest to how you have felt in the past seven days, not just how you feel today.



Here is an example, already completed:

- I have felt happy
- Yes, most of the time
- Yes, some of the time
- No, not very often
- No, not all

In the past seven days

1. I have been able to laugh and see the funny side of things:

As much as I always could
Not quite so much now
Definitely not so much now
Not at all

2. I have looked forward with enjoyment to things:

As much as I ever did
Rather less than I used to
Definitely not so much now
Hardly at all

3. I have blamed myself unnecessarily when things went wrong *

Yes, most of the time
Yes, some of the time
Not very often
No, never

4. I have felt worried and anxious for no good reason:

No, not at all
Hardly ever
Yes, sometimes
Yes, very often

5. I have felt scared or panicky for no good reason *


Yes, quite a lot
Yes, sometimes
No, not much
No, not at all

6. 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 quite well
No, I have been coping as well as ever

7. 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

- 
8. **I have felt sad or miserable ***
Yes, most of the time
Yes, quite often
Not very often
No, not at all
9. **I have been so unhappy that I have been crying ***
Yes, most of the time
Yes, quite often
Only occasionally
No, never
10. **The thought of harming myself has occurred to me ***
Yes, quite often
Sometimes
Hardly ever
Never

Scoring

Response categories: 0, 1, 2, and 3 according to increased severity of the symptom. Items marked with an asterisk * are reverse scored (i.e. 3, 2, 1, 0). The total score is calculated by adding together the scores of each of the 10 items.

Mothers who score above 12 are likely to be suffering from a depressive illness of varying severity. The EPDS should not override clinical judgement. A careful clinical assessment should be carried out to confirm the diagnosis. The scale indicates how the mother has felt during the previous week and in doubtful cases, it may be usually repeated after two weeks.

The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

17.6 Risks and Screening for Down Syndrome

Most participating hospitals do not undertake First Trimester Screening to assess a woman's risk of her fetus having Down syndrome. The GP should make arrangements with the woman to have this screening between 11w0d – 13w6d. The following information as per SAMSAS is provided to assist with the process and is available from the website www.wch.sa.gov.au/services/az/divisions/labs/geneticmed/samsas.html

Requesting First Trimester Screening

Two request forms are required, one for the blood analysis and one for the nuchal translucency ultrasound scan.



Blood Analysis

1. 5-10 mls clotted blood sample, taken between 9w0d – 13w6d is required. A list of collection centres is provided on the reverse of the SA Maternal Serum Antenatal Screening (SAMSAS) request form.
2. Use a SAMSAS request form, telephone (08) 8161 7285 if you require some of these:
 - (a) the test request is for **'first trimester screen'** – however, SAMSAS recommends ticking both the 'first trimester screen' and the 'second trimester screen' boxes on the request form. This will assist with provision of the appropriate screen if the gestation on ultrasound scanning is different to expected gestation.
 - (b) complete the gestational age information, the gestation must be between 9w0d – 13w6d
 - (c) specify the ultrasound practice performing the nuchal translucency scan
 - (d) refer **patient to the Privacy Disclosure on the SAMSAS request form**
 - (e) give the patient the SAMSAS pre-test information booklet
 - (f) send the blood specimen to Women's and Children's Hospital. **For interstate or remote areas check with SAMSAS on what services are available.**

Ultrasound

3. Book a Nuchal Translucency scan with the imaging group of choice. The fetus must be between 11w0d – 13w6d gestation at the time of the scan.
4. Complete an ultrasound request form, specifying **"risk of fetal abnormality"**; and **"Copy to SAMSAS"**. To comply with the National Privacy Legislation and Fair Information Code, refer **patient to the Privacy Disclosure on the SAMSAS request form.**

SAMSAS will coordinate the results with the ultrasound practice and you will receive a single report giving the risks calculated for the pregnancy. Post-test information booklets are provided with all reports issued by SAMSAS on pregnancies found at increased risk of fetal abnormality.

Availability of first trimester screening

Combined ultrasound and biochemistry screening is not at present offered through all hospitals/clinics. Check with the hospital/clinic concerned.

Costs

For privately insured patients SAMSAS continues its policy of accepting 'Medicare only' for the serum biochemistry analyses. There may be a gap payment for the ultrasound measurement. Check with the practice providing this service.

Second trimester screening

Screening for the risk of fetal Down syndrome and neural tube defects should be undertaken between 14w0d and 20w6d. The GP should remember that if a pregnancy is screened in first trimester then any request in second trimester should be confined to **neural tube defect (NTD) screening only**. First trimester screening does not include a risk assessment for fetal NTDs.

Prenatal Screening for Down Syndrome

Table: Down Syndrome Maternal Age & Risk Assessment

Maternal Age at Delivery Years	Maternal Age Risk at Delivery 1:n	Maternal Age at Delivery Years	Maternal Age Risk at Delivery 1:n	Maternal Age at Delivery Years	Maternal Age Risk at Delivery 1:n
15	1663	26	1433	36	412
16	1659	27	1367	37	329
17	1654	28	1288	38	259
18	1647	29	1195	39	202
19	1638	30	1089	40	156
20	1627	31	975	41	119
21	1611	32	855	42	91
22	1591	33	733	43	69
23	1564	34	617	44	52
24	1531	35	509	45	40

Source: SAMSAS Program December 2003, www.wch.sa.gov.au/services/az/divisions/labs/geneticmed/samsas.html (abridged version)

17.7 Chorionic Villus Sampling and Amniocentesis

Chorionic villus sampling (CVS) and amniocentesis can be used early in pregnancy to detect whether the fetus has a chromosomal abnormality. Both techniques are based on obtaining some cells from the fetus for chromosomal analysis. With chorionic villus sampling, cells are obtained from the developing placenta (chorion); with amniocentesis cells are obtained from the amniotic fluid. The advantages and disadvantages of each technique can be summarised as follows:

- overall the risk of miscarriage after the procedure is approximately 1:100 with chorionic villus sampling and 1:200 with amniocentesis.
- chorionic villus sampling is performed between 11 and 13+6 weeks; amniocentesis after 14 weeks.
- results from chorionic villus sampling are usually available within a few days of the procedure; final results from amniocentesis can take two weeks.
- because chorionic villus sampling detects an abnormality earlier than amniocentesis early termination of the pregnancy is possible.
- Rhesus negative women require Anti-D at the time of chorionic villus sampling or amniocentesis.

Chorionic Villus Sampling (CVS)

CVS is performed as an outpatient procedure. A small sample of chorionic villi is obtained in a syringe, via either the abdominal wall or the vagina route under ultrasound guidance.

The procedure is not painful and does not require fasting. After the procedure, patients should be advised to rest for 48 hours, abstain from strenuous activity or exercise, including intercourse and contact their booking hospital if they experience any cramping pain, blood loss or loss of clear fluid. Patients should be instructed to contact their participating hospital if they develop a fever, bleeding or loss of fluid.



Amniocentesis

Amniocentesis is performed as an outpatient procedure after 14 weeks gestation, as there is an increased risk of fetal malformations if carried out earlier. A sample of amniotic fluid is obtained for chromosomal analysis via the abdominal route under ultrasound guidance. Sometimes the procedure may need to be postponed for up to a week if there is inadequate amniotic fluid.

The procedure is not painful and does not require fasting. After the procedure the patient should be advised to abstain from strenuous activity for about 48 hours and to avoid intercourse for a week.

About 1 in 10 women experience some cramping after the procedure, which can usually be managed with simple analgesia. Patients should be instructed to contact their participating hospital if they develop a fever, bleeding or loss of fluid.

18. INFORMATION RELATING TO INDIVIDUAL HOSPITALS

While the participating hospitals maintain the GP OSC Program in accordance with agreed standards and protocols, each unit has some specific services that the GP may wish to discuss with the pregnant woman and/or her family.

18.1 Flinders Medical Centre (FMC)

The Flinders Medical Centre (FMC) provides a comprehensive perinatal service for women, neonates and their families, catering for 'normal' and high risk' pregnant women and their babies. The management model at FMC is multidisciplinary and provides for the care for all pregnancy related and neonatal illnesses. Some of the perinatal services provided at FMC include:

Obstetric Clinics

Clinics are conducted mornings and afternoons at FMC and afternoons and evenings at the Noarlunga Health Service.

Medical Complications of Pregnancy Clinics

Clinics are conducted jointly by obstetric registrar/consultants and other medical specialists for women with complicated pregnancies.

Young Women's Pregnancy Clinic

Designed specifically for young, pregnant women, this clinic provides an informal opportunity to meet with midwives, a peer support worker and other young women.

Childbirth and Parenting Education

This program offers a wide range of childbirth classes designed to meet the woman's needs.

Mood Disorders Clinic

A mental health nurse provides support for women during and after their pregnancy. The nurse also provides in-patient and home visits. Women may self refer to the clinic.

Continence Clinic

Conducted by a midwife to assess, educate and support women with urinary incontinence.



Southern Midwifery Group Practice

This is an option for pregnant women assessed as low risk of complications. Women are supported through pregnancy and birth by a primary midwife team of midwives.

Maternity Outreach Service

Through this service, midwives provide a home visiting service for women during their pregnancy and after the birth.

Postnatal Support Service

This service is conducted by a lactation consultant/midwife and is designed to help with unexpected feeding and settling difficulties that may arise in the early days after birth.

Multiple Birth Support Service

Through this service, a midwife is available to support and educate families with multiple births.

Baby-Friendly Hospital Initiative (BFHI) Accredited

A World Health Organisation (WHO) initiative to promote, support and encourage breastfeeding. FMC has been accredited as a BFHI hospital since 2003.

Telephone and fax lists for Flinders Medical Centre

Flinders Medical Switchboard	(08) 8204 5511	Fax: (08) 8204 5450
Birthing & Assessment (BAS) Unit	(08) 8204 5511	– ask for BAS
Childbirth Education	(08) 8204 4680	
Continence Nurse	(08) 8204 4680	
Maternity Outreach	(08) 8204 5189	
Mental Health Nurse	(08) 8204 5511	Pager: 2361
Multiple Birth Co-ordinator	(08) 8204 5511	Pager: 2761
Obstetric Bookings	(08) 8204 5197	Fax: (08) 8204 5210
Obstetric Clinic Appointments	(08) 8204 5197	
Postnatal Support Service	(08) 8204 4216	
Radiology (Ultrasound appointments)	(08) 8204 5367	
Shared Care Midwife Coordinator	(08) 8204 4650	
Noarlunga Health Service	(08) 8384 9222	
Noarlunga Health Service Maternity	(08) 8384 9454	

18.2 Lyell McEwin Hospital (LMH)

The Lyell McEwin Hospital (LMH) provides a comprehensive perinatal service for women, neonates and their families, catering for 'normal' and 'high' risk pregnant women > 33 weeks gestation, including care for most pregnancy related illnesses. The service also accommodates care for singleton and/or twin babies > 1500gms. The management model is multidisciplinary and provides for the holistic needs of mothers and babies. LMH is an accredited Baby-Friendly Hospital.



Antenatal Clinics

Midwives manage the low-risk antenatal clinics in the birthing and assessment unit. The obstetric registrar/consultants conduct the medium/high-risk antenatal clinics in conjunction with medical staff in training programs. In addition, a midwife clinic is undertaken in the family clinic attending to those women who are scheduled for an elective caesarean section delivery, or are planning to have an epidural in labour or do not wish to birth with the assistance of the team midwifery model of care.

High Risk Pregnancy

Antenatal clinics are conducted jointly by obstetric consultants/registrars and other medical specialists for women with complicated or 'high risk' pregnancies.

Pre-Pregnancy Counselling and Recurrent Pregnancy Loss Clinic

This clinic is conducted weekly by an Obstetric Consultant for women who have suffered recurrent pregnancy loss. For appointments phone (08) 82820255.

Young Women's Pregnancy Clinic

This clinic is designed specifically for young, pregnant women and provides an informal opportunity to meet with midwives, peer support workers and other young women. This care can be combined with the GP OSC SA.

Childbirth and Parenting Education

A wide range of childbirth classes designed to meet the woman's needs, lifestyle and information preference are provided. Tours of the unit are conducted on the 1st and 3rd Monday of the month at 6pm or by individual request at a mutually convenient time for staff and the woman and her family.

Perinatal Mental Health Service

A mental health team consisting of a mental health midwife nurse practitioner and/or a mental health midwife plus a psychiatrist provide support for women during and after their pregnancy. Women may self refer to the service. The midwife also provides in-patient and home visits. Support groups are also run and coordinated on site, by the team 'You Are Not Alone' (YANA).


Booking Procedures for Shared Care

To book a woman for Shared Care, the GP should send a fax to the Family Clinic on (08) 8282 1612 marked "Attention Shared Care"; or alternatively, as early as practical and especially before 12 weeks gestation, telephone the Family Clinic on (08) 8282 0255 and ask for an appointment for "shared care new" (currently these are on Monday, Wednesday, and Friday). Prompt appointments can be arranged at short notice via a phone call to the Midwife Coordinator on (08) 8182 9000, pager 6470.

Birth Centre/Team Midwifery

This is an option for women assessed as low risk of complications and who prefer a more natural approach to childbirth with little intervention. Women and their families are supported through pregnancy and birth by a team of midwives who support active birth in a relaxed, homely environment.

Women wishing to use the birth centre and have shared care with their GP ideally should make their wishes known at the shared care booking visit. If undecided at this time, later bookings can be made by negotiation. An initial visit to the team midwives should be made



at 30 weeks so that the woman can be allocated a birthing team. Women usually continue to see their GP until the 36 week consultant visit then transfer to the team midwives for remaining visits. This plan is negotiable.

Complex Case Multidisciplinary Meeting

A weekly forum presents complex cases and discusses antenatal and postnatal management for women with complex medical and/or psychosocial problems.

This multidisciplinary team consists of obstetricians, paediatricians, shared care liaison midwife, midwives, mental health midwives, social workers, CYH, Families SA, Anglicare, Drug and Alcohol Services (DASSA) representative and invited care providers, as the need arises.

Continence Clinic

Coordinated by an accredited continence midwife practitioner and a team of continence nurse advisors, to assess, educate and support women with continence issues (both faecal and urinary). All women who have had previous 3rd or 4th degree tear or significant perineal trauma are referred to this team antenatally for support and advice regarding the mode of delivery for the current pregnancy. This clinic interlinks with the colorectal and urodynamic team.

Northern Women's Community Midwifery Program

A community based midwifery service, offering continuity of midwifery care throughout pregnancy, labour and the postnatal period. It is based in the Elizabeth area and is managed by the Lyell McEwin Hospital. Contact (08) 8252 3711 for more information.

Mothercarer Program

The LMH is the only metropolitan maternity service in Australia to offer the Mothercarer Program. Women who are discharged after a 'short stay' are eligible for the Program which provides a carer in the home for up to 6 hours per day for up to 6 days, and a daily visit by the domiciliary midwife. The Mothercarer, trained in mother and baby basic health, will link with the home visiting midwives and also assist with normal household duties.

Breastfeeding Day Assessment and Support Unit

Available to all breastfeeding mothers of babies of up to 8 weeks. The unit is staffed by midwives who are lactation consultants or who have completed an appropriate breastfeeding course.

Baby Friendly Hospital Initiative (BFHI) Accredited

A World Health Organisation (WHO) initiative to promote, support and encourage breastfeeding. LMH has been accredited as a BFHI hospital since 2000.

Telephone list for Lyell McEwin Hospital

Hospital number	(08) 8182 9000
O&G Department Office Tel	(08) 8182 9306
O&G Department Office Fax	(08) 8182 9337
Birthing Centre Low/Team Midwives	(08) 8182 9326
Clinic Midwife	(08) 8282 1613
Clinic Receptionist	(08) 8282 1611
Contenance Midwife	(08) 8282 1497
High-risk pregnancies (O&G Dept)	(08) 8182 9306 (Professor Dekker's secretary)
Mental Health Midwife	(08) 8182 9000 Pager: 6006 (Mon-Fri)
Phone appointments	(08) 8282 0255
Shared Care Midwife Coordinator	(08) 8182 9000 Pager: 6470 Mobile 0417840062 Email: jennifer.niven@health.sa.gov.au
Ultrasound appointments	(08) 8182 9999
Antenatal Educator	(08) 8182 9431
Birthing Assessment Unit High	(08) 8182 9111
Women's Assessment Unit	(08) 82821301
Home Visiting Midwifery Service	(08) 81829252 Email: lee.pilichiewicz@health.sa.gov.au

18.3 Modbury Hospital (MH)

Modbury Hospital does not currently provide a Birthing Service.

Antenatal Clinics

Currently antenatal clinics are conducted 4 mornings per week Monday to Thursday by consultants/registrar. Midwives clinic is conducted Monday to Thursday mornings.

Shared care bookings are conducted on Tuesday and Thursday.

Normal clinic booking visits are conducted daily.

Medical Complications of Pregnancy Clinic

This clinic is conducted weekly by an obstetric physician specialising in joint management with the obstetric registrar/consultant of most medical complications.

Obstetric Psychiatry Clinic

This clinic is conducted weekly by a psychiatrist, providing both antenatal and postnatal care for those women who feel the need for counselling regarding any psychological issues or concerns, such as postnatal depression.

Antenatal Classes

Classes are held in conjunction with the antenatal educator from Lyell McEwin and are held at Modbury in the evenings. A dedicated breast-feeding education session is held fortnightly on Friday afternoons. For bookings phone (08) 8161 2154.

Breastfeeding Support Clinic

This clinic is conducted daily Monday to Friday 8.30am-3.30pm for women, with babies up to 8 weeks old, who have had their antenatal care through Modbury or Lyell McEwin.

Telephone and Fax lists for the Modbury site

Hospital Number	(08) 8161 2000	Fax: 8161 2227
Antenatal Appointments	(08) 8161 2593	8.30am - 4.30pm
Shared Care Coordinator	(08) 8182 9000	Pager 6470 Mobile 0417 840 062
	Email: jennifer.niven@health.sa.gov.au	
Antenatal Educator	(08) 8182 9431	

18.4 The Queen Elizabeth Hospital (TQEH)

The Queen Elizabeth Hospital (TQEH) does not currently provide a birthing service. Women can receive antenatal care (2 half day clinics per week) by midwives at TQEH, with a birthing service and postnatal care provided at the Women's and Children's Hospital (WCH).

Midwifery Group Practice

Women cared for by the TQEH maternity staff can be offered a midwifery group practice model. This model of care offers women access to a team midwifery model. Women need to be triaged in the 1st trimester and booked through TQEH or directly with WCH if they wish to have this care.

Mental Health Midwife

The Mental Health Midwife can be contacted via TQEH pager number 20515, and provides support for women who are at risk of developing post-natal depression, or who have a past history of mental illness. An antenatal and postnatal support group has also been established in the western suburbs, facilitated by a coordinator.

Continence Clinic

The clinic midwives work in conjunction with specialised medical staff with women who have, or develop, continence problems resulting from pregnancy or birth. This service also includes education, assessment and support for all women with a continence issue. The clinic is run on Monday and interlinks with the colorectal and gynaecology teams.

Antenatal Educator

The antenatal educator provides education to women and their families on an individual basis or as a group session. Special group classes are available for teenagers. Other non-English speaking background women are offered one to one education sessions with an interpreter and the educator.

Telephone and Fax lists for The Queen Elizabeth Hospital

Antenatal Appointments	(08) 8222 7050 (8am to 4pm)
	Fax: 8222 7986
Antenatal Class Bookings	(08) 8222 7050
Continence Nurse Advisor	(08) 8222 6062 (9am to 4pm)
Mental Health Midwife	(08) 8222 6000 pager 6454
Shared Care Midwife Coordinator	(08) 8161 7000 pager 4259
Arranged through WCH	
Social Worker	(08) 8222 7250
Ultrasound Appointments	(08) 8222 6894

18.5 Women's and Children's Hospital (WCH)

The Women's and Children's Hospital (WCH) provides a comprehensive obstetric service, providing all levels of care.

Medical Antenatal Care (Public Patients)

During pregnancy, women using this service will regularly visit the Women's Outpatients Department where they will be cared for by a combination of Doctors and Midwives. The birth will occur in the hospital's delivery suite, and care will be provided by the duty medical and midwifery team.

Midwives Clinic (Public Patients)

Women who attend the midwives clinic will see the same midwife for most visits. Women may ask to see a doctor at any time during their pregnancy. The birth will occur in the hospital delivery suite, and care will be provided by the duty medical and midwifery team.

Shared Antenatal Care with a General Practitioner (Public Patients and Private Patients)

It may be possible for women to visit their own GP for most of their pregnancy and after the birth of their baby, provided their GP is accredited by the WCH. Women will need to visit the hospital at least once before the 20th week of their pregnancy and again at 36 and 40 weeks. From 40 weeks all visits will be at the WCH. The WCH encourage women to see their GP two weeks and again six weeks after the birth of their baby.

Midwifery Group Practice (Public Patients)

Sometimes known as "Caseload Midwifery", Midwifery Group Practice (MGP) enables women to be cared for by the same midwife (primary midwife) supported by a small team of midwives throughout their pregnancy, during childbirth and in the early weeks at home with a new baby. The primary midwife will continue to provide care regardless of the need for medical involvement. Where a baby is born will depend on availability of rooms and specific needs at the time of labour.

Medical Antenatal Care (Private Patients)

Women may be referred for private antenatal care at the Women's and Children's Hospital. Patients will require a letter of referral addressed to one of the participating obstetricians by name. Further information can be obtained by phoning (08) 8161 7633.



High Risk Pregnancy Service

This service provides assessment and management for women with pregnancies complicated by medical, surgical or psychiatric problems, or by fetal complications. Obstetric registrar/consultants provide the care.

Maternal Fetal Medicine Unit

The Maternal Fetal Medicine Unit at the Women's and Children's Hospital in Adelaide provides a sub-specialist referral centre to women who are experiencing complicated pregnancies and problems with their unborn babies.

Warinilla

Warinilla is available to women who are drug dependent or have had a previous problem with drugs and/or alcohol.

Parent Education

Tours of the obstetric facilities are available Monday to Friday mornings (with the exception of public holidays). Women should be at the Women's Outpatient Clinic, 1st Floor Queen Victoria Building, prior to 9 am on the day of their choice. There is a large range of choices for women wanting antenatal education, ranging from evening classes to a Saturday workshop. There are also classes on specific topics.

Domiciliary Midwife

The postnatal domiciliary care service is offered to all women who live within a 20km radius of the WCH, when they leave the Hospital after their baby is born. WCH provides a midwifery home visiting service for up to 5 days.

Breastfeeding Day Assessment and Support Unit

The support unit is available to all breastfeeding mothers of babies up to 8 weeks and is staffed by midwives who are lactation consultants or who have completed an appropriate breastfeeding course.

Neonatal Clinic

Babies who have been admitted to the WCH nurseries or who have other complications will be seen in the neonatal clinic for up to 12 months.

Postnatal Assessment

Women who have had difficult births or complications can have a postnatal assessment at the WCH outpatient clinic. This is arranged prior to discharge. Generally, women are encouraged to attend their GP for their routine postnatal 6-week check with their babies. The Women's and Children's Hospital is unable to accommodate any postnatal checks that have not previously been arranged prior to discharge.

Allied Health Physiotherapy

Physiotherapists provide services within Allied Health's Paediatric and Women's Health Programs. Services include assessment, diagnosis and management of children and women in the areas of neonatology, perinatal medicine, gynaecology, obstetrics and paediatrics.

Contact Numbers for the Women's and Children's Hospital

Admissions	(08) 8161 7508	
Antenatal Bookings (Outpatients Clinic)	(08) 8161 7592/(08) 8161 7593	
Antenatal/Gynaecology Ward	(08) 8161 7726	
Breastfeeding Day Assessment Unit	(08) 8161 7959	
Core Laboratory	(08) 8161 6704	
Cytogenetics (Amnio/CVS results)	(08) 8161 7413	
Day Assessment Unit	(08) 8161 7719	
Director of Obstetrics & Gynaecology	(08) 8161 7000	
Drug Information	(08) 8161 7222	
Maternal Fetal Medicine (MFM)	(08) 8161 7000	Pager 4524
Medical Genetics	(08) 8161 6281	
Midwifery Group Practice	(08) 8161 8406	
Multiple Births Consultant Midwife	(08) 8161 6558	
Parent Educator	(08) 8161 7571	
Physiotherapy	(08) 8161 7579	
Private Referrals	(08) 8161 7633	
Shared Care Midwife Co-ordinator	(08) 8161 7000	Pager 4259 (8am-4.30pm M - F) Fax: (08) 8161 8189
Social Work	(08) 8161 7580	
South Australian Maternal Serum Antenatal Screening Program (SAMSAS)	(08) 8161 7285	Fax: (08) 8161 8085
Ultrasound Bookings	(08) 8161 6055	
Ultrasound Results	(08) 8161 7391	
Women's Assessment Service (Emergency)	(08) 8161 7530	

Booking Procedures for Obstetric Shared Care

1. GPs may send a referral via fax to the midwife coordinator's office on (08) 81618189; **or**
2. GPs may wish to contact the Midwife Coordinator directly on (08) 8161-7000, pager 4259 to arrange appointments; **or**
3. GPs may wish to advise their patients to contact the midwife coordinator directly on (08) 81617000, pager 4259 prior to 12 weeks to schedule an appointment convenient to the patient. Antenatal clinic days are held on Tuesday, Wednesday and Friday.

18.6 Gawler Hospital (GH)

Gawler Hospital provides comprehensive care of women deemed to be 'low risk', whereby the woman delivers her baby at a gestation greater than or equal (i.e. \geq) to 37 weeks and the newborn weight is greater than or equal to (i.e. \geq) 2500gms.

Antenatal Service

Midwives manage many low risk ante-natal women in 'Zadow Suite'. For GP Shared Care women, a triage appointment with a midwife is the woman's first contact. GP Share Care clients are seen by a consultant either at this visit or an additional appointment is made for this prior to 20 weeks gestation. Obstetric clinics are held in Zadow Suite on Wednesday mornings. GP clinical attachments are able to be offered on these days.



Midwifery Group Practice (One 2 One)

This One 2 One midwifery service enables women to be cared for by the same midwife (primary midwife) supported by a small team of midwives throughout their pregnancy, during childbirth and in the early weeks at home with a new baby.

Postnatal Service

For most normal births women are discharged within 3 days of admission. Each woman will be visited by a community midwife at least once (and more if needed) within the first week of discharge.

Women who are experiencing difficulties with breastfeeding after discharge, or have any other concerns, are encouraged to contact GH or to see their GP at the first instance.

Baby Friendly Hospital Initiative (BFHI) Accredited

A World Health Organisation (WHO) initiative to promote, support and encourage breastfeeding. GH has been accredited as a BFHI hospital since 2007.

Childbirth and Parenting Education Sessions

Various programs are available, including overview sessions and breastfeeding sessions. Alternatively, 1:1 sessions are available through the community midwifery service.

Community Midwifery Service

A home visiting program operates Monday – Friday, with women being visited in their homes for care and support. Breastfeeding is supported by this service.

Postnatal Clinic

This is run in the Zadow Suite on a weekly basis. All women who undergo caesarean section delivery are seen at 2 and 6 weeks. Women can choose to have their routine 6 week check with their GP, or at the health service. Well baby checks are not available at the Health Service, and women are referred back to their GP.

Postnatal Coffee Group

A monthly group is held at the Health Service, for antenatal and postnatal social support. This is run by the community midwives, who are available for advice and support during this group.

Booking Procedures

GPs may send new patient referrals via fax to Zadow Suite on (08) 8521 2069. The referrals are reviewed by a consultant and an appropriate appointment time arranged. Please indicate

‘shared care’ on the referral to enable the midwife coordinator to be advised.

Contact Numbers for GH

Hospital switchboard	(08) 8521 2000
Antenatal Clinic (Zadow Suite)	(08) 8521 2369 Fax: (08) 8521 2069
Forgie Ward (Inpatients)	(08) 8521 2060
Community Midwives	(08) 8521 2011

19. SUPPORT SERVICES FOR WOMEN

The GP may wish to provide the pregnant woman with the contact details for the following services upon request.

19.1 Breastfeeding Day Services and Support Services

National Breastfeeding Helpline provides 7day a week service for advice:1800 686 268

www.breastfeeding.asn.au

Children, Youth and Women's Health Service 24 hour Parent Helpline: 1300 364 100 www.cywhs.sa.gov.au				
Location	When	Staffed by	Available to	Contact
Women's & Children's Hospital Post natal ward	Mon/Wed/Fri (Tues/Thurs education-No need to book)	3 clients per day Staffed by Midwife/ Lactation Consultant	All breastfeeding mothers of babies up to 8 weeks of age	(08) 8161 7958 Mon/Wed/Fri day services Essential to book
Child & Family Health Venues throughout S.A	Mon to Fri	Child & family Health Nurses (At some venues may also be a Lactation Consultant)	<u>Day Services</u> metro & country venues. Parents of babies 0-12 months old <u>Clinic Services</u> B/F support for any age	1300 733 606 Essential to book
Location	When	Staffed by	Available to	Contact
Lyell McEwin Hospital	Limited to staff availability	Midwife	All breastfeeding mothers of babies up to 12 weeks old	(08) 81829380 Essential to book
Gawler Hospital	Arrange via Midwife	Midwife	All breastfeeding mothers of babies up to 6 weeks of age	(08) 8521 2011
Flinders Medical Centre Postnatal (Ward 4C)	Tues/Thurs/Fri	Midwife/Lactation consultant	All breastfeeding mothers and babies – no age limit	(08) 8204 4216 Essential to book
Mt. Barker Hospital	Tues 9.00 - 4.00pm	Midwife/Lactation Consultant	All breastfeeding mothers and babies – no age limit	(08) 8393 1777 Essential to book
Gilles Plains Primary Health Care Services	Mon-Fri	Midwife	All mothers & babies including referral to Aboriginal Health Services – no age limit	(08)8334 8400 Essential to book
Parks Community Centre	Mon-Fri	Midwives & Doctors	Anyone living in area with a Health Care Card *Wed is 'Nunga' clinic only	(08) 82435611 Walk in or appointment available
Modbury Hospital (antenatal clinic)	Mon-Fri	Midwife/Lactation consultant	Any woman who has had their antenatal care through Modbury or LMHS	(08) 8161 2154 Essential to book



19.2 Private Practice Lactation Consultants

Details available through <http://www.alca.asn.au/index.asp>



APPENDICES – INFORMATION FOR WOMEN

Appendix A: Chorionic Villus Sampling and Amniocentesis

Early in pregnancy chorionic villus sampling (CVS) and amniocentesis can be used to detect whether the fetus has a chromosomal abnormality, such as Down syndrome. Because these procedures carry a certain risk, especially of miscarriage, they are only used when the risk of a chromosomal abnormality appears to outweigh the risk of the procedure itself. This can be because of advanced maternal age, a high risk on a screening result, a specific family history, or risk factors detected on ultrasound.


The two techniques are based on obtaining some cells from the fetus and sending them to the laboratory for chromosome analysis. With chorionic villus sampling, these cells are obtained from the developing placenta. With amniocentesis these cells are obtained from the fluid that surrounds the fetus. This determines the basic differences and the advantages and disadvantages of both techniques. These can be summarised as follows:

- overall the risk of miscarriage after the procedure is about twice as high with chorionic villus sampling (approximately 1:100) than with amniocentesis (approximately 1:200).
- for chorionic villus sampling to be conducted as safely as possible, it needs to be done at a specific time in pregnancy which is mostly between 10 and 12 weeks.
- amniocentesis is too risky when conducted before 14 weeks of pregnancy and is therefore conducted a few weeks later than a chorionic villus sampling.
- with chorionic villus sampling the results are usually available within a few days of the procedure, but with amniocentesis it can take two weeks before the final results become available. This is because the cells that are obtained need to grow in the laboratory before they can be analysed and this process cannot be hurried up.
- as a result chorionic villus sampling will detect an abnormality earlier than amniocentesis making it easier to terminate the pregnancy if necessary.
- your blood group needs to be known before undergoing either chorionic villus sampling or amniocentesis and, if you are Rhesus negative, you will need to receive an injection of Anti-D.

Chorionic Villus Sampling (CVS)

Although it does not look like it, the placenta basically resembles a large tree with very many tiny branches named chorionic villi (the plural for chorionic villus). Chorionic villus sampling means that a small number of these branches (<1% of the entire placenta) is removed for analysis. Because the placenta has the same chromosomes as the fetus this can be used to detect chromosomal abnormalities in the fetus.

The CVS test is performed at around 10-12 weeks of pregnancy. The first step is to have an ultrasound examination to determine the position of the fetus and decide where the chorionic villi can be obtained. To limit the risk of infection the sample is usually obtained through the abdominal wall. This means that the skin is cleaned with an antiseptic solution. Usually a little local anaesthetic is injected in the skin and a needle is then passed through the abdomen into the uterus to draw up a small sample of chorionic villi into a syringe. This is done under ultrasound guidance to ensure that the right location is reached. Contrary to common belief the procedure is not painful although it tends to be scary and somewhat uncomfortable. You do not need to be admitted to hospital for it and it is usually conducted



as an outpatient procedure. It is not necessary to fast before the procedure, but you should bring someone with you who can drive you home afterwards. You have to remain under observation for about 30 minutes and you should not drive yourself home afterwards.

It is advisable to rest at home for about 48 hours after the procedure and to abstain from strenuous activity or exercise. It is advisable to avoid intercourse. It is also advisable to avoid intercourse within the first week after the procedure. You should also contact your doctor if you experience any cramping pain, blood loss or loss of clear fluid after the procedure.

Amniocentesis

Amniocentesis is not carried out before 14 weeks of pregnancy because amniocentesis earlier in pregnancy carries a risk of causing deformities in the baby. The exact timing may depend on the amount of amniotic fluid present as determined by ultrasound. The procedure is always preceded by ultrasound to determine where the placenta is and where the needle needs to be inserted to obtain a good sample with minimal risk. On occasions this may mean that the procedure will be postponed for up to a week to ensure that a clear sample of amniotic fluid (the fluid around the baby) can be obtained. The procedure involves putting a needle through the abdominal wall into the uterus to draw up some of the fluid surrounding the baby into a syringe. Therefore, the skin is rubbed clean with an antiseptic solution and a small amount of local anaesthetic agent is injected into the skin to minimise the discomfort of the procedure.

There is no need to fast, from food or fluids, before undergoing an amniocentesis, but you should not drive yourself home afterwards. Amniocentesis is done as an outpatient procedure but you will have to remain in hospital for at least 30 minutes before you can return home. At home it is important to abstain from strenuous activity for about 48 hours and to avoid intercourse for a week.

About 1 in 10 women experience some cramping after the procedure, which usually requires no more than some rest and simple analgesics (Paracetamol is quite safe). Such cramps do not mean that you are likely to have a miscarriage. However, if you develop a temperature, pain or shivering, or if you have some bleeding or loss of fluid you should consult your doctor or the hospital where the amniocentesis was performed.

Important notes

You should note that chorionic villus sampling and amniocentesis check only the chromosomes of the fetus. In some special circumstances they can also detect some inherited diseases in people who are known to be at risk of passing the disease on to their baby. However, they cannot guarantee that the baby will not have another abnormality at the time of birth or will be one hundred percent healthy. Not everything in life, either before or after birth, is determined by chromosomes.

Both amniocentesis and chorionic villus sampling will reveal whether the fetus is male or female, but you will not be told the sex of the fetus unless you specifically ask. Please think carefully whether you want to know the answer before you ask the question.



Appendix B: Folic Acid and the Prevention of Neural Tube Defects

Neural Tube Defects

Neural tube defects (spina bifida, anencephaly and encephalocele) are a major group of serious birth defects. The abnormality occurs when the spinal cord and brain are forming during the fourth week after conception (in the sixth week after the last normal menstrual period).

Over 95% of neural tube defect cases are born into families which have had an affected baby. The total prevalence of neural tube defects (NTDs) is 1 in every 500 babies in South Australia. This figure is similar in other states of Australia. There has been no upward or downward trend since 1966. There are about 40 cases each year in South Australia, 20 of which are spina bifida.

While the total prevalence of NTDs in South Australia has remained stable, prenatal diagnosis and termination of pregnancy has resulted in an 84% fall in birth prevalence during 1966-1991.

In South Australia tests before 28 weeks can detect 85% of NTD affected pregnancies.

Folic Acid

Folic Acid is one of the B group vitamins and has an essential role in the very early development of the human nervous system.

Good sources of dietary folic acid are green vegetables, wholegrain breads and cereals, nuts, dried beans, peas and lentils and some fruits such as oranges, bananas and strawberries.

Folic acid is the name for standard pharmaceutical preparation. The different forms, which occur naturally in food, are collectively called folate.

Neural Tube Defects and Folic Acid

Prevention of the occurrence of NTDs is the ideal and research has shown that up to 70% of NTDs can be prevented by taking folic acid around the time that you plan to become pregnant.

Supplementation needs to begin before conception for it to be effective. It is recommended that you start increasing your folic acid intake one month before you intend to become pregnant and continue it until you are three months pregnant. Usually supplementation involves taking a tablet to ensure adequate intake.


There is no evidence that other vitamins or minerals will reduce your chance of having a baby with a NTD. There is no evidence that folic acid is effective in preventing a NTD if a woman starts taking it after she has become pregnant.

There is almost certainly more than one cause for NTDs. Taking folic acid around the time that you intend to become pregnant cannot prevent all cases of neural tube defects.

Groups with Increased Risk of Neural Tube Defects

Couples who have had a child with a neural tube defect are at an increased risk of having a second affected child. The risk is approximately 1 in 30. You should receive genetic counselling and it is recommended that the woman should take a higher dose of folic acid (5 mg daily) before becoming pregnant. If prenatal diagnosis is an option, the available methods should be discussed.

Couples with a close family history of NTD, and individuals with spina bifida, also have an increased chance of having an affected child.



If you have epilepsy and are taking sodium valproate or carbamazepine, you are at an increased risk of having a baby with spina bifida. This risk is estimated to be about 1 in 100 for sodium valproate and probably also for carbamazepine. It is recommended that if you are taking anticonvulsant medications that you should also take the higher dose (5 mg daily) of folic acid, following discussion with their doctor.

Recommendations

Health professionals, especially GPs, have a key role in helping to prepare women for conception.

All women of reproductive age, especially those planning a pregnancy, should be encouraged to increase their intake of folic acid, particularly one month before and during the first three months of pregnancy. This will greatly reduce a woman's chance of having a baby with NTD (up to 70%).

For low risk women (those with no close family history of NTD), taking a daily low dose folic acid tablet (.04-0.5 mg/500 mcg) as a supplement to their normal diet will ensure a satisfactory intake of folic acid. Women who do not take folic acid supplements in tablet form can achieve similar daily folic acid intake by eating a diet enriched in folate foods, though many women will find the necessary changes in diet difficult to maintain.

Health professionals have an important role in helping to alleviate anxiety in those pregnant women who have not increased their intake of folic acid prior to conception. The very low individual risk of having a baby with a NTD should be stressed to these women. There could be potential benefit from folic acid supplementation (0.4-0.5 mg/day) to women whose pregnancies are diagnosed before six weeks of pregnancy. It is recommended that women continue to take 0.5mg folate (folic acid) per day during the first three months of pregnancy to help prevent neural tube defects.

Safety Issues

Folic acid is generally regarded as non toxic to humans. There have been very few reported cases of adverse reactions from folic acid. Toxicity has only been reported with high doses of folic acid (15 mg daily).

If you have the vitamin B12 deficiency (pernicious anaemia) you will need to discuss your specific requirements with your doctor.

Availability of Folic Acid

All pharmacies will stock at least one brand of folic acid. Purchase does not require a prescription. Customers may have to ask for the folic acid as it is sometimes held in the dispensary. No one brand is recommended over another.

Important Note:

Multi vitamin preparations rarely contain the recommended 500 mcg of folic acid and women will generally require a specific folic acid preparation. Check the label if unsure.



Appendix C: Listeria and Pregnancy

What is a Listeria Infection?

You can get a listeria infection from eating contaminated food. The Listeria bacteria are found in nature and in some foods. Listeria is not a new disease but it is only over the last ten years that it has been recognised that the bacteria can be transmitted through food.

Listeria infection is uncommon and causes few or no symptoms in healthy people. If infected, pregnant women may experience a mild, brief episode of illness. A Listeria infection during pregnancy has a higher risk of transmission to the unborn child and can lead to miscarriage, stillbirth, pre-term birth or can make a newborn baby very ill.

It is important that you see your doctor in the early stages of your pregnancy if you think you may have a temperature or if you are feeling unwell generally.

Prevention is Better than Cure

It is important you reduce the risk of contracting this infection during your pregnancy. You can do this by taking simple food hygiene steps at home, being careful about what you eat when eating out, and avoiding certain foods at higher risk of Listeria contamination (see guide to foods).

How You Can Reduce the Risk of Listeria Infection during Pregnancy

For the health of you and your baby during pregnancy, it is important that you select a nutritious diet from a wide variety of foods such as vegetables, fruit, dairy foods, bread, cereals, pasta, lean meat, fish, eggs and nuts.

However, you should eat freshly cooked or freshly prepared food only. It's important that you do not eat food where there is any doubt about its hygienic preparation and/or storage.

Avoid eating foods during pregnancy which could contain Listeria. These are mostly chilled, ready to eat foods including:

- soft cheese such as brie, camembert and ricotta (these are safe if cooked and served hot);
- takeaway cooked diced chicken (as used in chicken sandwiches);
- cold meats;
- pate;
- pre-prepared or stored salads;
- raw seafood (such as oysters and sashimi);
- smoked seafood such as smoked salmon, smoked oysters (canned are safe);
- soft serve ice-cream; and
- unpasteurised dairy products.

Source: Food Standards Australia New Zealand at www.foodstandards.gov.au

Other Precautions:

Make sure all food is fresh. Listeria is destroyed by conventional cooking so freshly cooked foods are safe to eat.

However, listeria is one of the few bacteria that will grow in refrigerated foods. This is why chilled ready-to-eat foods should be avoided.

Do not eat food that has been prepared and then stored in a refrigerator for more than 12 hours. When re-heating food in the microwave at home, make sure it is steaming hot throughout.



Eating Out

It's best not to use salad bars in restaurants, supermarkets or delicatessens. Avoid pre-prepared salads.

Refrigerated foods that are past their "use by" or "best before" date should also not be eaten.

If you buy ready-to-eat, hot food, make sure it is served steaming hot throughout. Only eat food that is served hot. Do not eat food that is served lukewarm.

It is best to avoid smorgasbords. If this is not possible, choose the hot foods only.

Good Food Hygiene

Take these simple food hygiene steps to reduce the risk of Listeria infection and other food-borne illnesses:

1. Always thaw ready-to-eat frozen food in the fridge or microwave – do not thaw at room temperature.
2. Keep raw meat covered and separate from cooked food and ready-to-eat food.
3. Always store raw meat below other food in the refrigerator to prevent it dripping onto food.
4. Wash hands, knives and cutting boards in hot soapy water after handling raw food to avoid cross contamination of cooked and ready-to-eat food.
5. Thoroughly cook all raw food of animal origin.
6. Keep hot food hot (above 60°C) and cold food cold (at or below 5°C).
7. Do not let cooked foods cool down on the bench. Put them in the fridge to cool.
8. Thoroughly reheat food until steaming hot.
9. Avoid un-pasteurised milk, or food made from un-pasteurised milk.



Appendix D: Healthy Eating and Pregnancy

Weight gain during pregnancy

It is healthy and normal to put on about 10–13 kg when you are pregnant. You may gain less or more weight. If you eat healthy food and only eat when you are hungry you will put on the right amount of weight for you.

As a general guide:

- First 3 months: you will usually gain about 1 or 2 kilograms, or possibly less if you have morning sickness.
- 6 months: During the next 3 months you will probably gain about 6 kilograms.
- 9 months: During the last 3 months you will probably gain about 5 kilograms.

Healthy eating

Eating healthy food is important in helping your baby to grow and develop. The guidelines for healthy eating are to eat:

- A wide variety of different healthy foods — not just the same foods every day.
- Base your diet around more bread, rice, pasta, oats and cereals (especially wholemeal and wholegrain types), fruits and vegetables.
- Low fat dairy products.
- Lean meat, chicken, fish, eggs, nuts and legumes.
- Less fat (less chips, snack foods, fried food and fatty takeaways).
- Less sugar (less cakes, biscuits, soft drinks and lollies).
- Less salt, by choosing reduced-salt processed food (by reading labels), using less salt in cooking and at the table.
- It's also important to drink plenty of water, about 6 - 8 glasses each day.


If your diet hasn't been as healthy as it could be, pregnancy is a great time to make some changes. Here are some simple, practical ideas to make your eating healthier:

- Have a piece of fruit for a snack instead of chocolate or biscuits.
- Carry a bottle of water with you so you can avoid buying soft drinks while you're out.
- Trim visible fat from meat. Try grilling or dry roasting meat.
- Try stir frying (a great way to eat vegetables).
- Experiment with different grains such as barley, faro, couscous and brown rice to add more variety to your diet.
- Cut up raw salad vegetables such as carrots, celery and mushrooms - store them in the fridge for snacking on throughout the day.
- Choose reduced or low fat dairy products instead of the full cream type.
- Try snacking on air-popped popcorn instead of chips and other fatty snacks.

Fish

Fish are a valuable source of protein, minerals, vitamin B12, and iodine, are low in saturated fat and contain omega-3 fatty acids. Omega-3 fatty acids are important for the development of the central nervous system in babies, before and after they are born.

Most fish in Australia have low mercury levels, but some fish contain mercury levels that may harm an unborn baby or young child's developing nervous system.



Pregnant and breastfeeding women, and women planning pregnancy, can have:

- 2-3 serves per week of any fish and seafood (other than those listed below), 1 serve being equal to 150 gms; **or**
- 1 serve per week of Orange Roughy (Deep Sea Perch) or Catfish, and **no other fish that week; or**
- 1 serve per fortnight of Shark (Flake) or Billfish (Broadbill, Swordfish and Marlin), and **no other fish that fortnight.**

Source: Food Standards Australia New Zealand at www.foodstandards.gov.au

Prepared meats and unpasteurised dairy products

Listeriosis is an uncommon food-borne illness caused by a widespread bacterium called *Listeria monocytogenes* (Gilbert 2002) particularly found in unpasteurised dairy products, pre-prepared cook-chill meals, pate and raw vegetables (Langford 2002). *Listeria* can grow in temperatures as low as 0.5° Celsius (eg can grow in the refrigerator), but is easily destroyed by cooking. *Listeria* may take up to 70 days to develop (usually around 3 weeks) following ingestion of food infected with *Listeria* (Child and Youth Health 2002). Usually asymptomatic, Listeriosis may present as diarrhoea or influenza-like illness, or may present as a febrile illness associated with pre-term labour and meconium staining of the amniotic fluid (Langford 2002).

Alcohol

No alcohol is the safest choice. Alcohol from your blood enters your unborn child's blood. This may negatively affect the child from conception onwards. It is not known whether there is a safe level of alcohol to drink during pregnancy.

Drinking alcohol during pregnancy may increase your chances of miscarrying, having a baby with a low birth weight, fetal alcohol syndrome, congenital (birth) defects and cognitive (learning) defects.

Tea, Coffee and Cola drinks

These drinks contain significant amounts of caffeine. The developing baby is not able to break down large amounts of caffeine very well. It is recommended during pregnancy and breastfeeding that you limit your intake of caffeine by having no more than 2 - 3 cups in total of tea, coffee, or cola per day. Some caffeine is passed through breast milk and high doses may make babies irritable.

Vitamin Supplements

Apart from folic acid and iodine, vitamin supplements are not generally necessary.

Do you have to eat any special food when you are pregnant?

The following nutrients are important when you are pregnant:

- Calcium is needed for your baby's bones and teeth. Calcium-rich foods include dairy products such as milk, cheese and yoghurt. If you drink soy milk or rice milk, ensure it is calcium enriched. Almonds and bony fish such as sardines and salmon also contain calcium.
- Iron is important for healthy blood (to prevent anaemia). Good sources of iron include red meat, fish, chicken, eggs and wholegrain foods. A vitamin C source such as tomato or orange juice with every meal will help the iron to be absorbed.

- Fibre and plenty of fluid help to prevent constipation. There is fibre in fruit and vegetables (especially if you do not peel them), wholemeal and wholegrain bread, rice, pasta and cereal (like porridge, Weetbix and VitaBris).
- Protein is needed to help the baby grow. Meat, fish, chicken, eggs, milk, cheeses, nuts, tofu, dried beans and peas are all good sources of protein.
- **Folic acid or folate** helps prevent spina bifida in your baby and is also important for your blood. Folate is in many green vegetables, chickpeas, soybeans, oranges, bananas, strawberries, cereals, nuts and Vegemite. Supplements are usually required.

AUSTRALIAN GUIDE TO HEALTHY EATING FOR PREGNANT WOMEN

Food group	Daily number of serves	Sample serving sizes
Bread, cereals, rice, pasta & noodles	4–6	2 slices of bread or 1 medium bread roll 1 cup cooked rice, pasta or noodles 1 1/3 cups breakfast cereal flakes
Vegetables & legumes (dried beans, lentils or peas)	5–6	1 small potato 1 cup salad vegetables ½ cup cooked vegetables ½ cup cooked dried beans, lentils or peas
Fruit	4	1 medium apple, pear, orange or banana 2 fresh apricots, plums or kiwi fruit 4 dried apricot halves
Milk, yoghurt & cheese (You need an extra 300mg of calcium or about 1 extra glass of milk each day when pregnant)	2	1 250mL cup milk 1 200g tub yoghurt 2 slices (40g) cheese
Meat, fish, poultry, eggs, nuts, tofu, legumes (dried beans, lentils or peas)	1–1 ½	½ cup lean mince or 2 small chops ½ cup cooked dried beans, lentils/peas 1 medium fish fillet 2 small eggs
Extra foods	0–2 ½	2 tablespoons cream or mayonnaise 4 plain sweet biscuits 1 tablespoon butter, margarine or oil 1 can soft drink

If you are concerned about your diet, ask your doctor to refer you to a dietician or look under dietitian in the Yellow Pages. Your health professional can help you to develop eating plans that will help you cope with eating the food needed to make sure you and your baby are well nourished.



Appendix E: Smoking and Pregnancy

If you are already pregnant and you smoke, you and your baby will still benefit greatly if you can quit now. Giving up smoking is one of the best things that you can do for your own health and for the health of your baby.

What happens when you smoke?

The umbilical cord is your baby's lifeline. Blood flow through this cord provides your baby with oxygen and all the nutrients it needs to grow. Smoking cigarettes increases the level of carbon monoxide in your bloodstream. Carbon monoxide replaces oxygen in your blood, so the amount of oxygen made available to your baby through the umbilical cord is reduced when you smoke.

The nicotine in cigarettes increases your heart rate and your baby's heart rate. It also causes your blood vessels to narrow, reducing the flow of blood through the umbilical cord. Nicotine also causes a reduction in breathing movements in your baby.

Carbon monoxide and nicotine make it harder for your baby to get the oxygen and nourishment it needs and places unnecessary stress on the baby's heart and reduces its breathing exercises.

Other problems smoking may cause:

During pregnancy

- Higher risk of miscarriage.
- Smokers are more likely to have complications during the birth.
- Higher risk of a low birth weight baby. Low-weight babies are more vulnerable to infection and other health problems.
- Higher chance of having pre-term birth (baby born early).
- Higher chance of having a stillbirth (baby born dead).

After the birth

- Maternal smoking may be a risk factor for sudden infant death syndrome (SIDS).
- Babies of smokers are more likely to suffer from asthma and other respiratory infections than are those of non-smokers.
- After your baby is born, the poisons you inhale through cigarettes are passed on to the baby through your breast milk, and through passive smoking.

Sometimes it can be very hard to give up smoking, especially if your friends or your partner are still smoking. But it is something that you need to do for yourself and your baby. There are many qualified people who can offer information and support to help you give up smoking.

Smoke Free Pregnancy Project
1300 889 010

Call the Quitline on 131 848 for help

Appendix F: Mothers – Benefits of Breastfeeding

Breastfeeding is the normal method of feeding infants. It has a positive influence on both their immediate and long-term health. Current recommendations are:

- exclusive* breastfeeding for the first 6 months
- continued breastfeeding into the 2nd year of life
- introduction of solids around 6 months of age

* Exclusive breastfeeding means the baby is receiving only breast milk and if required, medications, including vitamins or minerals.

A healthier baby – babies fed breast milk get less gastroenteritis (tummy upsets), and are less likely to get allergies, asthma, juvenile diabetes and respiratory or urinary tract infections. Mother's milk may also help protect from sudden infant death syndrome (SIDS). You will have a healthier and happier baby and fewer trips to the doctor or sleepless nights tending to a sick baby.

Breast milk is the perfect food for your baby – breast milk contains important nutrients/elements that are not found in formula and that help your baby grow, develop and learn in the best possible way.

Mother's milk is best for your baby's physical development – Babies fed mother's milk have the best possible food to help them grow and develop well. Even the sucking action used by breastfeeding babies helps to develop their mouth, teeth and jaw.

Save money and time – artificial substitutes for mother's milk can cost up to \$1,200 a year, including bottles, teats and other equipment. And with a healthy baby, you'll need to spend less on health care. Breastfeeding is quick, efficient and hygienic. You don't have to spend time washing or disinfecting bottles and teats or wait for the bottle to heat up while your baby is hungry in the middle of the night.

Your health – breastfeeding may protect against some diseases such as cancer of the breast or ovaries and osteoporosis later in your life. Breastfeeding uses up more energy than when you are pregnant, therefore it will help you return to your pre-pregnancy weight.

Loving bond between mother and baby – breastfeeding helps you and your baby feel close to each other and develop a loving bond.


BREASTFEEDING IS THE NORMAL WAY TO FEED A BABY

Common problems with breastfeeding and where to go for help

Breastfeeding your infant is the best thing you can do for your child. Most women can breastfeed and it can take a few weeks to establish good breastfeeding practice. Most problems encountered during breastfeeding can be overcome. Some common problems with breastfeeding are listed below with suggestions about how to deal with them.

Attachment

Correctly positioning and attaching the infant at the breast are vital in helping the infant develop an effective suck. Infants who suck well empty the breast effectively and stimulate ample milk supply. When good milk drainage has been established mothers are less likely to



experience blocked ducts or mastitis. If feeding hurts, your baby is almost certainly not 'on the breast' or 'attached' properly.

Engorgement

When your milk first 'comes in' your breasts may feel full and uncomfortable. An engorged breast becomes very tight and hard.

Engorgement usually happens during the first week after the birth or if you suddenly feed the baby a lot less than usual. Keep feeding often and your milk supply will settle down. You may need to express a little milk before feeding so your baby can attach to the breast properly.

Engorgement is less likely if the baby has unrestricted access to the breast from birth.

Engorgement is mostly preventable and always manageable.

Blocked milk ducts

A blocked duct feels like a tender (or sore) lump in your breast. When you start making milk, your breasts may feel very full and uncomfortable. The milk banks up and part of your breasts may become tender, hardened and reddish.

It can be caused by:

- missed or rushed, interrupted feeds
- not feeding at regular times
- not having the baby in the right position
- pressure from clothes or bra
- an awkward sleeping position
- pressing your finger on your breast during the feed
- injury or bumps to the breast

Try feeding your baby more frequently or feeding in slightly different positions. Gently massage the sore part from behind and towards the nipple during the feed and if you need to, use a cold pack afterwards.

Mastitis

If your breast gets inflamed (hot) and sore you may have mastitis. There is usually a red, sore, lumpy area in the breast while the mother feels as if she has the flu and may have a fever.

Mastitis is caused by:


- an inflammation or infection in blocked ducts that have not got better
- cracked nipples
- stress
- mother not being well

See your doctor if you are feeling unwell, but do not stop breastfeeding.

Insufficient milk

How often does my baby need to feed? It's best to feed whenever your baby seems hungry. The baby will feed at least 8 times in 24 hours including during the night in the first few weeks. As the baby grows, your supply and the baby's needs will change and you may find that the baby does not need to be fed as often.

Babies are hungry at some times more than at others. When babies are growing fast (growing spurts) they get hungry more often. If you feed your baby more often you make more milk to meet their needs.



Do I have enough milk? Sometimes mothers feel that they don't have enough milk or that their milk is not good enough and therefore they stop breastfeeding. Your milk is the perfect food for your baby. Let your baby feed for as long or as often as they like. The more the baby sucks, the more milk you will make.

These are the signs that your baby is getting enough milk:

- 6 - 8 wet nappies in 24 hours and several poos a day in the first few weeks of life. After this some babies can go a few days without a poo.
- Baby is putting on weight. Average the weight gains over several weeks to allow for weekly differences.
- The baby seems bright and there are some times when the baby is awake and happy.

Sore and damaged nipples

Many mothers have sore nipples when they start breastfeeding but this should get better quickly. If soreness goes on, or lasts through the whole feed or if there are cracks in the nipple, seek advice from a trained lactation consultant.

Breastfeeding should not hurt. Wash breasts only with water – soaps or shampoo will dry them out. A little breast milk on the nipple allowed to air can help sore or dry nipples. If your nipples become very sore or cracked your baby may not be attaching properly when feeding.

Get early assistance from a health professional experienced in breastfeeding management, such as a lactation consultant or breastfeeding counsellor.

Crying babies

Crying is a baby's way of communicating a need. Some babies cry with no evident cause, however prolonged crying needs careful evaluation. There may be medical reasons why your baby continues to cry and your doctor should investigate this. Mothers of infants who are seen to cry often may lose confidence in breastfeeding. Ensuring your baby is receiving enough milk by feeding more often may help.

Mothers should be aware of the changing nature of infants feeding patterns, development and behaviour. If you have concerns about your infant seek counselling from a well-informed health professional, lactation consultant or Australian Breastfeeding Association counsellor.

The following web sites will give you more information about common breastfeeding problems:

- www.breastfeeding.asn.au/bfinfo/care.html
- www.cyh.com/cyh/parentopics/usr
- www.health.sa.gov.au/pubhlth/strateg/brfeed/index/htm This website contains the resources produced for the National Breastfeeding Strategy.

For more information

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