Riverina Antenatal Shared Care Program

Guidelines

phn MURRUMBIDGEE
An Australian Government Initiative

NSW GOVERNMENT Health
Murrumbidgee Local Health District

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Acknowledgements

Murrumbidgee Local Health District (MLHD), Primary Health Network, Antenatal Shared Care Working Group and ACT Health would like to acknowledge the invaluable contributions of the following organisations to the development of the original Guidelines in 2004 and/or to this current revised edition. The Australian College of Midwives (ACM) *National Midwifery Guidelines for Consultation and Referral* and the *NHMRC Antenatal Care Guidelines Module I and II* form the basis of this document.

Organisations

Primary Health Network
Murrumbidgee Local Health District (MLHD)
Wagga Wagga Rural Referral Hospital
ACT Division of General Practice
ACT Health Patient Safety and Quality Unit
ACT Health Policy Division
Winnunga Nimmityjah Aboriginal Health Service

Foreword and Disclaimer

This booklet contains guidelines for General Practitioners and staff of the Maternity Units at the Wagga Wagga Rural Referral Hospital (WWRRH) and Local Health District maternity services. The guidelines are intended to assist with shared maternity care for women who plan to birth within the public system in the Murrumbidgee Local Health District (MLHD).

This document provides guidance for women who have non complicated and complex pregnancies with a framework for referral and consultation to a higher level of specialised care when clinically indicated. The guidelines have never been intended for privately booked women, for women whose pregnancies are being managed by specialist obstetricians or for public patients who plan to birth outside the MLHD.

The guidelines represent a consensus view from various groups that are involved with the provision of public maternity care in the MLHD. These groups are listed above.

The people who have developed these guidelines have made every effort to ensure the guidelines cover all situations and follow contemporaneous "best clinical practice". It is possible however, that these guidelines will contain errors and omissions and they may not remain current as clinical practice changes over time. These documents are reviewed biennially and otherwise updated as required. The guidelines therefore should not be used as the definitive source of information for best practice in maternity care. The ultimate responsibility for the quality of care provided to women will remain with individual clinicians and this care should be in accordance with contemporary clinical literature. These guidelines are based on the ACM National Midwifery Guidelines for Consultation and Referral, the AHMRC Clinical Practice Guidelines Antenatal Care Modules I and II and ACT Health Maternity Shared Care Guidelines. The ACT guidelines are utilized to provide direction for the Riverina Antenatal Shared Care Program being the tertiary referral hospital for the Riverina.

Feedback or comment about this publication can be directed to the MLHD or the Primary Health Network.

MLHD
Wagga Wagga Rural Referral Hospital Maternity Services
Phone 02 5943 1333
Fax 02 5943 3874
Post Edward Street, WAGGA WAGGA NSW 2650

Murrumbidgee Primary Health Network
Email ceo@mphn.org.au
Phone 02 6923 3100
Fax 02 6931 7822
Post PO Box 5663, WAGGA WAGGA NSW 2650

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1. INTRODUCTION

Welcome to the Riverina Antenatal Shared Care Program Guidelines for practitioners involved in maternity care for women in the MLHD. The program also provides information about the immediate postnatal period. This is often a time that women will present with a number of issues and the addition of the information may be useful to those providing care in this area. Concerns regarding the baby are not covered in these guidelines and appropriate referral to paediatric care is advised.

These guidelines are based on the ACM National Midwifery Guidelines for Consultation and Referral, the AHMRC Clinical Practice Guidelines Antenatal Care Modules I and II, and ACT Health Maternity Shared Care Guidelines 2008. These guidelines have been reviewed and updated in November 2016.

It must always be remembered that this is a dynamic document. Whilst every attempt has been made to ensure that current recommendations, best practice points and evidence based medicine has been incorporated into this version there will always be changes before the next review. Ongoing changes of significance will be published in the Primary Healthcare Network weekly (should be Primary Health Network) newsletter.

N.B. Please note that these are guidelines only and that the woman's individual circumstances must be taken into account.

Members of the Riverina Antenatal Shared Care Program working group are as follows:

Dr Megan Elliott-Rudder, Dr Charles Oliver, Dr Arturo Jeri, Toni Preuss, Julie Redway – Murrumbidgee Primary Health Network

Dr John Currie, Director of Obstetrics WWRRH Dr Raffat Attiq, Patricia Catlin – Murrumbidgee Local Health District, Wagga Wagga Rural Referral Hospital Maternity Services, Sandra Forde MLHD Midwifery Manager.

These guidelines provide an outline of the respective responsibilities of General Practitioners (GP), public Antenatal Clinics (ANC) and MLHD Maternity Unit in shared maternity care. The guidelines are expressed in broad principles, which allow for flexibility in clinical judgement. Lists are used as illustrations, but are not inclusive of all relevant conditions.

These guidelines apply to all women with identified the clinical indications requiring consultation and or referral to a higher level of care. Women with complex pregnancies require consultation and referral to specialised services. However the development of a management plan may include shared care with other health care professionals including the woman's GP. A risk factor to the pregnancy may also develop during the antenatal period.

Participation in shared care implies acceptance of the agreed guidelines. There may be clinical or other circumstances where full hospital care is warranted. In general the agreement is for shared maternity care between the woman's General Practitioner and the MLHD Maternity Units including WWRRH as the referral Base Hospital. Where the agreement is not shared care, this will be communicated to all the maternity care providers.

1.1 Eligibility

All women have access to the WWRRH antenatal clinics held at the PCEC. However, women with complex medical and obstetric conditions should be referred to the 'High Risk' Clinic, WWRRH Maternity Services. If the woman is booked at a Regional Maternity Unit and is recognised to be at increased risk, her antenatal care should be discussed with her local GP Obstetrician and plan for the woman to attend the WWRRH Pregnancy Care and Education Centre (PCEC), for Specialist Obstetrician Review. Further referral may be appropriate at the discretion of the Specialist Obstetrician. The specialist and other PCEC staff will explain the care options to the woman based on the assessment of risk and obtain the woman's agreement for care.

1.2 Antenatal Clinics – WWRRH PCEC & Regional Maternity Units

Women are encouraged to attend a 'booking in' visit as soon as possible after 12 weeks and preferable prior to 16 weeks gestation. Women who plan to birth at WWRRH, book at the PCEC. Women from the regional centres will book in with their Regional Maternity Unit and GP Obstetrician. The booking in visit with the Midwives at the birthing hospital is a comprehensive visit and holistic assessment including psychosocial assessment and screenings. At this visit a history will be taken and information regarding education and birthing options in the Riverina will be discussed. Referral for further review at the PCEC can be made at any time during pregnancy.

Regional Antenatal Clinics & WWRRH PCEC clinics are part of NSW Health's maternity services for women over 12 weeks gestation and are provided on an outpatient basis. Women booked into WWRRH as public patients will not have choice of doctor on admission. A team of maternity care providers shares the woman's care. This may include midwives, GP obstetrician trainee, residents and registrars in training, and Specialist Obstetricians.

Women requiring urgent medical care after 20 weeks of pregnancy should be referred to the hospital of choice for birthing, where the hospital staff or general practitioner will contact the rostered specialist obstetrician at WWRRH. For conditions unrelated to her pregnancy, the woman will be admitted under the appropriate medical or surgical team and be seen and assessed by the relevant obstetrician on call if required.
For non-urgent pregnancy advice or referral after 12 weeks gestation, the WWRRH PCEC should be contacted. For non-urgent, non-pregnancy related health matters the woman should seek advice from her GP.

1.3 Responsibilities

Responsibility for appropriate referral, investigation and follow up in the community rests with the participating G P. The PCEC/ANC staff are encouraged to provide appropriate care and follow up of any investigations ordered while attending the clinic. Once the woman is admitted, the maternity care team at the chosen hospital is responsible for appropriate care and follow up.

Clearly, care may overlap at times. An overall principle of shared maternity care requires that all parties provide effective communication for sharing of information, comprehensive care and adequate documentation.

1.4 Investigation Results

It is the responsibility of health practitioner who orders an investigation to request that the results are also sent to all parties involved in the care. For the PCEC/ANC, each request form must identify copies to be sent to the share caring GP's with their name and suburb added to the request. GPs ordering investigations, preferably request copies to be sent from the pathology practice or, give a copy to the woman to be taken to the next PCEC/ANC visit. Follow up care requirements based on investigation results is the responsibility of the ordering doctor, including referral to a higher level of care.

1.5 Maternity Record

The Maternity Record (such as the NSW Health "yellow card") is to be commenced by the GP at the commencement of the woman's pregnancy journey and must be taken by the woman to her booking visit. All maternity carers will document in this record at each consultation and encourage the woman to carry it with her at all times. The woman should be encouraged to take her Maternity Record to every health professional she consults during her pregnancy (even if seen antenatally in Birth Suite or Emergency Department), whether the reason for seeking care is pregnancy related or not. It may be more appropriate for detailed information about previous birth history to be filled in at the hospital when the booking in visit is conducted, with access to previous medical records. If the previous birth was complicated or was at a non-local hospital then it is necessary to ask the woman's permission to access the record from the birthing hospital.

1.6 Communication at first PCEC/ANC visit

The GP will provide the woman a referral letter to the PCEC/ANC containing the details of the share care GP, the intention to share care and any relevant clinical, medical or social details and copies of relevant pathology, ultrasounds or screenings. It is important the woman is aware of the necessity to bring these document with her for her visit.

1.7 Assessment in Birth Suite after 20 weeks

Should a woman require acute care and assessment at a hospital, this will be recorded in her Maternity Record, 'Yellow Card' as a means of communication to other health care providers. An admission history and any care provided will be recorded in her hospital clinical records.

1.8 Admission to hospital during the antenatal period

If admitted to hospital during the antenatal period, a copy of the discharge summary is to be given to the woman on discharge from hospital and a copy faxed to the GP.

1.9 Non-attendance at PCEC/ANC

If a woman does not present for a PCEC/ANC visit and no substitute appointment has been made the PCEC/ANC will attempt to contact the woman to arrange an alternative appointment. If the PCEC/ANC are unable to contact the woman or she refuses to attend, the GP will be notified.

1.10 Discharge after birth

On discharge a copy of the birth summary is placed in the blue 'baby book' for the woman to give to her GP. A copy of her discharge referral is faxed to her GP.

Severe complications i.e. neonatal death, injury or malformation, or maternal morbidity requiring follow up will be communicated to the GP as soon as possible either by faxed discharge summary or by phone.

2. COMMUNICATION & ACCESS

During Business Hours	
The best point of contact for clinical and other enquiries: Wagga Wagga Rural Referral Hospital	
Pregnancy Care and Education Centre (PCEC) 0830-1700 - Monday to Friday	
Wagga Wagga Rural Referral Hospital PCEC (clinics) Phone 02 6938 6425 Fax 02 69386494	Wagga Wagga Rural Referral Hospital Maternity Services (ward) Phone 02 5943 1334

The receptionist can take messages, excluding confidential patient information.
Consultants/Registrars can be contacted through the Switchboard of the booking hospital.

After Hours or in Emergencies
Wagga Wagga Rural Referral Hospital Maternity Services Phone 5943 1334 or 5943 1342

Useful Contact Phone Numbers

Pregnancy Confirmation and Support

Pregnancy Care & Education Centre, Wagga Wagga Rural Referral Hospital	6938 6425
Adolescent Pregnancy Support, PCEC WWRRH *Supporting young people holistically in all aspects of their health*	6938 6429
Multiple Birth Association- Wagga Wagga wwmba@hotmail.com National – Australian Multiple Birth Association1	1300 886 499
Sexual Health and Family Planning Clinic Wagga	6938 6492
Metal (Mental) Health Access Line	1800 011 511
Headspace – Mental Health Support age 12 – 25 years	6923 3170

Pregnancy Care and Childbirth

Wagga Wagga Rural Referral Hospital

Main Switchboard	5943 1000
Pregnancy Care & Education Centre (PCEC)	6938 6425
Maternity Services Unit	5943 1334
Aboriginal Mothers & Babies Program	6938 6425
MLHD Genetic Service	6938 6443
Adolescent Pregnancy Support	6938 6429
Drug & Alcohol Support WWRRH Community Mental Health O'Reilly Street	6923 5700 6923 5700
Integrated Perinatal Care *Assisting families having a baby or with a baby under 2 years for families where an adult is on opiate replacement therapy and/or is a client of Mental Health ACT*	6938 6425
Aboriginal Sustained Home Visiting	5943 1343
Community Health O'Reilly Street *Services include Diabetes education, Dietitian, Social worker, Counselling*	6938 6411

Kidsafe NSW	(02) 9845 0890
Wagga Women's Health Clinic	(02) 6938 6518
Australian Breastfeeding Association Helpline	1800 686 268
Parenting Hotline (24 hr free call)	1300 130 052
Pelvic Floor Exercises (private)	(02) 69217021
Sexual Health Information Line	1800 451 624
Accessline	1800 011 511
Women's Domestic Violence Court Advocacy Services	(02) 6921 6227
Wagga Women's Refuge	(02)6921 8211
SIDS and Kids NSW	(02) 8585 8700
Free call	1300 308 307
SIDS Peer Support Workers (crisis support line)	1800 138 300
Women's Legal Centre Advice Line	1800 634 669
Telephone Interpreter Service	13 14 50
Mothersafe (Info on medication & Pregnancy/Breastfeeding)	1800 647 848
Medicines Line (Consumers)	1300 633 424
Medicines information (Health professionals)	1300 134 237
Poisons Information Centre (24hrs)	13 11 26
Healthdirect (health information and advice) (24hrs)	1800 022 222

IPC REFERRAL SERVICES DAY

Service Name	Contact Person	Contact Numbers	Email Address	Brief Outline of Services
Pregnancy Care	Patricia Catlin	(02) 6938 6425	patricia.catlin@ health.nsw.gov.au	Provides care, education and advice to pregnant women
Community Mental Health	Pauline Kelly	(02) 6923 5700	pauline.kelly@ health.nsw.gov.au	Work with people ie review of medication before or during pregnancy. Help with housing etc 24 hr help desk
Drug and Alcohol Support	Amy Carroll	(02) 6923 5700	amy.carroll@ health.nsw.gov.au	Reduce the risk of harm to Mum's, Babies, Family and Society
Midwifery Community Care (MCC)	Annette Spruhan	(02) 5943 1333	annette.spruhan@ health.nsw.gov.au	Early discharge support to women going home within 6-72 hours - c/s and 1st time mums, Extended Care and SCN follow up
	Maureen Doyle	(02) 6938 6439 or 6938 6667	maureen.doyle@ health.nsw.gov.au	
Children and Family Health	Wendy Urquhart	(02) 6938 6475 or 0428 482 753	wendy.urquhart@health.nsw.gov.au	Provide services to assist the parent/parents to adapt to family life. Hold early childhood Clinics
Aboriginal Health	Karen Griffin Maxine Honeysett	(02) 6938 6440 & 1800 249 645	karen.griffin@gsahs.health.nsw.gov.au maxine.honeysett@ health.nsw.gov.au	Support health outcomes for Aboriginal Families and children 0-5 years
Aboriginal Mother's and Babies Program	Debbie Billlingham Amy Byrom	(02) 6938 6425	Debra.Billingham@health.nsw.gov.au	To Provide support for Aboriginal women from fist sign of pregnancy to 8 wks post natal
Child Protect Counselling Service	Clare Klapdor Emma Carroll Corrine Lomnicki David Post	(02) 6938 6476 (02) 6938 6448 (02) 6938 6453 (02) 6938 6452	clare.klapdor@health.nsw.gov.au	To provide counselling for children of abuse
Keep Them Safe		(02) 6033 7679 & 0409 043 197		To improve the safety, welfare and wellbeing of all children and young people in New South Wales.
Training Staff on Child Protection	Karen Cranage	(02) 6058 1750 & 0457 530 053	karen.cranage@health.nsw.gov.au	To provide staff with training for Child Protection and Domestic Violence.
Psychology Services at Community Health	Michelle Keighran	(02) 6938 6451	michelle.keighran@health.nsw.gov.au	Provide counselling services
Brighter Futures	Louise Clarke	(02) 6932 7500	clarkelo@missionaustralia.com.au	Provide families with case management home visiting , parenting program quality children's services to help families that may find difficulties
Parenting Programs (Centacare)	Susan Joyce	(02) 6923 3888	joyces@centacareswnsw.org.au	Prevention program, for young parents with coping skills/ parent play groups

Service Name	Contact Person	Contact Numbers	Email Address	Brief Outline of Services
Wagga TAFE	TBA	(02) 6938 1482		STEPS program - Adult Literacy, play group/ parent group. Helping parents help their children
Centrelink	Carla Hall	(02) 6937 3423	carla.hall@centrelink.gov.au	To provide financial support to Child support eg family tax benefit
	Terese Jones-Mutton	(02) 6937 3482	therese.jones-mutton@centrelink.gov.au	
Child Support Agency	Tracey Lenihan	131 272 or (02) 6937 3390	www.csa.gov.au	For separated parents to help with child support - registration, help collect child support
Wagga Family Support Services	Lee Rowell Erica Finemore	(02) 6921 7544	info@waggafamilysupport.org.au	Support to families in developing skills and competency in child rearing and family relationships.
Sisters Housing Enterprises	Belinda McMahon	(02) 6921 6793	manager@sistershouseing.org.au	Crisis accommodation, Outreach service which give support in their own home, education around domestic violence
Community Services	Jennifer Collins	(02) 6937 9300	Jennifer.collins@facs.nsw.gov.au	Information regarding reporting of concern about the safety, welfare or wellbeing of children/young people. Services include Helpline
Wagga Women's Health Centre	Julie Mecham	(02) 6921 3333	wwhc@waggawomen.org.au	Counselling and pregnancy options
Angels for the Forgotten		0449 979 910	angelsfortheforgotten@hotmail.com	Support for Young or at risks mums and their child / babies.

3. HAVING A BABY IN THE RIVERINA

For most women pregnancy and giving birth are normal, healthy life events. Different women will have different needs, before, during and after the birth of their baby. The Riverina has many choices available.

The Riverina Antenatal Shared Care Program has produced a brochure "**Having a Baby in the Riverina**"; copies of the brochure can be obtained for practices to provide to patients by contacting the Primary Health Care Network, or the WWRRH PCEC.

3.1 Options for pregnancy care and childbirth

GPs are often the first point of contact for women seeking antenatal care. The GP is well placed to discuss options for maternity care.

Women with private health insurance may choose to birth at Calvary Private Hospital, Wagga Wagga when they are seeing obstetricians practicing privately at Calvary Hospital. There is no central register of obstetricians working privately and their visiting rights; GPs are advised to check individual specialists' practice locations and availability before making referrals.

Public maternity services are provided at Murrumbidgee Local Health District Maternity Units including WWRRH Maternity Services. Public hospitals will provide care to women who present without a referral from a GP, however referral is preferred. Women can also choose private care at WWRRH.

All services provided to patients by the public hospital system are provided free of charge to patients with a Medicare Card. Private obstetricians, radiologists and pathologists will charge a fee for their services; most fees charged will attract a Medicare and /or health fund rebate. GPs are private practitioners who may charge a fee for their services or may bulk bill for services at their professional discretion. Some GPs may decide to request bulk billing via pathology companies and some may not. Women should be advised to discuss any fees and charges for care outside a public hospital with their referring GP and treating specialists.

Midwives

Midwives work within the public health system, the private system in private hospitals with private obstetricians or privately as independently practising midwives. There is no public Home Birth option currently in MLHD. Women may prefer the option of midwifery led care. There are several options for women who wish to access midwifery led care. If a midwife is the primary carer, they have an obligation to liaise, refer and consult with other practitioners as needed.

WWRRH Maternity Services has midwifery led care for women in the PCEC and also postnatal care via Midwifery Community Care (MCC). There is a high demand for this service and women should be advised to book as early as possible in the pregnancy. The GP referral and the use of the Maternity Record are the same as for antenatal shared care.

At the PCEC WWRRH, some specific midwifery clinics address targeted groups particularly Aboriginal women and adolescent women. This is an option that may also suit women. Women with complex risks in this targeted group will be referred to Specialist Obstetricians by the service if and when a risk is identified.

Some women choose to engage the services of a private "independent" midwife. Independent midwives are the only birth practitioners supporting women planning home births in the Riverina. Independent midwives may also accompany birthing women to hospital by arrangement with those birthing facilities. Issues such as cost and professional indemnity insurance are best explored by the woman with the independent midwife before engaging their services.

Obstetricians

Obstetric care is provided free of charge to women at public hospitals. Women seeking private care need to be referred by a GP to the Obstetrician of their choice. Midwives and GPs participating in shared maternity care can access specialist advice 24 hours a day from the obstetric team on call by contacting the Maternity Services at WWRRH.

Doulas

A doula is a non-clinical support person who provides emotional and physical support to a woman/couple during pregnancy, labour and postnatally. Doulas also assist women to find and process information required to make informed decisions and they act as the woman's advocate. A Doula is employed by the woman/couple. Doulas' have a variety of experience and backgrounds and are not registered as health professionals.

4. WOMEN SUITABLE FOR SHARED CARE

The basis of these guidelines for excellence of care are:

1. Appropriate consultation for women with identified complexities during pregnancy
2. To Ensure and develop functional communication pathways to ensure the woman is always at the centre of the care and appropriate information is shared among care providers to ensure excellence of care.
3. To develop an individual management/care plan to optimise the health outcome of the woman and the newborn.

   All women will require a booking in visit with the PCEC and visits during their pregnancy regardless of the complexity to the pregnancy.

   The frequency of visits with the PCEC for women with complexities will be determined by the Specialist Obstetric Team.

   Women with complexities during pregnancy may require consultation with the Specialist Obstetric Team and the development of a management plan. This may not exclude the woman from a share care arrangement. However appropriate functional communication process must ensure appropriate transfer of information for all health care providers involved in the woman's care.

   The following tables provide a guidance to clinicians to identify the required level of discussion, consultation or referral using an **A, B, C** category. These indicators are identified across the full spectrum of care episode. This list is not exhaustive or cover all possible indications and the clinicians must use his or her clinical judgement.

A: Discuss.

- Women categorised with an A complexity are suitable for share care with the general practitioners.
- This category requires discussion with a health care provider or another medical officer in order to plan and provide optimum care. Following this discussion the woman may be recommended for referral to a specialised medical officer or other health care provider. This does not transfer the responsibility of care.

B and C: Consult and Refer.

Category B and C require additional care from an Obstetrician or other specialist. Each woman's risk factors need to be assessed individually during the pregnancy. A woman's level of risk can change throughout the pregnancy and the following categories are intended as guidelines only. The woman may continue to be suitable for shared care when a management plan is developed outlining the frequency of visits required to the Specialist Obstetrician by the clinical indication.

Indications at Commencement of Care ACM Consultation & Referral Guidelines: A – Discuss B – Consult C – Refer

1.	**Anaesthetic difficulties**	
	• Malignant hyperthermia or neuromuscular disease or family history	*C*
	• **Previous failure of complication** (e.g. difficult intubation, failed epidural)	*B*
2.	**Autoimmune disease**	
	• **SLE/Connective tissue disorder** o Active, major organ involvement, on medication o Inactive, no renal involvement, no hypertension, or only skin/joint problems	 *C* *B*
3.	**Body Mass Index**	
	BMI <18 and >35	*B*
	• **BMI >40**	*C*
4.	**Cardiovascular disease**	
	• **Arrhythmia/palpitations; murmurs; recurrent, persistent or associated with other symptoms**	*C*
	• **Cardiac valve disease**	*C*
	• **Cardiac Valve replacement**	*C*
	• **Cardiomyopathy**	*C*
	• **Congenital cardiac disease**	*C*
	• **Hypertension**	*C*
	• **Ischaemic heart disease**	*C*
	• **Pulmonary hypertension**	*C*
5.	**Drug dependence or misuse**	
	• **Use of alcohol and other drugs**	*B*
	• **Medicine use:** the effect of drugs on the pregnant woman and the unborn child, lactation and/or neonate. Information is available from - Mothersafe1800 647 848.	*B*
6.	**Endocrine**	
	• **Addison's Disease; Cushing's Disease** or other endocrine disorder requiring treatment.	*C*
	• **Diabetes mellitus** • Gestational diabetes in previous pregnancy • Pre-existing Type 1or Type 2 diabetes.	 *A* *C*
	• **Hypothyroidism** o Stable treated hypothyroidism o New diagnosis	 *A* *B*
	• **Hyperthyroidism**	*B*
	• **Thyroid disease**	*B*
7.	**Gastro-intestinal**	
	• **Hepatitis B** with positive serology (Hbs-Ag+).	*B*
	• **Hepatitis C**	*B*
	• **Inflammatory Bowel Disease** This includes ulcerative colitis and Crohn's disease.	*B*
	• **GORD**	*B*
8.	**Genetic – any condition**	*B*
9.	**Haematological**	
	• **Anaemia** at commencement of care irrespective of how treated	*B*

	or whether it responds to treatment: Anaemia is defined as Hb<100g/L	
	• **Coagulation disorders**	*C*
	• **Decline Blood Products**	*B*
	• **Haemoglobinopathies**	*B/C*
	• **Haemolytic anaemia**	*C*
	• **Other antibodies detected**	*B/C*
	• **Rhesus antibodies**	*C*
	• **Rhesus Negative requiring Anti D**	*B*
	• **Thalassaemia**	*C*
	• **Thrombo-embolic process** of importance is the underlying pathology and the presence of a positive family medical history	*C*
	• **Thrombophilia including anti-phospholipid syndrome** • No previous obstetric complication or maternal thrombosis • On warfarin, previous obstetric complication or maternal thrombosis. **This requires immediate action at initial visit**	*B* *C*
10.	**Infectious Diseases**	
	• **Cytomegalovirus**	*B*
	• **Genital Herpes** o Primary infection o Recurrent infection	 *B* *A*
	• **History of viral, or parasitic infections**	*A/B*
	• **HIV-infection**	*C*
	• **Parvo virus infection**	*B*
	• **Previous neonate GBS positive**	*B*
	• **Rubella**	*B*
	• **Syphilis** o Positive serology and treated o Positive serology and not yet treated o Primary infection	 *B* *B* *B*
	• **Toxoplasmosis**	*B*
	• **Tuberculosis:** active or a history of tuberculosis	*B*
	• **Varicella/Zoster virus infection**	*B*
11.	**Maternal age (under 14 and older than 45 years)**	*A/B*
12.	**Neurological**	
	AV malformations	*C*
	Bells palsy	*A*
	Epilepsy, with medication or no seizures in the past 12 months	*B/C*
	Epilepsy, without medication in the past without treatment and no seizures in the past 12 months	*B*
	Multiple Sclerosis	*B*
	Muscular dystrophy or myotonic dystrophy	*C*
	Myasthenia gravis	*C*
	Spinal cord lesion (para or quadriplegia)	*C*
	Subarachnoid haemorrhage, aneurysms.	*C*
13.	**Organ Transplants**	*C*

14.	**Perinatal Mental health Problems- History of**	*B*
	• Care during pregnancy and birth will depend on the severity and extent of the psychiatric disorder. • **EDS>12**	*B*
	• **EDS-** positive response to Q10 self-harm	*B*
	• Puerperal Psychosis	*C*
15.	**Renal function disorders**	
	• **Disorder in renal function**, with or without dialysis.	*C*
	• **Pyelitis**	*B*
	• **Previous kidney surgery** with potential to impair kidney function during pregnancy i.e. removal of a kidney	*C*
	• **Urinary tract infections (recurrent)**	*A/B*
16.	**Respiratory Disease**	
	• Asthma Mild	*B*
	• Moderate (i.e. oral steroids in the last year and maintenance therapy)	*C*
	• H1N1 (current)	*C*
	• Severe Lung function disorder.	*C*
	• Sarcoidosis (can exacerbate during pregnancy	*C*
17.	**Skeletal Problems**	
	These include conditions that may cause severe pain during labour • **History of developmental skeletal disorders**	*B*
	• **Osteogenesis Imperfecta**	*B/C*
	• **Scheuermann's Disease**	*B/C*
	• **Scoliosis (with rods)**	*B/C*
	• **Spondylolisthesis**	*B/C*
18.	**System/connective tissue diseases**	
	These include rare maternal disorders such as • **Anti-phospholipid syndrome (APS)**	*C*
	• **Marfan's syndrome, Raynaud's disease and other systemic and rare disorders**	
	• **Periarteritis nodosa**	
	• **Scleroderma, Rheumatoid Arthritis**	
	• **Systemic Lupus Erythematosus (SLE)**	

Pre-existing Gynaecological Disorders

17.	**Cervical Abnormalities**	
	• **Abnormal PAP smear results requiring follow-up during pregnancy**	*B*
	• Cervical amputation	*C*
	• Cervical surgery including cone biopsy, laser excision or LLETZ biopsy	***B***
	• Cervical surgery with subsequent term vaginal birth	*A/B*
	• Cervical surgery without subsequent term vaginal birth	*B*
18.	**Female Genital Mutilation (FGM)**	*B*
19.	**Fibroids**	*B*
20.	**Infertility treatments**	*A/B*
21.	**Intra Uterine Contraceptive Devices in situ**	*B*
22.	**Pelvic Deformities (trauma, symphysis rupture rachitis)**	*B*
23.	**Pelvic floor reconstruction**	
	This refers to colpo-suspension following prolapse, fistula and/or previous rupture.	B
24.	**Uterine Abnormalities**	
	• **Myomectomy /hysterotomy**	*C*
	• **Bicornuate uterus/unicornuate uterus or other congenital reproductive tract anomalies (including vaginal septum's)**	*C*

Previous maternity history

25.	**Active blood incompatibility (Rh, Kell, Duffy, Kidd).**	C
26.	**ABO-incompatibility.**	B
27.	**Autoimmune thrombocytopenia**	C
28.	**Caesarean section**	B
29.	**Cervical weakness (and/or cervical suturing procedure)**	C
30.	**Cholestasis**	B
31.	**Congenital and/or hereditary disorder of a previous child**	B
32.	**Forceps or vacuum extraction**	A/B
33.	**Grand Multiparity defined as parity >5**	A/B
34.	**Hypertension**	
	Eclampsia	C
	Gestational hypertension	B
	Pre-eclampsia	B
35.	**IUGR <10 percentile**	B
36.	**Macrosomia >4.5kg**	A/B
37.	**Neonatal Asphyxia** (defined as an APGAR score of ,7 at 5 minutes)	B
38.	**Perinatal death**	B
39.	**Placenta**	
	Abruption	B
	Accreta	C
	Manual removal	A
40.	**Postpartum depression**	A/B/C
41.	**Postpartum haemorrhage >500ml requiring additional treatment/transfusion**	B/C
42.	• **Preterm birth (<35 weeks) in previous pregnancy**	A/B
43.	**Previous HELLP syndrome**	C
44.	**Previous neonate GBS infection**	B
45.	**Previous serious psychological disturbance**	B/C
46.	**Recurrent miscarriage (3 or more first trimester)**	B
47.	**Rhesus isoimmunisation**	B/C
48.	**Shoulder dystocia**	B
49.	**Symphysis pubis dysfunction**	A
50.	**Termination of pregnancy (TOP)**	A
51.	**Trophoblastic disease:** Hydatidiform mole or vesicular mole within the last 12 months	C
52.	**Third of fourth degree perineal laceration**	
	• **Functional recovery**	B
	• **Persistent pelvic floor dysfunction**	B/C
53.	**Vulval/perineal haematoma requiring surgical treatment**	A/B
54.	**Other significant obstetric event**	A/B/C

Other indications

55.	**Current or previous child protection concerns**	**B**

Clinical Indication During Pregnancy ACM Consultation & Referral Guidelines:
A – Discuss B – Consult C – Refer

1.	**Adoption- intended**	*B*
2.	**Cervical Weakness (cervical dilation prior to 37 weeks and /or cervical-procedure)**	*C*
3.	**Cervix cytology abnormalities**	*B/C*
4.	**Ectopic Pregnancy**	*C*
5.	**Endocrine**	
6.	**Diabetes Mellitus** • **Gestational diabetes diet controlled** • **Gestations diabetes requiring insulin**	 *B* *C*
	Thyroid disease • **Hypothyroidism** • **Hyperthyroidism**	 *B* *B*
	Addison's Disease, Cushing's Disease or other endocrine disorder requiring treatment	*C*
7.	**Fetal anomaly**	*A/B/C*
8.	**Fetal Death in Utero**	*C*
9.	**Fetal size/date discrepancy**	
	Polyhydramnios/Oligohydramnios	*B*
	Small for dates or large for dates	
10.	**Fibroids**	*B*
11.	**Gastro-intestinal**	
	• **Cholestasis**	*B/C*
	• **Hepatitis B with positive serology (HBsAg+)**	*B*
	• **Hepatitis C**	*B*
	• **Inflammatory Bowel Disease including ulcerative colitis and Crohn's disease**	*B*
	• **GORD**	*B*
12.	**Haematological**	
	• **Anaemia Hb<100g/L and not responding to treatment**	*B*
	• **Blood Group**	*B*
	• **Coagulation Disorders**	*B*
	• **Rhesus negative requiring Anti D**	*A/B*
	• **Thrombosis**	*C*
13.	**Hernia Nuclei Pulposi (slipped disc)**	*B*
14.	**High Head at term**	*B*
15.	**Hyperemesis Gravidarum**	*B*
16.	**Hypertension**	
	• **Any type with Proteinuria (>1+or >3g/24 hour)**	*C*
	• **Chronic hypertension** is present win the preconception period or the first half of pregnancy. It may be essential where there is not apparent cause or secondary where the hypertension is associated with renal, renovascular, endocrine disorder or aortic coarctation. Diastolic pressure should be recoded as Point V Korotkoff (K5, point of disappearance of sound)	*C*
	• **Eclampsia**	*C*
	• **Gestational Hypertension:** any hypertension after 20 weeks gestation	*B*
	• **Preeclampsia (PE):** BP of ≥140/90 and/or relative rise of >30/15 mmHg from BP at commencement of care	*C*

	• **Proteinuria >0.3g/24hours: or protein/creatinine ratio ≥30mg/mmol or 2+protein on dipstick** • **Platelets <150 x 10/9L** • **Abnormal renal or liver function** • **Imminent eclampsia**	
17.	**Infectious diseases**	
	• **Cytomegalovirus**	*B*
	• **Genital Herpes** ▪ Late in pregnancy ▪ Primary infection ▪ Recurrent	 *C* *B* *A/B*
	• **HIV- Infection**	*C*
	• **Parvo virus infection**	*B*
	• **Listeriosis**	*B*
	• **Rubella**	*B*
	• **Sexually transmitted infections** including Syphilis, Gonorrhoea, Chlamydia, Human Papilloma Virus	*A/B*
	• **Toxoplasmosis**	*B*
	• **Varicella/Zoster virus infection**	*C*
18.	**Malpresentation/non cephalic presentation at full term**	*C*
	Breech presentation (refer for ECV at 35 weeks)	*C*
19.	**Multiple pregnancy**	*C*
20.	**No prior antenatal care (at full term)**	*B*
21.	**Perinatal mental health issues**	
	• **EDPS>12**	*B/C*
	• **EDPS – positive response to Q10 self-harm**	*B/C*
22.	**Placental indications**	
	• **Placental abruption**	*C*
	• **Placental Accreta**	*C*
	• **Placenta praevia confirmed**	*C*
	• **Vasa Previa**	*C*
23.	**Post-term pregnancy (amenorrhoea lasting longer than 42 completed weeks or 294 days)**	*B*
24.	**Preterm labour (threatened or actual) and birth**	*C*
25.	**Preterm rupture of membranes**	*B/C*
26.	**Reduced fetal movement in the third trimester**	*B*
27.	**Renal function disorders**	
	• **Urinary tract infections**	*A/B*
	• **Pyelitis**	*C*
28.	**Respiratory Disease**	
	• **Asthma**	*A/B*
29.	**Surgery during pregnancy**	*C*
30.	**Symphysis pubis dysfunction (pelvic instability)**	*A*
31.	**Uncertain duration of pregnancy by amenorrhoea >20 weeks**	*B*
32.	**Vaginal blood loss**	
	• **Recurring prior to 12 weeks**	*A/B*
	• **At or after 12 weeks**	*B*
33.	**Current or previous child protection concerns**	*B*

5. ANTENATAL CARE

Principles of care

WHO principles of perinatal care

- Care for women with a normal pregnancy and birth should be demedicalised
- Care should be based on the use of appropriate technology
- Care should be evidence-based
- Care should be local
- Care should be multidisciplinary
- Care should be holistic
- Care should be woman centred
- Care should be culturally appropriate and culturally safe

5.1 Understanding the woman's context

- Focus on the woman's unique needs, expectation and aspirations
- Recognises her right to self-determination in terms of choice, control and continuity of care
- Addresses the woman's social, emotional, physical, psychological, spiritual and cultural needs and expectations (ANMC 2006)
- Acknowledges the woman and her unborn baby do not exist independently of the woman's social emotional environment and incorporates this understanding in assessment and provision of care.

5.2 Cultural Safety in antenatal care

Strategies to ensure culturally safe care include

- Optimising communication through the use of interpreters
- Building sound relationships
- Acknowledging women cultural preferences

5.3 Providing information and support so that women can make decisions

Making a choice should be an ongoing process of discussion between the woman and all health care professionals involved. Factors that can assist in this process include

- Assessing the woman's prior knowledge
- Asking open ended questions and listening to the answers
- Attending to verbal and non-verbal cues
- Clarifying the information provided by the woman
- Clarifying the woman's understanding of the information provided
- Providing easy to understand verbal explanation and written or audio-visual information in the woman's preferred language. Having a Baby Book and other facts sheets available in many languages via the NSW Health website http://www.kidsfamilies.health.nsw.gov.au/publications/having-a-baby/
- And the Multicultural Health Communication website http://www.mhcs.health.nsw.gov.au/publicationsandresources#c3=eng&b_start=0&c1=Pregnancy+and+post+natal

- Where appropriate, using accredited interpreters to ensure effective communication
- GET HEALTHY in pregnancy is free confidential information and telephone coaching program for pregnant women in NSW over 16 years. Women can be referred by the GP, midwife or obstetrician. Registration and further information is available online via www.gethealthynsw.com.au

The woman's Hand Held Record (Yellow Card) ensures that all members of the collaboration are aware of essential information throughout maternity care.

5.4 Involving the woman's family

Woman centred care encompasses the needs of the baby, and the woman's family significant others and community as identified and negotiated by the woman herself. The woman should be asked and chose who she would like to be involved in her care.

6. ANTENATAL VISIT SCHEDULE

NB: Fact sheets for women are available at the back of these guidelines for photocopy and distribution to women as appropriate.

In some rural areas the woman's usual GPs may share results and visits with a GP Obstetrician or private obstetrician instead of with PCEC WWRRH, for the care of well women in pregnancy. These women need to "book in" with their GP Obstetrician at 12-14 weeks who may then provide shared antenatal care with the woman's usual GP.

6.1 Schedule of Visits

GP Preconception

- Pre-existing illness and/or medication review including family history of inherited disorders
- Lifestyle - history of diet, smoking, alcohol, drug use including illicit drugs and provide specific information of the risks involved with this behaviour during pregnancy
- Assess for any risks to the woman for pregnancy and refer to specialists as appropriate
- Suggest woman keeps diary of her menstrual cycle
- Check Rubella and Varicella immunity or clinical history of chicken pox or varicella vaccination
- Pap test if due and fluvax if appropriate
- Consider pre pregnancy all routine antenatal blood tests
- Discuss and commence folic acid and iodine supplements
- provide the woman with information and the "Having a Baby in the Riverina" brochure

GP 6 to 10 weeks

- Commencement of the Maternity Woman's Hand Held Record (yellow card)
- Preform all first trimesters screenings

- ALL DIAGNOSTIC RESULTS FOR PATHOLOGY AND ULTRASOUND ARE TO BE COPIED TO THE PREGNANCY CARE CENTRE WHEN ORDERED

- ADVISE WOMEN TO PHONE THE PREFERED HOPSITAL FOLLOWING THIS VISIT TO MAKE AN APPOINTMENT FOR WHEN THEY ARE 12 TO 14 WEEKS GESTATION
- PROVIDE A DETAILED REFERRAL TO THE BIRTHING HOSPITAL

Woman-centred care
• Seek woman's thoughts, views and opinions
• Ask open-ended questions and provide an opportunity to discuss issues and ask questions
• Offer verbal information supported by written or other appropriate form of information (on topics such as diet and lifestyle, available pregnancy care services, maternity benefits, screening tests, breastfeeding)
• Discuss involvement of the woman's partner/family in antenatal care, using gender neutral language until the gender of the partner is established
• Provide emotional support and empathy
• Discuss any costs that may be involved in a woman's antenatal care
General assessment
• Confirm pregnancy and undertake a **comprehensive history** including:
– current pregnancy (planned, unplanned, wishes to proceed with or terminate the pregnancy)
– medical (past history, medicines, family history [high blood pressure, diabetes, genetic conditions], cervical smears, immunisation, breast surgery)
– obstetric (previous experience of pregnancy and birth)
– infant feeding experiences
– assess nutrition and physical activity refer as appropriate
– discuss smoking, alcohol and other substance misuse refer as appropriate
– expectations, partner/family involvement, cultural and spiritual issues, concerns, knowledge, pregnancy, birth, breastfeeding and infant feeding options
– factors that may affect the pregnancy or birth (eg female genital mutilation/cutting)
– social factors affecting the woman's emotional health and wellbeing
– the woman's support networks and information needs
• **Clinical assessment**
– discuss conception, date of ovulation and date of last menstrual period. If this information is uncertain Offer ultrasound scan for gestational age assessment (carried out between 8 and 14 weeks of pregnancy)
– measure height and weight and calculate body mass index and provide advice on appropriate weight gain refer to Get Healthy in Pregnancy www.gethealthynsw.com.au
– measure blood pressure
– test for proteinuria
– delay auscultation of fetal heart until after 12 weeks gestation
– assess risk of preterm birth and provide advice on risk and protective factors
– ask questions about psychosocial factors that affect mental health
PAPP-A and HCG from 10 -12 weeks, plus nuchal translucency ultrasound from 12-13 weeks. Provide written information to the woman. Copies of the 8 weeks pathology to also be provided to the ultrasound provider
• **Maternal health screening**
– check blood group and antibodies, full blood count and haemoglobin concentration and consider testing ferritin in areas where prevalence of iron-deficiency anaemia is high

– assess risk of diabetes and offer screening to women with the following risk factors • Previous hyperglycaemia in pregnancy • Previous elevated blood glucose level • Maternal age ≥40 years • Ethnicity: Asian, Indian subcontinent, Aboriginal, Torres Strait Islander, Pacific Islander, Maori, Middle Eastern, non-white African • Family history DM (first degree relative with diabetes or a sister with hyperglycaemia in pregnancy) • Pre-pregnancy >30kg/m^2 • Previous macrosomia (baby with birth weight ≥4500g or ≥90th centile) • Polycystic ovarian syndrome • Medications: corticosteroids, antipsychotics If negative to be repeated at 26 weeks gestation
– consider additional testing for haemoglobin disorders (iron studies, haemoglobin electrophoresis) for women with risk notably the sub Saharan African refugees
– recommend testing for HIV, hepatitis B, rubella non-immunity, syphilis, and asymptomatic bacteriuria
– offer testing for hepatitis C and gonorrhoea to women with identified risk factors
– offer chlamydia testing to all women who are younger than 25 years
– in areas with a high prevalence of sexually transmitted infections, consider offering chlamydia and gonorrhoea testing to all pregnant women
– offer testing for trichomoniasis to women who have symptoms
– offer cytomegalovirus testing to women who have frequent contact with large numbers of very young children
– offer thyroid function testing to women who have symptoms or high risk of thyroid dysfunction
– offer testing for vitamin D deficiency to women who have limited exposure to sunlight, dark skin or a pre-pregnancy BMI of >30
– advise women about measures to avoid toxoplasmosis or cytomegalovirus infection
Assessment
• Estimated date of conception /gestational age
• Risk factors — physical, social, emotional
• Need for referral
• Need for further investigation/ treatment/ preventive care
Actions
• Advice on options for antenatal care and place of birth
• Referral if required
• Further investigation as required
• General advice (also for the partner/family) — pregnancy symptoms, supplements, smoking, nutrition, alcohol, physical activity, substance use, dental visits
• Preventive interventions — folate, iodine, others as needed (eg iron supplement)
• Specific vaccinations including influenza, varicella zoster and pertussis at 28 weeks

GP 10–14 weeks 2nd visit

Review, discuss and record the results of all screening tests undertaken
Reassess planned pattern of care for the pregnancy and identify whether additional care or referral is needed
Assess fetal growth
Recommend fetal anatomy scan to be carried out at 19–20 weeks gestation
Measure weight if this is likely to influence clinical management

Midwife Booking in visit 12-14 (Pregnancy Care Centre)

Discuss pregnancy options for care options and planning for place of birth. Consideration to be provided to women with previous Caesarean birth and information to be provided.
review/complete comprehensive history for the woman-
– current pregnancy (planned, unplanned, wishes to proceed with or terminate the pregnancy)
– medical (past history, medicines, family history [high blood pressure, diabetes, genetic conditions], cervical smears, immunisation, breast surgery)
– obstetric (previous experience of pregnancy and birth)
– infant feeding experiences
– Assess nutrition and physical activity refer as appropriate
– Discuss smoking, alcohol and other substance misuse refer as appropriate
– expectations, partner/family involvement, cultural and spiritual issues, concerns, knowledge, pregnancy, birth, breastfeeding and infant feeding options
– factors that may affect the pregnancy or birth (eg female genital mutilation/cutting)
– social factors affecting the woman's emotional health and wellbeing
– the woman's support networks and information needs
Review, discuss and record the results of all screening tests undertaken
Reassess planned pattern of care for the pregnancy and identify whether additional care or referral is needed
Recommend and complete Edinburgh Depression Scale (must be completed before 32 weeks gestation)
Assess fetal growth
Offer/discuss/confirm fetal anatomy scan to be carried out at 19–20 weeks gestation
Measure weight if this is likely to influence clinical management, refer and discuss Get Healthy in Pregnancy www.gethealthynsw.com.au
Provide and explain pregnancy information and handouts eg having a baby book
Invite the woman to attend the antenatal education sessions from 28 weeks gestation
Complete the ObstetriX database
Reply to the GP referral, include the EDS, pregnancy risks identified referral plans and the model of care required or chosen by the woman

GP 22 weeks 3rd visit

Assess fetal growth – fundal height measurement
Listen to fetal hearts and discuss fetal movements — timing, normal patterns etc
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
Test for hyperglycaemia between 24 and 28 weeks gestation
Repeat ferritin testing if levels were identified as low in the first trimester
Pathology
Review all investigations and pathology

GP 26 weeks 4th visit

Assess fetal growth
Listen to fetal hearts and discuss fetal movements — timing, normal patterns etc
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
Pathology
Screen for anaemia, blood group and antibodies at 26 to 28 weeks
Test for hyperglycaemia - Request for the 75g glucose tolerance test 26 to 28 weeks gestation and explain to the woman the importance of this test.
Review all investigations and pathology Enquire about mental health and administer the EPDS at 28–30 weeks

Midwife 28 weeks 5th visit (Pregnancy Care Centre)

Assess fetal growth- fundal height measurement
Listen to fetal hearts and discuss fetal movements — timing, normal patterns etc GL2011_012 Maternity Fetal Movements in the Third Trimester NSW Health
Review, discuss and record the results of tests undertaken at 26 to 28 weeks
Reassess planned pattern of care, review risks and involve obstetrician in pregnancy care as needed for the pregnancy and identify women who need additional care, arranging referral if required
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
Offer repeat ultrasound at 32 weeks to women whose placenta was low lying, in the 18–20 week scan.
Offer a second dose of Anti-D to rhesus-negative women and plan for repeat dose at 34 weeks
Give information, including care of the new baby, reducing risk of SUDI, newborn screening tests and vitamin K prophylaxis, psychosocial support available in the postnatal period including maternal and child health services and psychosocial supports, with an opportunity to discuss issues and ask questions
Give information, with an opportunity to discuss issues and ask questions on preparation for labour and birth, including the birth plan, recognising active labour and positively managing the pain of normal labour (this may need to take place earlier in remote areas)
Discuss breastfeeding (eg skin-to-skin contact at birth, early feeding, rooming-in, attachment, exclusive breastfeeding, feeding on demand, partner support). Discuss safe infant formula feeding if a woman chooses to formula feed.

GP 32 weeks 6th visit

Assess fetal growth- fundal height measurement
Listen to fetal heart and discuss fetal movements- timing normal pattern etc
Assess fetal presentation by abdominal palpation from 36 weeks and confirm suspected malpresentation by ultrasound
For women whose babies are not a cephalic presentation, discuss a range of options, including external cephalic version for breech presentation
Measure blood pressure
Test for proteinuria in women who have clinical indications of or risk factors for pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management

Obstetrician 34 to 36 weeks 7th visit at the Pregnancy Care Centre

Assess fetal growth- fundal height measurement
Listen to fetal heart and discuss fetal movements- timing normal pattern
Assess fetal presentation by abdominal palpation from 36 weeks and confirm suspected malpresentation by ultrasound
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
If breech presentation commence on the breech pathway (refer to section 10)
Screen for Group B streptococcus, organisation policy is to routinely screen all women
If planning Caesarean birth, provide and complete documentation
Give information including normal length of pregnancy, onset of labour, with an opportunity to discuss any fears and worries and ask questions NSW Health GL 2014_015 Management of Pregnancy Beyond 41 Weeks brochure http://www.kidsfamilies.health.nsw.gov.au/publications/maternity-management-of-pregnancy-beyond-41-weeks/
Encourage and remind the woman to perform the Group B Step (low vaginal and perianal) swab

Midwife visit at 34 weeks at Pregnancy Care Centre Rh D negative women only

Anti D prophylaxis administration following screening for antibodies.

GP 37, 38, 39 and 40 weeks 8th to 11th visit

Assess fetal growth- fundal height measurement
Listen to fetal heart and discuss fetal movements- timing normal pattern
Assess fetal presentation by abdominal palpation from 36 weeks and confirm suspected malpresentation by ultrasound and refer to Pregnancy Care Clinic
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
Discuss postpartum care options
Give information, including discussion about options for prolonged pregnancy (eg membrane sweeping), with an opportunity to discuss issues and ask questions. NSW Health GL 2014_015 Management of Pregnancy Beyond 41 Weeks brochure http://www.kidsfamilies.health.nsw.gov.au/publications/maternity-management-of-pregnancy-beyond-41-weeks/
Refer to Pregnancy Care for the next visit if required

Obstetrician 41 weeks 12th visit Pregnancy Care Centre

Assess fetal growth- fundal height measurement
Listen to fetal heart and discuss fetal movements- timing normal pattern
Assess fetal presentation by abdominal palpation from 36 weeks and confirm suspected malpresentation by ultrasound
Plan for timing of birth, induction of labour and monitoring required
Measure blood pressure
Test for proteinuria in women who have clinical indications of pre-eclampsia (eg high blood pressure)
Measure weight if this is likely to influence clinical management
Give information, including discussion about options for prolonged pregnancy (eg membrane sweeping), with an opportunity to discuss issues and ask questions. NSW Health GL 2014_015 Management of Pregnancy Beyond 41 Weeks brochure http://www.kidsfamilies.health.nsw.gov.au/publications/maternity-management-of-pregnancy-beyond-41-weeks/
Discharge planning: discuss follow-up and how to access care if any concerns, discuss the woman's support networks and what services are available post birth.

Source: Clinical Practice Guidelines Antenatal care Module I and II, Australian Government Department of Health and Ageing, http://www.health.gov.au/antenatal Adapted from NICE (2008).

6.2 Postnatal Care Checklist

GP Early postpartum (1-2 weeks if early discharge)

Assess psychological wellbeing of mother (check support network)
Discuss birth and any complications
Check bowel and bladder function
Check any suturing or LUSCS scar if necessary
Check BP if pre eclampsia or eclampsia during pregnancy or postnatal
Is rubella/pertussis vaccination necessary?
Discuss contraception options
Ask about mood, breast/nipples, feeding, family relationships, PV bleeding and intercourse resumption
Review the babies 'Blue Book'- Personal Health Record
Examine infant, special emphasis on examining the heart and hips.
Discuss attending Maternal and Child Health (Child and Family Health Nurse) services including Lactation Consultant and Family Care Cottage. Offer referrals as appropriate

GP 6-8 weeks postpartum

Assess psychological wellbeing of mother (check support network, family relationships)
Check bowel and bladder function, history of PV blood loss and discharge
Check post pregnancy progress, sexual functioning and contraception choices
Examine abdomen, BP, breasts and perineum as clinically indicated
Is Pap Test required or due?
Discuss newborn feeding
Examine infant and discuss maternal satisfaction with progress
Review the babies 'Blue Book' - Personal Health Record
Discuss and reminder for newborn immunisation
Discuss attending Maternal and Child Health (Child and Family Health Nurse) services including Lactation Consultant and Family Care Cottage. Offer referrals as appropriate

6.3 High BMI Pathway

WWRRH ANTENATAL PATHWAY FOR BMI > 35

BMI > 35

Identify at booking

Offer Dietician and refer if accepted by client offer Get Healthy in Pregnancy and refer with consent www.gethealthynsw.com.au

Advise risk factors for GDM

Arrange 75g 2 hr GTT with initial bloods and advise repeat @ 28/40 if normal

To attend HR Clinic when greater than 30 weeks gestation

U/S for fetal wellbeing and presentation @ 34-36/40

Special consideration for women with a BMI greater than 50

US institute of Medicine (IOM) Recommended weight gain in pregnancy based on pre-pregnancy BMI

<18.5	18.5 to 24.9	25 to 29.9	30.0 to 34.9	≥40
12.7 -18.1kg	11.3 – 15.9kg	5 – 9kg	5 – 9kg	5 – 9kg

Repeated weighing during pregnancy should be confined to circumstances that are likely to influence clinical management. Source: Clinical Practice Guidelines Antenatal care Module I and II, Australian Government Department of Health and Ageing, http://www.health.gov.au/antenatal

6.4 Rhesus Negative Pathway

PATHWAY FOR RHESUS NEGATIVE CLIENTS

Identify the Rhesus factor and antibody screen @ booking following routine antenatal screening

Advise client of Rh neg implications, including the importance of presenting to Emergency Department for anti D immunoglobulin if bleeding in pregnancy

Discuss and give booklet 'You and Your Baby' – Important Information for Rh (D) Negative Women and The Reasons for Prophylactic Anti D Pathway

Routine screen for antibodies @ 28/40 and offer/give Anti D immunoglobulin 625 iu **following** screening (**NB Notify Pathology Services if anti D has been given in this pregnancy on the request Form)** Midwife Clinic

Repeat anti D immunoglobulin injection @ 34/40

Post delivery cord blood is taken and screened for group, Rh & Direct Coombes and maternal Kleihauer @ 4 hrs post delivery

If the baby is Rh Positive – Mother requires Anti D immunoglobulin within 72 hrs (dose dependant on Kleihauer result) may request this of the GP if the woman is discharged prior to result being available

7. CLINICAL CONSIDERATIONS

7.1 Pre - conception

Aim

To detect prior to pregnancy those women needing medical assistance to optimise conception and viability and to clarify expectations/concerns relating to the pregnancy.

Essential

Identification in early pregnancy of women whose pregnancies may be at risk by virtue of past obstetric history or concurrent medical conditions/medications, eg:

- IDDM
- Hypertension
- Epilepsy
- Recurrent miscarriage
- Previous child with neural tube defect or chromosomal abnormality
- Rubella non-immunity
- At risk of HIV, Hep C, Hep B
- STIs
- Varicella Zoster exposure
- BMI discussion and appropriate advice in relation to eating and exercise

Discuss folic acid and iodine supplementation as risk of neural tube defects is decreased with an oral daily dose of 0.5mg taken at least one month prior to conception to 12 weeks gestation. Women with a previous affected pregnancy should take 5mg/day and may wish to pursue prenatal diagnosis.

Give information regarding effects of smoking, alcohol and substance use in pregnancy. Provide information on QUIT programs and other supports.

For Consideration

- Emotional preparation for pregnancy and support systems
- Appropriate timing of conception
- Information brochure regarding birthing choices and services in the Riverina.
- Pap test

7.2 First trimester

Aim

- To provide information and support for maintaining a healthy pregnancy
- To determine the viability of the pregnancy
- To assess Fetal number and normality
- To decrease known teratogens or other hazards to maintenance of pregnancy
- To detect and manage underlying medical or emotional conditions, ie. hypertension, diabetes, valvular heart disease, social isolation, depression

Essential

- Accurate dating of last normal menstrual period, cycle length and regularity, to establish the estimated date of conception as early as possible hence EDB if possible. Dating scan preformed too early may be unhelpful
- Full obstetric, gynaecological, medical and family history (especially multiple birth, birth defects, diabetes, PIH)
- Medications, drugs, alcohol and smoking
- Discuss Folic acid and Iodine supplements
- Psychosocial history, attitude to pregnancy and support systems in place. (GPs may know and have the information available in their notes and may therefore only need to update this data)
- Clinical examination including weight, body mass index, BP, cardiovascular system, breasts, thyroid, dental, Fetal heart (if possible). A full examination, where possible is performed and documented by the completion of the 20-week visit for optimal determination of risk status
- Weight gain is variable. Dietary requirements should be discussed early in the pregnancy. Obesity (pre pregnancy BMI > 30) is associated with poor obstetric outcomes. Consider referral to dietician. Women may also be referred to personalise coaching via NSW Health free telephone health coaching service - Get Healthy in Pregnancy. www.gethealtynsw.com.au .

Maternal weight is not a clinically useful screening tool for detection of:

- Growth restriction
- Macrosomia
- Routine investigations (see section 8). Syphilis EIA, HBsAg, rubella titre performed in the past 12 months should generally suffice. Blood group may be available from a previous pathology document. However, antibodies need to be checked **each pregnancy** regardless of Rh status. If the previous pregnancy or the current pregnancy tests were performed internationally, then Australian testing may need to be repeated

- Offer antenatal screening for anomalies (PAPP-A and QHCG from 10 weeks, plus nuchal translucency ultrasound from 11 – 13weeks. Give the woman an information sheet).

- Offer and order routine morphology U/S for 19-22 weeks. Discuss ultrasound, what ultrasound will show and costs involved, The woman should be encouraged to bring results with her to the 28-week ANC visit

- General advice regarding routine antenatal and pregnancy care may need to be repeated at successive visits: information sheets attached provide some information to women who are experiencing common complaints in pregnancy, diet, drugs and alcohol, importance of breastfeeding, dental health. The woman should be directed to the NSW Health 'having a baby' book for further information.

7.3 Second trimester

Aim

- To detect conditions which may threaten the welfare of the mother or her baby.

- To optimise maternal health and opportunities for fetal surveillance, growth and wellbeing.

Essential

- Blood pressure (BP) should not exceed 140/90 without adequate diagnosis. Assess on an individual basis as there may be times when a BP lower than this is significant.

- Fundal height is measured in cms the top of the fundus to the top of the symphysis pubis. Results vary between individual observers, thus each practitioner must be consistent in what he/she measures. Measurement commences after 20 weeks and should roughly equal the weeks of the pregnancy. Generally a reading 3cm either above or below the weeks of pregnancy, without adequate reason (ie multiple pregnancy, or transverse lie) requires assessment for abnormality of growth. This should be done by ultrasound and referral back to the PCEC WWRRH or local GP Obstetrician for assessment, if suspicious of Fetal growth restriction. Sudden increase in fundal height may require immediate referral or investigation for polyhydramnios.

- Oedema. Peripheral oedema is common in late pregnancy, it is **NOT** common during the second trimester however, generalised oedema, in association with elevated BP and/or proteinuria, headaches, visual disturbances or epigastric pain requires immediate discussion with the obstetrician and referral to the maternity hospital ward for review.

- Fetal heartbeat should be auscultated and after 18–20 weeks the woman should be asked whether she has felt her baby move.

- Monitor Blood tests for Hb, Ferritin studies and Glucose load for anaemia or gestational diabetes.

- Discuss Rh negative protocol with all women who are Rh negative.

For Consideration

Obesity (pre pregnancy BMI > 30) is associated with poor obstetric outcomes. Consider referral to dietician. Women may also be referred to personalise coaching via NSW Health free telephone health coaching service - Get Healthy in Pregnancy. www.gethealtynsw.com.au .

Urinalysis: Routine testing of urine for detection of proteinuria in low risk women is not recommended. Careful consideration of urinary symptoms suggestive of urinary tract infection or signs of preeclampsia should prompt a U/A. If attended, acceptable readings are trace protein, sugar, blood, or white blood cells.

Protein levels of 2+ will require a referral to eliminate the possibility of preeclampsia. MSU & HVS may be indicated in the presence of small amounts of protein and white blood cells.

During this trimester, the following events as examples require thorough assessment and immediate referral:

– PV bleeding or fluid loss

– Uterine contractions that do not subside with rest and are painful

– Diminished or absent Fetal movements

– Persistent or severe abdominal pain

– This list is not exhaustive and if the clinician or the woman has any significant concerns immediate referral is required.

7.4 Early third trimester (<34 weeks)

Essential

– Care: same as second trimester

– Investigations (see Schedule of Visits, Section 6)

– Repeat Hb if symptomatic or previous <10 gms/l

For Consideration

– Assessing special needs

– Reinforcing general health care

– Education

– Clarification of hospital policies

7.5 Later third trimester (>34 weeks)

Aim

– To detect possible complications to normal vaginal birth

Essential

– BP

– Fundal height

– Lie of fetus. Abnormalities of lie require accurate assessment in consultation with the clinic from 36 weeks.

– Presentation, engagement of the presenting part. Breech presentation should be accurately determined and its management discussed with the clinic at any time from 36 weeks. Management will depend on gravidity, clinical signs and other issues related to the mode of delivery

– Fetal heartbeat, Fetal activity

– Preparation for labour

– Advice regarding post partum care. The GP should specifically advise the woman in later pregnancy to return for post partum visits

– Recommend Group B Streptococcus (GBS) low vaginal and perianal swab be taken at 36 week GP visit

7.6 Post term (>41weeks)

Women should be referred to the PCEC WWRRH for assessment of continuing Fetal wellbeing and timing of birth.

7.7 Post partum

Aim

– To detect and manage complications of birth, eg endometritis, retained products of conception, genital tract injury, dyspareunia, incontinence

– To help establish and maintain breastfeeding

– To assess and help optimise emotional state of the mother and family relationships

– To manage persisting maternal disease, eg hypertension, diabetes

– Provide care of the neonate and ensure safe use of formula feeding if necessary

– Discuss home support and follow up

Early Post Partum

– This visit is most important for those women and babies at risk of physical, emotional or social difficulties, or those unprepared for care of a newborn.

– Mother – Discuss birth experience, emotional state, perineal or caesarean section scar healing, PV loss, BP, breastfeeding, supply, breasts and nipples

– Baby – Review Personal Health Record ("blue book") and attend any routine follow up eg auscultate heart sounds if early discharge from hospital

6 weeks Post Partum

– Mother – Emotional state and coping, uterine involution, perineal or caesarean section scar healing, pelvic floor tone, breasts, BP, family planning and child spacing options discussed

– Baby – Sight Personal Health Record ("blue book") 1-4 week health check

8. PRE CONCEPTUAL and ANTENATAL SCREENING

8.1 Anaemia

Historically the routine checking of haemoglobin in early pregnancy has formed a base line for management of the risk of iron deficiency anaemia. Effort should be made to optimise Hb levels before birth, to protect maternal health and to make blood transfusion less likely in the event of haemorrhage. However Hb cannot be equated with Fe Studies. If Hb is less than 100mg/dL at 28 weeks, serum Ferritin levels must be assessed. Routinely offering a full blood count early in pregnancy and at 28 weeks is recommended in the United Kingdom (NICE 2008) and in Australia (RANZCOG 2009). Initial haemoglobin concentration is usually assessed in the context of this full blood count.

Gestational age	**Minimum haemoglobin concentration**
0–20 weeks	110 mg/dL
20+ weeks	100 mg/dL

Oral iron remains first-line treatment for iron-deficiency anaemia identified in the antenatal period. Intravenous iron should be offered to women who do not respond to oral iron or are unable to comply with therapy. Ferrinject is commonly used and in some remote settings, intramuscular iron may be administered by a health professional who does not have intravenous endorsement or where intravenous iron cannot be accessed.

The woman's Hb should be repeated at 28 weeks preferably at the same time as the glucose load ie 26–28 weeks. Hb should also be repeated at 34 weeks if the Hb was less than 105g/l at 26–28 weeks. Haemoglobin concentration is not sensitive enough to be the sole means of diagnosing anaemia. Diagnostic tests include:

- full blood count (if this has not already been conducted);
- serum ferritin, which is the most sensitive single screening test to detect adequate iron stores (90% sensitivity at a cut-off of 30 μg/litre) (Breymann 2002); and
- specific tests for folate and vitamin B_{12}, if mean cell volume is high.

Vitamin D screening for at risk women

Offer vitamin D screening to women with limited exposure to sunlight (eg because they are predominantly indoors or usually protected from the sun when outdoors), or who have dark skin or a pre-pregnancy BMI of >30, as they may be at increased risk of vitamin D deficiency and benefit from supplementation for their long-term health. Base decisions about whether to offer screening on these factors, season and climate.

8.2 Auscultation of Fetal heart rate (FHR)

Women should be offered auscultation at each visit after 16 weeks as the midwives/doctors can usually detect a heartbeat at this gestation. It is perceived that the auscultation is reassuring and enjoyable for the woman and therefore worthwhile. Although there is no clinical value, other than confirming that the baby is alive, on rare occasion FHR anomalies may be detected.

8.3 Blood group and antibodies

All women should be offered routine testing for blood group, Rh(D) status and screening for atypical red cell alloantibodies in early pregnancy regardless of their Rh(D) status. Antibodies should be repeated at 26–28 weeks (at the same time as the glucose load) if the woman is Rh negative.

Pregnant women who have clinically significant atypical red cell alloantibodies should be referred to the obstetrics team at WWRRH PCEC High Risk Clinic for further investigation and advice on subsequent antenatal management.

8.4 Blood Pressure

Blood pressure is routinely checked at all antenatal visits as pre-eclampsia is a major cause of maternal and perinatal morbidity and mortality. One of the first signs of this condition is an elevated blood pressure. Hypertension in pregnancy is defined as a systolic blood pressure of 140mmHg or more and/or a diastolic blood pressure (Korotkoff V) of 90mmHg or more, taken on two or more consecutive occasions over several hours. If a clinical diagnosis of hypertension in pregnancy is made and is not urgent, refer to the PCEC/ANC at WWRRH. If urgent, refer to the obstetric Registrar on call at WWRRH.

The woman should sit down with feet supported and have the measurement taken after two to three minutes resting in this position. A standard size cuff should be used for women with an arm circumference <33cm and a large cuff used for arm circumference >33cms.

Practice Point: automated devises and ambulatory BP monitoring devices must not be used in routine clinical practice for assessing BP in pregnancy

At the first antenatal visit, the woman's blood pressure should be checked on both arms and from then on the right arm should be used if, as anticipated, there is little difference in blood pressure between arms.

8.5 Fetal movements

Regular enquiry about the number of Fetal movements is an important aspect of ascertaining Fetal wellbeing. Towards term the pattern of Fetal movement may change from one of completely random movements to that of sleep and wake cycles. It is important to encourage the woman to be aware of the frequency of Fetal movements during the day and if she is concerned to contact the hospital of booking. Continuous Cardiotocographic monitoring (CTG) is very easily performed and reassuring for the woman. If the number of Fetal movements is reduced (at any stage of the pregnancy), the woman should be referred to the hospital of choice for assessment.

8.6 Gestational Diabetes Mellitus (GDM)

Gestational Diabetes Mellitus (GDM) is defined as carbohydrate intolerance with onset or first recognition in pregnancy. Women who are diagnosed with gestational diabetes are considered at medium to high risk of pregnancy complications such as maternal hypertension, pre-eclampsia and obstetric intervention. Babies of mothers who have GDM are more at risk of macrosomia, hypoglycaemia and other metabolic disturbances.
There is new data in the form of the Australian Carbohydrate Intolerance Study in Pregnant

Women (ACHOIS) trial that has shown a benefit in diagnosing and treating non-insulin requiring GDM. NSW Health supports GDM screening to be routinely offered to all pregnant women between 26–28 weeks. Women with high risk groups may be screened earlier. eg previous GDM or high BMI. Women who are at high risk for GDM should have a 75gm GTT at initial visit and repeat test at 26-28 weeks.

8.7 75gm Glucose Tolerance Test

A screening 75gm glucose tolerance test is offered routinely at 26–28 weeks. Gestational diabetes is diagnosed on GTT if fasting glucose is >5.0mmol/L at fasting, ≥ 10.0mmol/L at 1 hour or ≥ 8.5mmol/L at 2 hours. These women should be referred to the PCEC at WWRRH for review by an obstetrician and generally for ongoing management. PCEC operates a monthly specialist endocrine pregnancy clinic for all women who require insulin in pregnancy. Ongoing support and supervision by credentialed Diabetes Educator is provided to all women requiring insulin.

Women who are in a high-risk category should be offered a 75gm GTT at initial visit.

Risk factors for hyperglycaemia in pregnancy

- Previous hyperglycaemia in pregnancy
- Previous elevated blood glucose level
- Maternal age ≥40 years
- Ethnicity: Asian, Indian subcontinent, Aboriginal, Torres Strait Islander, Pacific Islander, Maori, Middle Eastern, non-white African
- Family history DM (first degree relative with diabetes or a sister with hyperglycaemia in pregnancy)
- Pre-pregnancy >30kg/m^2
- Previous macrosomia (baby with birth weight ≥4500g or ≥90th centile)
- Polycystic ovarian syndrome
- Medications: corticosteroids, antipsychotics

If there is a high index of suspicion, then directly order GTT and refer back to the PCEC.

8.8 Group B Streptococcus (GBS)

It is estimated that in Australia, 10–30 % of pregnant women will have vaginal carriage of GBS. Of these mothers, approximately 1–2 % of infants born to GBS colonised mothers will develop early onset infection. Prevention strategies for GBS should be included in routine antenatal care using either risk-based or bacteriological screening strategies, or both. The bacteriological screening involves a bacteriological swab taken from the lower vagina and/or anorectum late in the third trimester of pregnancy. Clinical risk based assessment include previous preterm labour, prolonged ruptured membranes of 18 hours, signs of intrapartum infection, a previous infant with GBS, and GBS identified in a previous pregnancy.

If GBS is detected in pregnancy, then management consists of the administration of antibiotics to the mother during the intrapartum period. This has been shown to significantly reduce the risk of GBS infection in the newborn.

Currently the data is suggesting a change from the risk based approach to universal screening. The current RANZCOG guidelines state that universal screening be performed unless it is "impractical or inappropriate". There is debate about the timing of the testing,

however, as everybody is considered GBS positive before 36 weeks and treated as such. In times of preterm rupture of membranes for example it is reasonable to reserve universal screening until 36 weeks.

It is therefore suggested that a low vaginal and perianal swab is offered to all women at 36 weeks. A GBS swab is unnecessary in women with GBS on their screening MSU or who have a previous GBS infected newborn. These women are presumed to be carriers and IV antibiotics in labour will be recommended regardless of the status of subsequent tests.

8.9 Hepatitis B Virus (HBV)

All women should be offered a screening test for Hepatitis B virus at their first antenatal visit. Identify if the woman has been previously immunised for Hep B. Testing for Hepatitis B should be accompanied by test discussion, informed consent and post-test counselling.

Pregnant women who carry the Hepatitis B virus can pass the virus to their children, contributing to an increase in the morbidity and mortality of either the mother or children.
The screening and detection of the Hepatitis B virus early in pregnancy can reduce the risk of perinatal infection, as this will prompt the birth attendant to provide immuno-prophylaxis at birth to the baby. If the woman is found to be a carrier then further investigations need to be performed.

8.10 Hepatitis C Virus (HCV)

Pregnant women of unknown Hepatitis C status should not be tested routinely for Hep C antibodies.

Antenatal testing for Hep C should be undertaken only when the woman's history reveals a relevant risk exposure or the woman requests it. Testing for Hep C should be voluntary and accompanied by test discussion, informed consent and post test counselling.

Relevant risk factors for Hep C:

- History of injecting drugs
- History of tattooing or body piercing without adequate infection control
- History of incarceration in a custodial institution
- History of transfusion with blood or blood products before February 1990
- History of transfusion with blood or blood products overseas
- History of potential occupational or environmental exposure to blood or blood products eg a needle stick injury
- Abnormal LFTs or signs of liver disease

If no risk factors are present in the woman's history there is no basis for offering Hep C antibody testing:

- The prevalence of Hep C among pregnant women is low, so the positive predictive value of screening would be low. It would be difficult to justify the cost of routine screening on the basis of the number of new positive cases that would be found

– A high number of indeterminate and false positive results would be found in a low-prevalence population, causing unnecessary anxiety

If a woman is known to be Hep C antibody positive she should be tested for the presence of circulating Hep C virus (Hep C RNA). Transmission from mother to child will not occur if the mother has spontaneously cleared the infection (25% of antibody positive people will clear the virus). All pregnant women who are known to be Hep C antibody positive should be offered qualitative nucleic acid testing (PCR testing) to determine if they are still infectious.

The risk of vertical transmission of the Hep C virus is low, approximately 5–8%, and only occurs if the woman is Hep C RNA positive.

There is no therapeutic intervention that can be offered to reduce the risk of vertical transmission of the Hep C virus.

There is no substantial evidence to suggest that caesarean section reduces the risk of transmission of Hep C and more research is needed.

There is no evidence that breast-feeding increases the risk of perinatal transmission of Hep C.

Testing of infants born to mothers infected with Hep C:

– Infants born to Hep C positive mothers will retain maternal antibodies up to the age of 18 months. Testing before the age of 18 months is difficult to interpret. Consideration should be given to qualitative nucleic acid testing of infants born to mothers who are Hepatitis C sero-positive. If parents request testing, a referral to a paediatrician with an interest in Hep C should be arranged

– Hep C – Women & Pregnancy Brochure available from Hepatitis C Council of NSW on (02 9332 1853)

– The National Hepatitis C Testing Policy can be found on the Australian Government Department of Health and Ageing website: https://www.health.gov.au/internet/main/publishing.nsf/Content/phd-hepc-testing-policy-may07

8.11 Herpes Simplex Virus$_2$ (HSV$_2$)

Vaginal Herpes Simplex Virus is a viral infection that many women will be aware of if they have been previously exposed. However, some women will have been previously exposed to the virus and not have developed any symptoms. The presence of 'new lesions' in pregnancy will need to be evaluated as to whether the infection is primary or a recurrence. IgG and IgM titres will need to be performed. Previous exposure will mean that there are sufficient antibodies to protect the fetus and neonate. Caesarean section is recommended only for women who acquire the virus for the first time in the second half of pregnancy.

Women who have a recurrence of lesions in pregnancy can be referred to the Obstetrics team at WWRRH for advice regarding the use of antivirals in the weeks leading to birth. Women should also be referred to the WWRRH PCEC for advice with regard to the safety of vaginal birth. Some women may need to be referred to paediatrician for opinion.

8.12 Human Immunodeficiency Virus (HIV)

The National HIV Testing Policy recommends that HIV antibody testing should be offered to all women antenatally.

Antenatal HIV testing must only be performed with the informed consent of the woman. Health care workers should be familiar with appropriate assessment and pre and post-test discussion strategies. HIV test results should only be given in person, never over the phone.

The primary rationale for HIV antenatal testing is to prevent mother to child transmission. The prevalence of HIV in women in Australia is low. Health care workers who encounter an HIV positive woman, or who receive a positive HIV antibody test in general practice or an ANC setting are advised to seek advice from a colleague experienced in HIV medicine as soon as possible. An HIV positive woman should be referred for obstetric care at the Fetal Medicine Unit at The Canberra Hospital (TCH) and requires a multidisciplinary approach involving expert advice from the team at Canberra Sexual Health Service and a paediatrician with an interest in HIV.

There are many supports for HIV positive people in NSW and professional support for the treating team.

Clinicians are advised to contact the Sexual Health Service, WWRRH for further advice about HIV clinical management. Phone 6938 6492

The AIDS Action Council of the ACT has a range of information, services and supports available for HIV positive people. Phone 6257 2855

The National HIV Testing Policy can be found on the Australian Government Department of Health and Ageing website: http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-strateg-hiv_hepc-hiv-index.htm#testing

8.13 Influenza Vaccine

It is recommended that the influenza vaccine be offered in advance to all women planning a pregnancy and to women who will be in the second or third trimester of pregnancy during the influenza season. Women should be informed about the safety of influenza vaccine in pregnancy.

The Australian Immunisation Handbook can be found on the Australian Government Department of Health and Ageing website: http://www.health.gov.au/immhandbook

8.14 Rh (D) negative women

Rh (D) immunoglobulin is offered at 28 and 34 weeks to all Rh negative women with no preformed anti-D antibodies at 28 weeks.

Women will attend the ANC at 28 weeks and administration of Rh (D) immunoglobulin will occur after the result from the 26–28 week antibody titre has been checked for no preformed antibodies.

The prescribing of Rh (D) immunoglobulin is attended by a medical officer in the ANC of either hospital on the woman's medication chart and on a Blood Transfusion Request form.

Rh(D) immunoglobulin administration is documented in the woman's Maternity Record.

The woman will return to the Antenatal Clinic for repeat administration of Rh (D) immunoglobulin at 34 weeks. There is no need to repeat titres as the test cannot distinguish between passive and acquired antibodies. Any sensitising event in the first trimester will require administration of anti D of 250 IU (50ug) to prevent sensitisation within 72 hours of event. If you are unsure whether administration of Rh(D) immunoglobulin is required please contact the Obstetric Registrar on call.

Rh (D) immunoglobulin products should be used as indicated below:
First trimester sensitising events[1] (<12 weeks): Rh (D) Immunoglobulin 250 IU First trimester sensitising events[1] (multiple pregnancies <12 weeks): Rh (D) Immunoglobulin 625 IU

Second and third trimester sensitising[1] events: Rh (D) immunoglobulin 625 IU

All Rh (D) negative women without preformed Anti-D: Rh (D) Immunoglobulin 625 IU at 28 and 34 weeks gestation

Postnatal prophylaxis: Rh (D) Immunoglobulin 625 IU

Note 1: Sensitising events include ectopic pregnancy, miscarriage, termination of pregnancy and ultrasound guided procedures such as chorionic villus sampling, amniocentesis, cordocentesis and fetoscopy, as well as abdominal trauma considered sufficient to cause fetomaternal haemorrhage, external cephalic version, antepartum haemorrhage and normal delivery.
http://www.transfusion.com.au/Rhd/Default.asp

8.15 Rubella titre

Rubella antibody screening early in pregnancy should be offered to identify women at risk of contracting the rubella infection. Vaccination should be offered postnatally for protection in future pregnancies for women with low titres.

8.16 Syphilis

All pregnant women are offered screening for syphilis using Enzyme Immuno Assay (EIA) test in the early antenatal period because treatment is beneficial to the mother and fetus. The older tests of RPR and TPHA can have a higher rate of false positives. Screening should be accompanied by test discussion, informed consent and post-test counselling. Current recommendation is to request a syphilis EIA for increased sensitivity and specificity. Women should be counselled that a positive result does not necessarily mean that a woman has syphilis and they should have the test repeated.

Pregnant women diagnosed with a syphilis infection should be referred immediately to Pregnancy Care Education Centre so that they are managed and treated by the appropriate specialists.

8.17 Urine testing

A routine urine MC&S should be performed routinely in early pregnancy. Microscopy will assist in the detection of chronic renal disease (CRD), as this will not be picked up by culture alone. Routine MC&S can also detect those women who carry Group B Strep.

Asymptomatic bacteruria is the persistent bacterial colonisation of the urinary tract in the absence of specific symptoms and is usually diagnosed as > 100,000 bacteria/ml on a single midstream specimen. If left untreated asymptomatic bacteruria can lead to serious episodes of acute urinary tract infection later in pregnancy. Women with asymptomatic bacteruria have a higher risk for low birth weight babies and preterm labour.

8.18 Urinalysis for proteinuria

Use of dipstick measurement for routine screening of proteinuria in low risk pregnant women is not recommended. The presence of proteinuria is central to a diagnosis of pre-eclampsia, urinary infection and renal disease. The gold standard for an assessment of proteinuria is laboratory biochemical measurement of total protein excretion over 24 hours. Although this is not a useful method to employ as a universal screening tool, it is important to screen for protein where there has been a rise in blood pressure and/or there are any other signs or symptoms of pre-eclampsia.

Routine urinalysis during pregnancy is a poor predictor of pre-eclampsia, in the absence of hypertension. Routine urinalysis can be eliminated from antenatal care without adverse outcomes for women, after an initial screening MC&S on a midstream specimen.

8.19 Symphyseal fundal height measurement

There is no conclusive evidence to support symphyseal fundal height measurement over abdominal palpation. However, it is recommended to be used as an indirect measure of Fetal growth at each visit. If the fetus appears either small or large for gestational age then ultrasound is generally required to determine findings. If using the symphyseal fundal height measurement, measure from the highest point of the fundus (as this is the more variable end point) to the top of the symphysis pubis. The practice of measuring or palpating the uterine growth is thought to have value in reassuring mothers about Fetal growth.

8.20 Varicella Zoster Virus

Screening for Varicella Zoster Virus (VZV) should be attended in the pre-conceptual period based on the negative history of previous unknown varicella infection. Women who have had a reliable history of varicella infection should be considered immune.

Women who do not have a reliable history of varicella exposure or are VZV seronegative, should be offered VZV vaccination. These women should be advised to avoid pregnancy for one month after vaccination.

Varicella Zoster vaccine should not be administered during pregnancy, and women of childbearing age should avoid becoming pregnant for one month after vaccination.

A non-immune pregnant woman is not a contraindication to vaccination of another healthy child or adult in the same household, as the risk of transmission and infection of the fetus is extremely low (at present there have been no documented cases of transmission of vaccine strain virus to the fetus).

If a woman is concerned about exposure during her pregnancy and her immune status is not known then it is important to establish the degree of exposure. VZV IgG and IgM can be ordered and if concerned, the Zoster Immunoglobulin can be given. This must be done within

72 hours of the suspected contact. It is important to remember that congenital zoster infection is actually rare. The main problems with maternal disease in pregnancy are varicella pneumonitis and decreased respiratory reserve. There can also be a problem for the neonate if the mother has a clinical infection within 10 days of birth.

8.21 Weighing

There is no conclusive evidence to support routine weighing of women at every antenatal visit. It is not a clinically useful screening tool for the detection of growth restriction, macrosomia or pre-eclampsia. It is essential practice to measure weight and height and calculate BMI at the first visit to assist in risk assessment. Women should be informed why an initial weight and height is suggested. They should also be informed that a weight gain of 8-14kg is within the normal range and that weight gains of >20 kilograms are associated with increased adverse birth outcomes, as is a pre-pregnant BMI of >30. Appropriate dietary advice and/or referral to a dietician should be offered.

8.22 Obesity and Pregnancy

Body Mass Index (BMI) is the most acceptable approximation of total body fat at the population level and can be used to estimate relative risk of disease in most people. Antenatal care is guided by the WWRRH Pathway for women with raised BMI. The standard measure for determining obesity is the classification adopted by the World Health Organisation, as show in the table:

Classification	Normal range	Overweight	Obese 1	Obese II	Obese III
BMI ($kg/m^{2)}$	18.5–24.9	25–29.9	30–34.9	35–39.9	≥ 40

Association between outcome and BMI

The frequency of adverse outcome increases with increasing BMI. The following table is based on analysis of 75,432 women birthing at Mater Mothers Hospital Brisbane 1998-2009.

Variable	BMI (kg/m2)					
Maternal Outcome (%)	<18.5	18.5-≤25	25-≤30	30-≤35	35-≤40	>40
Hypertension	1.1	1.7	3.3	5.1	7.0	9.6
GDM	1.0	1.2	2.1	3.4	5.5	6.9
Type 1 and 2 diabetes mellitus	0.2	0.5	0.3	1.7	0.8	4.1
Spontaneous vaginal birth	61	54.4	50.4	47.1	46.9	43.6
Assisted birth	13.3	12.9	10.0	8.4	5.9	4.9
Neonatal Outcomes (%)						
Perinatal death	0.5	0.7	1.0	1.1	1.5	1.8
Stillbirth	0.2	0.4	0.5	0.7	0.8	0.7
Neonatal Death	0.3	0.3	0.5	0.5	0.7	1.1
Macrosomia	5.4	10.6	15.9	18.7	20.1	20.8
SGA	12.4	10.9	12.2	13.4	15.7	18.7
LGA	10.5	11.0	12.4	13.3	14.0	15.9
Preterm birth <37 weeks	8.5	6.7	7.5	8.5	9.5	11.3
Respiratory distress syndrome	4.2	4.3	5.3	5.7	6.4	7.3
Mechanical ventilation	5.9	4.7	5.8	6.5	8.6	10.4
Jaundice	6.4	4.7	5.4	6.4	7.5	9.3
Hypoglycaemia	1.1	0.9	1.3	1.8	3.0	2.5

Source: Queensland Clinical Guideline: Obesity in pregnancy
Note: Obese III formerly known as Morbidly Obese

This is the best measure we have, however it does have several limitations as it does not take into account variations in lean versus fat mass, variations in body fat distribution and the influences of age, gender and ethnicity.

For the pregnant woman, it is also important that the calculation is based on pre pregnancy weight and not pregnant weight, which will overestimate BMI.

The list below illustrates some of the issues faced for women who are overweight or obese.

	Pre-pregnancy	pregnancy	intrapartum	postpartum
Mother	infertility	↑ minor complications such as back and pelvis problems	↑ induction of labour	↑ infection
		↑ GDM	↑ malpresentation and abnormal labour ↓ uterine contractions	↑ cumulative weight gain
		↑ hypertension	↑emergency c/s	
		↑ preeclampsia		
		↑ weight gain		
Baby	↑congenital abnormalities	↑ stillbirth	↑ Fetal distress, ↑ Fetal trauma	↑NICU admission
				↑ BGL problems
				↑ life long "metabolic syndrome"

Whilst there are vast amounts of data available on the effects of being overweight and obese, there is very little known about successful interventions to assist these women during pregnancy. What is known is that pregnancy is a time when many women are motivated to make changes which they see as beneficial to their babies.

Weight

Over recent years there was, quite rightly, a move away from routine weighing of women during pregnancy. This was originally used to detect 'Fetal weight gain' (very poor indicator) or for detection of preeclampsia (again a very poor test). It may be that, for this group of women, refocusing on restricting the amount of weight gained is important. This can only be in the context of an appropriate diet for pregnancy. With the provision of adequate dietary advice, some women who are in the obese or morbidly obese range can improve their diets to be of better quality in terms of nutrition and reduced energy intake. There is no evidence that calorie restriction in the context of adequate nutrition has any harming effects on the mother, Fetal or neonate. However, special attention must be made to ensure adequate levels of vitamins, minerals and trace elements. Referral to a dietician may well be beneficial for these women and their babies.

Exercise

Previous studies have shown that pre-pregnancy exercise levels in obese women are less than the general population. It has also been shown that there is a greater loss of exercise in this group for the duration of the pregnancy. In other words, these women exercise less before pregnancy and reduce their exercise levels even more during pregnancy. Advising women to maintain exercise is important. Walking and swimming are the easiest forms of exercise to maintain during pregnancy, even in the later stages. This has many positive benefits for both physical and emotional health. Some exercise should be achieved even in

the late stages of pregnancy. Obese women will also be subject to more of the general minor complaints of pregnancy related to the musculoskeletal system, especially back and pelvic problems. Early referral to a physiotherapist may be appropriate.

Fetal growth

Many risk factors for abnormal growth exist for women in the obese and morbidly obese range above those of normal weight women. These include both growth restriction and macrosomia. The clinical estimation of Fetal growth is also hampered because of the limitations of maternal habitus. In women who are obese and morbidly obese, even without other indications it may be appropriate to perform an ultrasound for growth at around 36 weeks and manage accordingly. Obviously if there are other indications such as diabetes and/or hypertension there may be indications to perform ultrasound scans prior to this.

Gestational diabetes

Obesity is an identified risk factor for the development of GDM. Consideration should be given to performing a Glucose Tolerance Test (75gram) earlier in pregnancy with initial bloods.

Anaesthetic review

Increased intrapartum complications would suggest that a prelabour (36 week) anaesthetic consultation would be of benefit as information obtained may be of help with place and timing of delivery.

Intrapartum care

There are a number of issues for managing women who have a high BMI. This includes adequate monitoring of Fetal heart rate, adequate monitoring of uterine activity, both frequency and strength. There is an increased occurrence of labour dystocia, which may be related to dysfunctional myocyte activity in the presence of obesity. Adequate use of syntocinon for augmentation may be required at higher levels than would be usual. Obese and morbidly obese women are more likely to require induction of labour, augmentation of labour and operative birth. The likelihood of shoulder dystocia is increased related to maternal factors as well as fetal macrosomia.

The third stage will need to be managed more actively and the use of IV syntocinon for the active management of the placenta so that the dose is in the circulation rather than in the fat layer not being absorbed and distributed. A large bore cannula is therefore important during labour. Effective fundal massage, usually used in the first instance after the placenta is delivered is difficult to achieve in obese and morbidly obese women.

Postpartum care

Prolonged labour, operative delivery and obesity will increase the risk of DVT and consideration should be given to prophylactic anti coagulant treatment.

Infection rates are higher for both caesarean section and vaginal births.

There is an increase in breastfeeding difficulties and the rates of breastfeeding are reduced long term for infants of obese women. This has implications for the mother in management of postpartum weight reduction and obvious implications for the infant. Every effort should be made to encourage and assist the woman to understand the importance of breastfeeding.

Mention should be made of the need to reduce to pre-pregnancy weight and then to attempt to reduce weight to the normal BMI range before the next pregnancy attempt. Exercise must be a part of the lifestyle changes.

8.23 Edinburgh Postnatal Depression Scale (EDS)

During pregnancy

Women are offered the opportunity to complete the EDS during the "booking in" visit within the MLHD Maternity Units.

Women complete the screening questionnaire and discuss results with their midwife. The information and resource booklet "Emotional Health During Pregnancy and Early Parenthood" is available.

Women scoring 13 or more on the EDS receive a written recommendation to visit their GP, and social work and perinatal mental health referrals may be made. Options for effective treatment and referral are discussed. The woman's situation may be referred to the hospital's IPC team for multi-disciplinary support approach. The woman is given a depression management guide and her EDS result is recorded on the letter to the GP that is faxed back after she has booked in.

After birth:

– All women are offered EDS screening by the Child and Family Health Nurse (CFHN)) of the child and family health nurse teams.

– 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

– The mother should complete the questionnaire herself unless she has limited English or has difficulty reading

A copy of the EDS is available at the back of these guidelines.

Please turn over for a guide to scoring the EDS.

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 >13 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, usually it may be repeated after two weeks. The scale will not detect mothers with anxiety neuroses, phobias or personality disorders.

9. MISCARRIAGE

Miscarriage is a general term applied to any pregnancy loss up until 20 weeks. The term is used to describe all pregnancies which fail and will include terms such as missed abortion, blighted ovum, inevitable miscarriage and incomplete miscarriage.

It is important when talking to women and their partners about pregnancy loss that the terms used are sensitive. Using the term "abortion" while medically correct may not be appropriate in this setting.

Miscarriage in all its forms occurs in about 1:3 pregnancies (more if the pre-pregnancy test failures are included). Miscarriage may or may not be detectable by symptoms. Also a woman may present with symptoms and not be having a miscarriage.

Further information and guidance for care can be located on the Ministry of Health website:
http://www0.health.nsw.gov.au/policies/pd/2012/PD2012_022.html
Maternity - Management of Early Pregnancy Complications

Women should be referred to the Emergency Department and the Early Pregnancy Assessment Unit if located in Wagga.

9.5 When and where to refer for recurrent miscarriage

The timing on when to refer for recurrent miscarriage will to some extent depend on the age of the woman but in general the usual referral time is after 3 miscarriages. The chance of a subsequent ongoing normal pregnancy after:

1 miscarriage is: 70% (about the same as if no miscarriage)

2 miscarriages is: 65%

3 miscarriages is: 60%

Simple investigations that may be performed when investigating multiple miscarriages prior to referral include:

- Karyotype of the mother and her partner
- Thrombophilia screen including:

  Anticardiolipin antibodies

  Lupus anticoagulant

  Protein C, protein S

  Factor V Leiden and prothrombin gene mutation

  Thyroid function tests

  Fasting glucose

This is not exhaustive and the extent of the relevance of each individual test should be discussed. Further advice can be obtained from a specialist obstetrician or a fertility specialist.

10. POST PARTUM CARE

Most women in the Riverina will give birth within the hospital system and the immediate postpartum care occurs within that system or with the support of midwives over the next week. However, with increasing reductions of length of stay some GPs will be presented with postpartum care issues when they have not been involved in the births. These will occur in the first postpartum week or later and may be an acute problem at a time when a woman is emotionally vulnerable and physically fragile.

Physical and emotional recovery after birth can take considerable time and it is important not to confuse the normal signs and symptoms of the postnatal time with problems. However, there are significant physiological and emotional changes that do occur and it is important not to miss the ones that are of a dysfunctional or pathological nature. It must be remembered that time is a great healer with the normal changes, but early intervention can be vital in other situations.

Studies have shown that readmission rates following birth are around 4% but this will depend on the nature of the birth with rates being higher for caesarean section. The main problems are vaginal bleeding, perineal wound breakdown and caesarean section wound breakdown.

10.1 Vaginal bleeding

All women experience bleeding after childbirth and the amount of variation in this can be quite considerable. Secondary postpartum bleeding is usually defined as excessive or prolonged bleeding occurring more than 24 hours after birth. It is relatively difficult to quantify the amount of bleeding, however, in general the overall amount should be decreasing over the postnatal period and be completed by the 6 week check up. Small episodes of clotting in the first week are not unusual especially around times of breastfeeding and after being supine, however, increasing amounts of bleeding, change in the nature or increasing size and frequency of passage of clots may not be normal.

By the end of the first week most women experience a reduction in amount to a red or pink discharge. An increase in bleeding may signify either endometritis or retained placental tissue, or both. Risk factors include caesarean section, prolonged labour, manual removal of placenta or a primary postpartum haemorrhage. Presentation of endometritis may include pain and fever or a 'flu-like' illness with a tender uterus, retained placental tissue will usually present with symptoms and associated inflammation and infection.

Differentiation between the causes of abnormal bleeding can be difficult as ultrasound of the uterus can be very confusing. A study of the normal postpartum involution as shown on ultrasound was performed at The Canberra Hospital through The Fetal Medicine Unit, which showed a variety of appearances. Many women without abnormal bleeding will have echogenic appearance in the uterine cavity for 1–2 weeks postpartum. Ultrasound is, however, useful to detect larger pieces of retained placenta such as a cotyledon.

The first line investigation for all women who are suspected to have a secondary postpartum infection is a low vaginal swab. Group A streptococcus infection is uncommon but remains a life threatening condition. The first line of treatment for secondary postpartum haemorrhage

should be antibiotics such as amoxicillin with clavulanic acid 500mg tds with metronidazole 200mgs tds for at least a week with careful monitoring.

If the symptoms of pain and fever and/or the bleeding do not settle, then the woman should be referred back to the hospital for review and possible commencement of IV antibiotics. Post partum curettage should be reserved for women with a clear diagnosis of retained tissue. This procedure has a significant complication rate with scarring of the uterus and subsequent abnormal placentation, and Ashermanns Syndrome with prolonged amenorrhoea and infertility.

10.2 Perineal wound breakdown

Perineal trauma, either by tearing or episiotomy, occurs in about half of all women having a vaginal birth. Many first degree tears are not sutured but all second and third degree tears and episiotomies should be sutured. A small proportion (<1%) will breakdown and need specialist referral. A further small proportion will have problems such as granulation tissue persistence, slight degrees of misalignment, or persistent perineal pain.

The majority of these will heal with time however careful enquiry and referral may be necessary if they persist. It is well known that many women will not present with these problems as they are misleadingly under the impression that it is a normal consequence of childbirth.

The area of severe perineal trauma, such as third and fourth degree tears, is increasingly recognized as an area that early intervention can improve outcomes. Obstetrician follow up for women with severe perinatal trauma must be arranged through Gynaecology clinics at WWRRH and appointments made on 02 6938 6393.

10.3 Caesarean section wound infection

With the gradual rise in caesarean section, GPs are likely to see an increase in the incidence of abdominal wound infections. More than 20% of women now give birth by caesarean and about half of these are done after a period of labour. The incidence of postpartum wound infection is estimated to be as high as 10–15%, most of which present in the second week after operation. Risk factors include maternal obesity, emergency caesarean after labour and failure to give prophylactic antibiotics.

Presentation is usually because of pain, redness, swelling or discharge from the wound. A swab of discharge if present sent for MC&S. Treatment is by antibiotics such as Flagyl and Flucloxicillin 250-500mgs QID or Erythromycin 250mg QID if allergic to Penicillin It should be reminded that activity should be kept to a minimum and that driving a vehicle is not permitted for 6 weeks after a caesarean. Emphasis of this should minimize the possibility of complete wound breakdown and problems with healing of the fascial layer.

It should be remembered that not all wound discharges are infective in nature and in the absence of obvious signs of infection, conservative management may be appropriate.

10.4 Mastitis

In NSW the rates of breastfeeding on discharge are high, at more than 90%. Average duration of breastfeeding is around 4–6 months. Mastitis is a common problem with approximately 40% of women having at least one episode. A number of women will manage this by themselves at home with advice from the Australian Breastfeeding Association help lines but a number will also present to the GP if ongoing or a first time case. The breast is usually tender and red, often with a discrete quadrant of the breast affected and there may be associated nipple trauma but not always.

Aetiology is thought to be primarily blocked ducts but secondary infection can follow. Treatment consists of advice to continue feeding or at least to continue to express in an attempt to empty that breast on a regular basis. Symptomatic relief with warm showers, warm packs and simple Paracetamol analgesia may assist.

For women who are febrile or the problem persists longer than 24–48 hours an antibiotic should be prescribed in addition, either Flucloxacillin250–500mg QID or Erythromycin 250mg QID. Breast abscess formation is a rare complication of untreated mastitis and requires urgent referral for surgical drainage. Women with recurrent mastitis willbenefit from lactation consultation as incorrect technique or problematic attachment may be contributing. If the woman is discharged from hospital and requires support for breastfeeding, a referral to the Child & Family Health Nurses can be made.

10.5 Pelvic Floor Dysfunction

One of the most common and easily identified effects of pregnancy and childbirth are adaptations to the pelvic floor. In an effort to avoid some of the negative consequences, more is being done to emphasise the importance of pelvic floor health.

There is evidence from randomized trials that Pelvic Floor Exercises (PFE) should be commenced in the antenatal phase rather than leaving them until after the baby is born. Although vaginal birth is more likely to cause an increase in pelvic floor weakness, it is important to emphasise the necessity for all women to perform daily pelvic floor exercises.

Vaginal birth is more likely to present a problem with urinary stress incontinence whilst caesarean birth is more likely to present a problem with urgency and urge incontinence. Caesarean birth may afford some protection for urinary stress incontinence if there has been no labour but the effects of hormones including those of pregnancy and breastfeeding, and genetic collagen makeup on pelvic floor integrity may result in even caesarean section women being at risk.

PFE are an important aspect of pelvic floor recovery. The exact number of repetitions required to optimize pelvic floor function has not been established with certainty. However, in general about 30/day appear to be beneficial.

Physiotherapy guidance of PFE should be arranged through a private physiotherapist or through outpatient referral to Physiotherapy Department at WWRRH.

At the six week postnatal visit it is worthwhile observing the method of pelvic floor contraction as at least 20% of women will be using the wrong muscles (eg. Gluteus) or actually pushing on their pelvic floor rather than contracting. Education in how to perform the PFEs is therefore essential or referral for physiotherapy review.

It is also important to remind the woman that improvement in function and maintenance of pelvic floor tone is a lifelong exercise!

10.6 Urinary Dysfunction

Urinary dysfunction in the initial postnatal period may be related to both urge and stress. The urgency may be related to the 'learned behaviour' in pregnancy, relative hypooestrogenisation of breastfeeding or caesarean section. This will usually resolve with time. However, a few women will develop ongoing problems and need referral for bladder retraining exercises to the physiotherapists.

Genuine stress incontinence is also relatively common in the initial postnatal period. Women at greatest risk are those with previous bladder dysfunction or stress incontinence prior to pregnancy, those with epidural anaesthesia during labour, instrumental delivery or a prolonged second stage of labour.

Increasingly it is recognized that a significant component of women's susceptibility to pelvic floor dysfunction is related to their collagen makeup, so it is a potential problem for all women. Those women who have stress incontinence at 3 months should be referred to a physiotherapist for further evaluation. These women have been found to be at particular risk of ongoing problems.

It is important to emphasise to women concerned about this problem that in general it does improve with time. Instruction in PFE and referral for physiotherapy may improve outcomes. Surgical correction should only be considered for severe cases and if conservative measures have failed. Any surgical consideration should be delayed until after breastfeeding.

Women may be at risk of UTI if they have had catheterization during labour, during birth by caesarean or during the postnatal period.

10.7 Rectal dysfunction

If there is any question of faecal incontinence the woman requires an immediate referral to a colorectal surgeon
Haemorrhoids may account for symptoms of urgency or incontinence and can also be responsible for, or a cause of, constipation. Simple treatment with a topical haemorrhoid cream containing a corticosteroid can contribute to symptomatic relief and aid resolution. Suppositories can be used for persistent external and internal haemorrhoids after the initial discomfort resolves. Referral for surgical management should be reserved for those women with intractable haemorrhoids or severe thrombosis.

Constipation is a common complaint in both the short and medium term postnatally. This is multifactorial and may be exacerbated by a painful perineum after vaginal birth or by the use of opioid analgesia after caesarean section. Hormones may also play a role.

Be aware of anal fissures. If present treat with stool softeners and Proctosedyl If not resolved within 2 weeks refer to a colorectal surgeon.

It is not unusual for a woman to take about 3 days to normally open her bowels after birth. This may be a physiological delay following the pre-labour bowel emptying and the labour-associated decrease in bowel motility. Return to pre-pregnancy bowel habits may take several months to achieve. Women who breastfeed have an additional cause of constipation related to their relative dehydration. A simple analysis of hydration would

include not only input but also an assessment of output, which should be around 1.5 litres/ day output in urine.

It is important that straining at stool is avoided for pelvic floor protection. Using a stool bulking agent such as psyllium husk or the commercially available preparations of this may be useful for those with postnatal problems or as an adjunct for those with known pre-pregnancy problems.

10.8 Postnatal emotional health

A woman's emotional wellbeing in the postnatal period is likely to be influenced by many factors including her birth experience, her family support, her physical symptoms and her pre-pregnancy emotional health.

It is important to recognize that tiredness and extreme fatigue are common in new mothers and these symptoms do not always mean depression. If the tiredness is the result of frequent waking by the baby for feeding or being unsettled, then this may well be the primary problem. However, tiredness out of proportion may be the presenting symptom for depression and other clues should be looked for.

It is important to encourage women to seek support from their Child & Family Health Nurse around their emotional wellbeing following birth. Where necessary a referral can be made for sustained support in the community by the maternal and child health nurse or to a social worker for therapeutic counselling in attachment and parenting, postnatal depression and post-traumatic stress disorder.

The postpartum blues

This is a common phenomenon that appears in the first week and affects 70–80% of women. It is characterised by a feeling of dysphoria and weeping. It is not severe and is self-limiting, although there is some evidence that women who experience severe blues are more likely to develop true depression. All that is usually required is reassurance, an explanation of the condition and advice to return for review if it does not pass within the week.

Puerperal psychosis

This is a rare condition affecting only 1:500 women. It is evident as a psychotic illness within the first month after the birth and will almost always require inpatient care in a psychiatric unit. It is usually found in women who have had a previous psychiatric history, particularly of psychosis. It has a high recurrence risk in subsequent pregnancies. There is evidence that this condition is provoked by oestrogen withdrawal and may be treated prophylactically by postnatal oestrogen. It requires specialist referral.

Postnatal depression

This is a common disorder affecting 10–15% of women at some time in the postnatal period. It usually begins at 4–6 weeks after the birth but can present at anytime in the first 6 months. The severity can range from mild to very severe. Many women remain undiagnosed and it is often a self-limiting condition. However, there is evidence that if left untreated it can have consequences for mother, baby and other family members for many years after, including affecting school performance and behaviour in adolescence. For these reasons it is thought to be beneficial to screen for postnatal depression using a standardised instrument such as the Edinburgh Postnatal Depression Score as found at the back of the Riverina Antenatal Shared Care Program.

Once identified, treatment will depend on severity. For many women simple recognition of the problem and alterations of lifestyle for the woman and her family may be all that is required to allow resolution with time. More severe cases require intervention with either intensive counselling or antidepressant medication.

Trials comparing cognitive behavioural therapy over antidepressant medication do not show any specific advantage of either. There is recent data suggesting that exercise is of benefit in mild to moderate disease. There is a long experience with the tricyclic antidepressants in postnatal depression, but more recently the SSRIs, such as sertraline have been used with success. For those women who do not seem to respond with such intervention, specialist referral will be required.

Post-traumatic stress disorder

It is now recognised that some women experience a condition best described as post-traumatic stress disorder as a result of childbirth. This may often follow a serious adverse outcome such as major post-partum haemorrhage, but can also occur after relatively uncomplicated births.

It is different from postnatal depression in that it may not appear to have a rational basis, with women experiencing flashbacks to the birth. It is characterised by high anxiety and sleeplessness and will often lead to prolonged depression if left untreated. This disorder requires specialist counselling and may take many months to treat. Some women will only present with symptoms during their next pregnancy.

Perinatal loss

Although the perinatal mortality in Australia and ACT is among the lowest in the world, it is still the case that approximately eight in every thousand births in Australia will result in perinatal death, most of which are stillbirths. The emotional problems women and their families experience after perinatal death are obviously quite different than those for most women in the postnatal period. It is important to ensure that these women receive specialised care. Support groups available in NSW including SIDS & Kids are also very important avenues to explore to aid recovery: www.sidsandkids.org .

10.9 Sexual Dysfunction

The time for resuming sexual activity after giving birth is very variable and may well be a reflection of the pre-pregnancy sexual activity. There are significant cultural and ethnic differences, which also need to be considered. The multifactorial nature of sexuality comes into play but there are also many additional factors that may interfere with normal or satisfactory sexual function.

In the immediate postnatal phase, most women will not wish to have penetrative sexual activity until the bleeding stops. Many women will wait until the '6 week check.' In the early months women can experience decreased libido for many reasons, including distraction because of the demands of the baby, tiredness and lack of sleep, breastfeeding and the relative hypo-oestrogenisation associated with breastfeeding.

There are many issues of body image that need to be resolved, which may result from the changes of vaginal laxity or scarring with vaginal birth, as well as concerns about a slow return to the pre-pregnancy body shape. Equally, caesarean section may result in abdominal pain from the healing wound.

Emotional issues associated with relationship difficulties may also interfere with sexual activity. It is significant that dyspareunia and problems with sex still occur in about 10% of women at 6 months postpartum. The cause of dyspareunia may be as simple as decreased vaginal lubrication and can be overcome with artificial lubricants. Superficial dyspareunia related to perineal pain can be significant for some women and needs to be asked about directly. Although a degree of perineal discomfort is to be expected immediately after vaginal birth, there should be a gradual lessening with time and pain should not persist beyond 6 months. Pain will be greater in the presence of tearing and is greatest with episiotomies.

It is important that women feel that their concerns about dyspareunia are heard and that referral for review by a specialist is offered. Simple perineal massage which the woman can do herself may be all that is required but surgical repair may be necessary. There are sometimes simple and easily correctable reasons for superficial dyspareunia after childbirth, such as labial adhesions, breakdown of labial tears or excessive scar reaction which may be easily amenable to reparative surgery.

It is also important to explore the possibility of male sexual dysfunction resulting from the male partner's adjustment to pregnancy, childbirth and new parenting.

10.10 Contraception

Addressing the issue of contraception for a couple with a newborn is usually met with the answer of "abstinence". In most cases this is not a permanent solution. It is important that this is explored in terms of a couple's social, cultural and religious background.

It is important to explore the previous use of contraception and any associated difficulties or side effects. A woman's choice of method will be influenced by her previous form of contraception. Prior preferences based on the experience of friends and family may also play a part. It may be important to elucidate whether the last pregnancy was the result of contraceptive failure when advising on future contraception.

Postpartum contraceptive choice is divided into two broad groups — women who are breastfeeding and those who have chosen to artificially feed. For women who are breastfeeding the issue of contraception is not significant for at least 12–16 weeks, provided she is exclusively breastfeeding, has not resumed menstruation and the baby is continuing to have a night feed. It is important to explain the rate of failure of lactational amenorrhoea in such cases is about 1–2%. The acceptability of this failure rate will depend on how the couple would feel about failure should it occur.

If breastfeeding, the addition of condoms will provide further protection but will most likely require the use of lubricant in the earlier postnatal phase. If diaphragms have been the previous form of barrier contraception, they will need to be refitted at about 12 weeks, when most of the anatomical changes of pregnancy have resolved.

Progesterone based hormonal contraception is safe while breastfeeding. The choice of oral progesterone ('the minipill'), or implants such as Implanon (subcutaneous) and Mirena (intrauterine) are available for use. Progesterone is safe to use in breastfeeding.

For those women who choose not to breastfeed, fertility may return in as little as four weeks. The contraceptive methods available are not changed from the usual choices, with the reminder that diaphragms will need to be refitted.

Women wanting permanent contraception techniques such as tubal ligation or Essure tubal occlusion will need to be referred to a gynaecologist. It should be remembered that the most common risk factor for regret after permanent contraception is age < 30, having other

children under 5 and being in a non-stable relationship. This decision is obviously an individual one.

Women who have had a caesarean section should be advised to delay conception until at least 9-12 months post operatively. This will reduce the complications surrounding placental implantation and provides the best opportunity for vaginal birth after caesarean.

The Sexual Health and Family Planning ACT (SHFPACT) website is a good source of information: http://www.shfpact.org.au/

11. USEFUL WEBSITES

NSW Health
www.health.nsw.gov.au

Australian Breastfeeding Association

www.breastfeeding.asn.au

Australian College of Midwives

www.midwives.org.au

Birth International

www.birthinternational.com

Birthwise

www.birthwise.net

Canberra Mothercraft Society, Queen Elizabeth 11 Family Centre

www.cmsinc.org.au

Canberra and Region Multiple Birth Association

www.carmba.org.au

Centrelink

www.centrelink.gov.au

Ninemonths

www.ninemonths.com.au

Parentlink

www.parentlink.act.gov.au

Pregnancy, Birth and Beyond

www.pregnancy.com.au

The Maternity Coalition

www.maternitycoalition.org.au

Women's Centre for Health Matters

www.wchm.org.au

The Royal Women's Hospital

www.thewomens.org.au

The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

https://www.ranzcog.edu.au

UK National Institute for Health and Clinical Excellence (NICE)

http://www.nice.org.uk/

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13. INFORMATION SHEETS FOR WOMEN

Preconception Information

Most women know they need to care for their health during pregnancy - but did you know you can protect the health of your baby before you conceive? For example, eating the right food before, as well as during pregnancy, can help prevent some birth defects. So can making sure you're immune to rubella (German measles), a common disease that can cause serious problems to unborn babies.

If you use tobacco, alcohol or other non-prescription drugs, give them up when you're planning to conceive rather than wait until you're certain you're pregnant. By that time the baby may be six weeks old or more; time enough to have been exposed to these drugs.

1. Smoking, drug and alcohol and other drugs advice

Alcohol, tobacco and other drugs - time to quit.

When a pregnant woman smokes, carbon monoxide passes into the baby's bloodstream – just as if the baby were smoking too. This means the baby gets less oxygen and may not grow as well as it should. Smoking in pregnancy increases the risk of many problems including miscarriage, a preterm baby, or a baby with low birth weight. Babies of mothers who smoke also have a higher risk of developing respiratory problems, asthma and Sudden Infant Death Syndrome. Smoking marijuana can have effects on the baby similar to tobacco.

Alcohol also passes into the baby's bloodstream. Regular drinking or occasional heavy drinking during pregnancy can cause slow physical growth and mental retardation. Other drugs that may cause problems in pregnancy include heroin, cocaine, LSD and amphetamines.

For more information, or for help to quit legal or illegal drugs, your local community health centre can put you in touch with your nearest Alcohol and Drug Service 6923 05700

Coffee, tea, chocolate, cola (and some other soft drinks) all contain caffeine. There is evidence that a high intake of caffeine increases the risk of miscarriage and preterm birth. It is a good idea for pregnant women to limit themselves to 200mg of caffeine daily. This equals:

- 2 cups ground coffee
- 2 1/2 cups instant coffee
- 4 cups medium-strength tea
- 4 cups cocoa or hot chocolate
- 6 cups cola

2. Medication advice

Some medications are harmful to the unborn baby. If you take prescribed medication, discuss your plans before pregnancy with your doctor.

3. Diet, exercise in pregnancy

Good food for a healthy pregnancy.

Are you eating plenty of leafy green vegetables, oranges, orange juice (especially freshly squeezed juice), wholegrain breads, rice, pasta or other cereals, and cooked dried peas, beans or lentils? Bananas and nuts are also good.

These all contain an important B vitamin for women called folate. It is now known that lack of this vitamin contributes to serious birth defects called neural tube defects, which each year, affect thousands of babies worldwide. Lack of folate is thought to affect the baby's development, causing serious (sometimes fatal) brain and spine problems.
Any woman planning a pregnancy should

eat folate-rich foods and take a 0.5mg folic acid tablet daily for at least one month before pregnancy and for the first three months of pregnancy. These tablets are safe to take during pregnancy and are available from pharmacies and health food stores.

Exercise: Exercise is important during pregnancy. It will help you to cope with the birth of your baby and regain your shape after your child is born. Swimming and walking are two activities which you can enjoy throughout your pregnancy.

Be careful not to overdo it, and stop if you experience pain.

4. Rubella (German Measles) Rubella is an infectious disease that can cause serious birth defects in unborn babies if the mother becomes infected. Around 90 per cent of babies whose mothers contract rubella during the first eight to ten weeks of pregnancy will be seriously affected. The baby's hearing, sight and brain can be harmed and the risk of miscarriage and stillbirth is increased.

Making sure you're immune to rubella before you become pregnant is really important. A simple blood test can tell if you have immunity. If you don't, you can be immunised against the disease - but this must be done before pregnancy. If you're a woman of childbearing age and you haven't been immunised yet, please ask your doctor for the vaccine well before you consider becoming pregnant. When you have your baby, it is recommended that you arrange for the baby to be immunised for rubella at 12 months. This is followed by a second injection for both boys and girls at the age of four.

Varicella (Chicken Pox)
Chicken pox is caused by a virus called Varicella. If you have never had chicken pox or have not been vaccinated, discuss this with your GP as there is a test and vaccination available.

5. General health

It is important to consider seeing your general practitioner for a general check-up. This can assist in the detection of any conditions that might cause problems in pregnancy.

6. Sexual health including Pap tests and STI screening
It is a good idea to have a Pap test during your general check-up (you should have one every two years). A Pap test detects early changes in the cervix (the neck of the uterus), which could, if untreated, lead to cancer.

Exposure to viruses, such as HIV (the virus which causes AIDS) or Hepatitis B and C may be harmful to an unborn baby. If you think you are at risk, talk to your doctor.

7. Dental Check
A visit to your dentist for a check-up to ensure that your teeth and gums are in top condition is recommended. If there are problems, it is best to have the work done before you become pregnant.

8. Referral pre pregnancy
Some women may have a complication or family history that may necessitate referral for discussion pre pregnancy. These complications or conditions may include:

– 2 or more miscarriages

– Previous stillbirth or infant death

– A baby born with abnormalities

– Medical conditions such as heart or kidney problems

9. Pregnancy services in the Riverina
There are many options of care for your pregnancy in NSW. You can contact the Pregnancy Care & Education Centre at Wagga Wagga Base Hospital for more information.

Phone: 6938 6425

Good Nutrition in Pregnancy

A healthy pregnancy is important for you and your baby. Even though you are eating for two, there is no need to eat twice as much. It is the quality of the food not the quantity that matters most.

You can expect a weight gain of around 10–13 kg during your pregnancy. The pattern of weight gain is also important and a gain of 1–2 kg in the first three months and then 1½ to 2 kg per month is desirable. Discuss any questions or concerns with your doctor, midwife or dietician.

Your diet should follow the same guidelines as those for every woman – that is, low in fat and high in complex carbohydrate and fibre rich foods.

Pregnancy increases your requirements for a range of nutrients, particularly calcium, iron and folate. So you will need to eat more foods containing these nutrients.

Calcium: Calcium is needed to form strong bones and teeth in your developing baby. Dairy foods such as milk, cheese and yoghurt are the best sources. Non-dairy sources such as calcium fortified soy drinks, soy yoghurt, soy cheese, salmon (bones included), sardines, tofu (soy bean curd), tahini (sesame seed paste) and almonds also contain calcium.

Iron: Iron is necessary for healthy blood. The best sources are red meats such as beef, lamb, pork, kidney, chicken and fish. These sources of iron are the most easily absorbed by your body. Liver is an excellent source of iron. However it should be limited to one serve per week during pregnancy as it is also high in vitamin A, which can be harmful to your baby. Other sources of iron include nuts, lentils, soy beans, baked beans, wholemeal breads and cereal products, fortified breakfast cereals, spinach, broccoli, eggs, prunes and dried apricots. You will absorb more iron from these foods if they are eaten with a little meat or with a food rich in vitamin C. For example: oranges, tomatoes, broccoli or fruit juice.

Folate: It is important to have good folate stores prior to pregnancy and in the first twelve weeks of pregnancy. Adequate amounts of this vitamin will help to prevent birth defects, known as neural tube defects, like spina bifida. Eat several serves of folate rich foods every day to meet your increased needs. A daily folate supplement of 500 micrograms for at least one month before and the first three months of pregnancy is also advised.

Folate rich foods include:

- dark green leafy vegetables such as broccoli, spinach and brussels sprouts
- other vegetables such as asparagus, green beans, cauliflower, peas, parsley and tomatoes
- fresh fruits such as avocado, bananas, oranges/juice, rockmelon and strawberries
- legumes such as chick peas and soy beans
- wholegrain breads, oats and fortified breakfast cereals (check the label)
- yeast extract spreads such as Vegemite™ , Promite ™ nuts and peanut butter

Choose a variety of foods from the following food groups every day to meet your nutritional needs during pregnancy.

Breads and cereals Wholemeal/wholegrain choices are best	**4 – 6 serves** 1 serve = 2 slices of bread 1 roll, muffin, scone 1 cup pasta or rice 11/3 cups breakfast cereal
Vegetable Choose a variety of different coloured vegetables; fresh, frozen, canned, dried, cooked or raw.	**5-6 serves** 1 serve = ½ cup cooked veg (75g) 1 cup salad 1 potato or carrot ½ cup cooked dried beans, peas or lentils
Fruit Choose different coloured varieties of fresh, frozen, canned or dried fruit.	**4 serves** 1 serve = 1 medium piece of fruit 2 small fruits 1 cup stewed fruit ½ cup juice dried fruit eg 4 dried apricots
Milk, yoghurt and cheese Reduced and low fat varieties are high in calcium	**2 serves** 1 serve= 250mls milk 200g yoghurt 40g cheese 250mls soy drink (calcium enriched)
Meat, chicken, fish, eggs, nuts, peas such as chick peas and legumes such as baked beans and kidney beans	**1 serve** 1 serve= 65–100g meat, chicken 80-120g fish 2 eggs ½ cup cooked dried beans, peas or lentils 1/3 cup nuts
Fats and oils Include mono and polyunsaturated types such as olive, canola and sunflower oils	Use small amounts

Sample Meal Plan

Breakfast	Wholegrain breakfast cereal with stewed fruit and milk Toast (preferably wholemeal or wholegrain) with spreads
Snack	Fresh fruit or fruit muffin
Lunch	Pita bread filled with salmon and salad Yoghurt or a milk drink Fresh fruit Water/Juice
Snack	Scones / Muffins/ Crumpets Tea / Coffee
Dinner	Beef and vegetable stir fry Noodles Baked apple with custard
Supper	Cheese and biscuits Glass of milk

Snacks are sometimes more convenient for pregnant women than organised meals during the day. Choose from the following snack ideas to meet your increased nutrition needs.

- Yoghurt – except soft serve. Yoghurts can be partially frozen and eaten as an icecream substitute.
- Muffins with fruit, berries and/or bran.
- Cracker biscuits with cheese or Vegemite™ (make the TM small).
- Tinned or fresh fruit.
- Dried fruit, nuts and popcorn.
- Ready to eat whole grain cereals.
- Boiled or microwaved potato. Serve plain or with savoury topping eg baked beans, cheese, creamed corn.
- Mini pizzas made on muffins or Lebanese bread.
- Reduced fat milk drink with combinations of yoghurt, fruit, ice cream or topping.
- Toasted sandwiches, jaffles, fruit loaf, toasted muffins or bread.

What about …?

Alcohol: Alcohol should be avoided, particularly during the early stages of pregnancy as it may harm a developing baby. There is no known safe level of alcohol use in pregnancy.

Caffeine: Try to limit to 2–3 cups of tea, coffee or cola drinks per day. Too much can affect the absorption of some nutrients.

Constipation: To prevent constipation include high fibre foods such as wholemeal bread and cereals, fruit and vegetables. Drink plenty of water and try to exercise most days.

Fish and mercury: You can prevent harm to your unborn child's developing brain and nervous system by limiting the types of fish you eat that have higher levels of mercury. You should eat a limit of:

- 1 serve (150grams) of Orange Roughy (Deep Sea Perch) or Catfish a week and no other fish that week OR
- 1 serve per fortnight of Shark fish (Flake) or Billfish (Swordfish/Broadbill, Marlin) and no other fish that fortnight OR
- If the above types of fish are not eaten, 2–3 serves of other fish or seafood (including tinned tuna and salmon) can be safely eaten each week.

Toxoplasmosis: Toxoplasmosis is an infection resulting from eating raw or undercooked meats, or from contact with cats. Toxoplasmosis in pregnant women can affect the unborn child. Pregnant women should avoid eating raw or undercooked meats. Careful attention should also be given to good food hygiene practices.

Morning sickness: This is experienced by many women. It is most often a problem in the first few months. It may occur at any time of the day. Try to:

- eat small, frequent meals
- have dry foods before getting out of bed, eg savoury cracker biscuits or toast
- eat cold or plain foods
- avoid fatty, highly spiced foods
- avoid drinking with meals
- have someone else prepare your meals.

Listeria infection: This can result from eating food contaminated with a bacteria: listeria monocytogenes. It can harm an unborn baby and may cause stillbirth. Pregnant women should not eat foods which carry a high risk of listeria growth.

High risk foods include processed foods that are:

– Not adequately heat treated; or

– Stored for long periods; or

– subject to poor food hygiene practices.

It is best to avoid:

– Unpasteurised milk;

– pre-prepared paté;

– soft cheeses eg brie, ricotta, feta;

– soft serve icecream and soft serve yoghurt;

– cooked chicken used in takeaway sandwiches;

– processed meats like devon or ham;

– cold, smoked and raw seafood like oysters;

– pre-prepared or stored salads like coleslaw; and

– foods close to or past the "use by" date.

Pregnant women should also avoid foods that have been prepared and then stored in the refrigerator for more than 12 hours. Leftovers should be thoroughly reheated until piping hot. Freshly cooked foods may be frozen promptly then thawed in the refrigerator and used within 12 hours. Never thaw food at room temperature.

What foods are safe?

Listeria is destroyed by cooking. Foods which are safe include:

– freshly cooked foods, used within 12 hours of preparation;

– fresh pasteurised milk and milk products, and UHT milk;

– yoghurt and hard cheeses;

– fresh washed vegetables and fruit; and

– canned foods

Weight and Pregnancy

Weight is a significant health factor before, during and after pregnancy. Being in the healthy weight range is recommended as a good foundation for best outcomes for mothers and babies. Being significantly overweight is a risk factor for pregnant women.

How heavy is risky?

The best indicator of weight and risk in pregnancy is the Body Mass Index (BMI). The BMI is best calculated using the woman's pre-pregnant weight (in kgs) and height (in metres), this is done by dividing the weight by the height squared (BMI =kg/m^2) The table below shows the risks at different BMIs.

Weight issues pre-conception

Ideally, all women planning to become pregnant should consider their weight before becoming pregnant. If your weight is normal or you are in the overweight but not obese range (BMI less than 30), eat well and keep fit (see Fact Sheets 1&2). Women in the obese range of BMI (BMI greater than 30) have an increased risk of infertility and should seek advice from a dietician and exercise consultant to lose weight and increase fitness.

Increased BMI during pregnancy

For women who are overweight while pregnant, controlled healthy eating and regular exercise can make a difference to wellbeing for mother and baby. It is important to plan healthy eating in pregnancy with a dietician so that you include all that your baby needs for healthy growth in your diet. A midwife or GP can refer you to see a dietician to discuss your special nutritional needs while you are pregnant.

Classification	BMI (kg/m^2)	Risk of obstetric/anaesthetic complications
Normal range	18.5 – 24.9	No increased obstetric or maternal risk
Overweight	25 – 29.9	No increased obstetric or maternal risk
Obese 1	30 – 34.9	Mildly increased obstetric and maternal risk
Obese II	35 – 39.9	Moderately increased obstetric and maternal risk
Obese III	Greater than or equal to 40	Significantly increased obstetric and maternal risk

Note: Obese III formerly known as Morbidly Obese

What are some of the risks of a BMI greater than 30?

During pregnancy:

- increased chance of diabetes during the pregnancy
- increased risk of high blood pressure and pre eclampsia (serious complications resulting from high blood pressure and kidney failure)
- risk of poor placental function and reduced Fetal growth rate (a baby that is too small)
- in some pregnancies, a risk of the baby growing too big ,having a difficult delivery and being less healthy at birth **(space after big and before comma to come out)**

During labour:

- poor progress in labour with increased risk of forceps delivery or caesarean section
- difficulty monitoring the baby's heart rate
- increased rate of complications with caesarean section due to increased surgical problems when operating on women with BMI greater than 30

Anaesthetic complications:

- Some women need an anaesthetic for emergency or planned caesarean section or for complications following the delivery of the baby. Women with BMI greater than 30 have more complications during and following surgery, than women in the healthy weight range.

After the birth

- an increased risk of wound infection for women who have had surgery or stitches following the delivery of the baby
- an increased risk of blood clots in the veins of the legs and pelvis with risk of pulmonary embolism (clots in the lungs)

Good nutrition and daily exercise can improve the health and wellbeing of all women and their babies. Women who are planning a pregnancy or who are pregnant with a BMI greater than 30 are encouraged to discuss their special needs with their health care team.

Breastfeeding

Breastfeeding is the normal and most beneficial way for feeding. Your baby's growth and development depends on the food he/she gets. Breastfeeding provides all your baby's essential needs for growth, development and protection from illness and disease.

Best for Baby

- Breastmilk meets all your baby's nutritional needs for the first six months.
- Breastmilk changes during the feed, as well as over months and years, to meet your baby's changing nutritional, immunological, growth and developmental needs
- Regular skin-to-skin contact and close interaction during breastfeeds encourages mutual responsiveness and attachment
- Breastmilk contains many anti-infective factors that help protect your baby from illnesses such as gastroenteritis and infections
- Breastfeeding lowers the risk of being overweight, obesity and diabetes in childhood and adulthood
- Babies who are breastfed have higher IQ scores and better jaw and speech development
- Breastmilk is easily digested and nappies do not have an offensive smell. **(full stop on 1st and last paragraph – make all same)**

Best for Mother

- Early suckling minimises bleeding after birth and helps your uterus return to its pre pregnant state
- Breastfeeding aids a faster return to pre-pregnancy body weight as it uses kilojoules to make the milk
- Full breastfeeding delays the return of fertility
- Breastfeeding may reduce the risk of pre-menopausal breast, ovarian and endometrial cancers
- Breastfeeding may lead to stronger bones and less osteoporosis
- While breastfeeding your baby you are able to rest
- The hormone, oxytocin helps you to fall back to sleep after night feeds.

Best for family

- A healthier baby means reduced costs in doctor's visits and medicine
- Breastfeeding is free
- – Breastfeeding is safe and convenient

Breastfeeding is for partners too

Like for mothers, fathers bond in a unique way with their babies. They play a special role in breastfeeding by supporting you and your baby while you are feeding. Research shows those mothers who have positive encouragement and support from their partner and family for breastfeeding find parenting more enjoyable. Partners can be involved by:

- Helping you to be comfortable and have enough to eat and drink while you are breastfeeding
- Giving some "time out" by helping to settle the baby after and between breastfeeds
- Providing practical support such as bathing and changing the baby
- Monitoring visitors so well wishers do not overwhelm you and your baby

How do I make breastmilk?
At birth you will have rich, thick, concentrated first milk called 'colostrum'. Colostrum is nutritionally rich and provides an immunological boost for your baby's start to life. A hormone (prolactin) is released which signals your breasts to commence making milk.

When your baby starts sucking another hormone (oxytocin) releases your milk in to your milk ducts. Your milk flows towards the nipple as your baby suckles. This is called the "let-down' reflex. Over the next week your milk will gradually change to become lighter in colour and more abundant.

Your breasts will continue to produce milk as your baby suckles. The more your baby feeds the more milk you will make. Your breasts may feel swollen in the first days until they become used to producing milk and meeting your baby's needs. Your breasts will adjust and produce the right amount of milk for your baby within a few weeks.

How long should each feed last?
Feeds can be enjoyed as long and as often as your baby wants. Allowing your baby's appetite and thirst to regulate your milk supply establishes a basis for the rest of your breastfeeding, so it is best to respond to your baby's needs. As long as your baby is attached correctly and your baby is sucking, then the time is unimportant. Babies get more efficient as they grow and the time of each breastfeed may vary.

How frequently should I feed my baby?
The frequency of feeds will depend on your baby. Your baby will not have a feeding routine in the first weeks. He/she may want to feed every two hours at some stage and then may not feed for a five hour period. Some babies feed in clusters. This daily variation is normal. Babies will feed around six to eight times every 24 hours. Some babies will feed more times than this.

How do I know if my baby is getting enough?
If your baby:

- is feeding at least six to eight feeds in 24 hours
- has six to eight pale, wet nappies in 24 hours
- does soft poos
- is looking bright, alert and contented
- is sleeping in the 24 hour period and
- is growing and developing, then he/she is getting enough milk.

Healthy babies take as much as they want when breastfeeding. One of the major advantages for breastfeeding is that your baby satisfies his/ her thirst, appetite and growing needs by breastfeeding as many times as your baby wants.

The World Health Organisation and the National Health and Medical Research Council recommend that you exclusively breastfeed your baby with no other milks, food or drinks, until about six months. At about six months it is further recommended that you begin to introduce your baby to solid foods while continuing to breastfeed until 12 months or longer. Breastfeeding can continue to provide health benefits in your baby's second year of life and beyond.

Baby Friendly Health Initiative
The Baby Friendly Health Initiative (BFHI) is an international project that aims to give every baby the best start in life by creating a health care environment where breastfeeding is the norm and practices known to promote the health and wellbeing of all babies and their mothers are followed.

The BFHI Ten Steps to Successful Breastfeeding are the global standard by which health services are assessed and accredited. A "Baby Friendly" health service is one where mothers' informed choice of feeding is supported, respected and encouraged.

For more information on breastfeeding you can talk to your Child and Family Health Nurse.

They can also refer you to a lactation consultant if required
Australian Breastfeeding Association ACT / Southern NSW Branch on 6258 8928. A voluntary mother-to-mother support that offers a seven day a week help line as well as discussion groups, preparing for breastfeeding groups and general information and support.

This Breastfeeding fact sheet is based on the NSW Department of Health publication *Breastfeeding Your Baby* (2006).

The Ten Steps to Successful Breastfeeding

1. Have a written breastfeeding policy that is routinely communicated to all health care staff
2. Train all health care staff in skills necessary to implement this policy
3. Inform all pregnant women about the benefits and management of breastfeeding
4. Place babies in skin-to-skin contact with their mothers immediately following birth for at least an hour and encourage mothers to recognise when their babies are ready to breastfeed, offering help if needed.
5. Show mothers how to breastfeed and how to maintain lactation even if they should be separated from their infants
6. Give newborn infants no food or drink other than breastmilk, unless medically indicated
7. Practice rooming-in, allow mothers and infants to remain together-24 hours a day
8. Encourage breastfeeding on demand
9. Give no artificial teats or dummies to breastfeeding infants
10. Foster the establishment of breastfeeding support and refer mothers on discharge from the facility

Smoking in Pregnancy

Cigarette smoke contains more than 4,000 chemicals (including 69 that cause cancer) that both you and your baby are exposed to when you smoke.

Smoking and your unborn baby
There is no safe level of smoking throughout your pregnancy. Smoking during pregnancy makes it difficult for your baby to get the nourishment and oxygen it needs to survive. By stopping smoking your baby will benefit straight away.

The umbilical cord is your baby's lifeline. The blood that flows through the cord gives your baby all the nutrients and oxygen it needs to help it grow. When you smoke the amount of oxygen available to your baby through the umbilical cord is reduced. This makes the baby's heart beat faster and can increase the overall stress on its developing body. Smoking can also reduce the blood flow through the placenta, which can limit the amount of nutrients that feed the baby. Chemicals in tobacco smoke like carbon monoxide and other toxic chemicals can pass through the placenta to your baby. Nicotine increases the heart rate and breathing rate in your baby, just as it affects you.

Smokers in pregnancy…
- have a greater risk of miscarriage and ectopic pregnancy
- have a higher risk of having a premature baby
- have a higher risk of having complications of pregnancy affecting the placenta
- have a higher risk of having a low birthweight baby

If you smoke after your baby is born…
The risk of Sudden Infant Death Syndrome (SIDS) is increased. Keep baby safe by asking smokers to always go outside the home or car to smoke. Your baby may be more at risk of asthma and other respiratory infections.
Many of the 4,000+ chemicals the mother inhales are passed on to the baby through breast milk and through passive smoking.

Breastfeeding…
Breast milk protects your baby against infection. If you smoke, your production of breast milk may be reduced and some harmful substances may be absorbed by the baby through the breast milk. If you are having difficulty quitting smoking, try not to smoke just before or during feeds. Always go outside to smoke, and ask others to do so. If you can't give up, keep working on it. The benefits of quitting begin as soon as you give up smoking.

Passive Smoking…
Anytime someone smokes near or around you or your children, you are all smoking too. This is called passive smoking or environmental tobacco smoke (ETS). ETS can affect the health of children:

- young children may be more affected by tobacco smoke and the chemicals it contains, as they have smaller, more delicate lungs
- children of smokers may be more likely to suffer from asthma, respiratory infections and may cough during the night

Why should I stop now?
You will have done the best you can for you and your baby

You will stop possible damage to your baby and family

You will feel healthier and stop further damage to yourself

You will save money on the cost of cigarettes

Want to give up?
Many people have given up smoking. You can do it too! If you need help, you can call the QuitLine or talk to your GP.
QuitLine: 13 78 48

Remember…
There is no safe level of smoking. Even a few cigarettes a day exposes your baby to harmful chemicals that can affect your baby's growth and development.

With thanks to NSW Health, QuitSA and Queensland Government Pregnancy Lifescripts.

Miscarriage

Miscarriage is a term to describe a pregnancy that does not survive beyond 20 weeks. It can include a number of terms, which sound confusing but all mean the same to the woman and her partner who have lost the chance of a normal pregnancy.

For a pregnancy to be healthy there needs to be three components:

- The tissue that goes on to form the placenta. This produces the hormone that gives a positive pregnancy test
- the tissue that goes on to form the membranes around the baby
- the baby itself

It sometimes happens that even with all 3 components present a pregnancy will not continue. Sometimes just the placental type tissue develops and sometimes the placenta and membranes will develop.

The terms that you may hear include:

- **Blighted ovum.** The term Anembryonic pregnancy is sometimes used. This is where on ultrasound all that can be seen are the placental tissue and the membranes
- **Missed miscarriage.** The term missed abortion is still sometimes used. It means that the pregnancy has stopped growing some time ago (this may be days or weeks) but that there has been no sign of miscarriage. It might include placenta, membranes and baby but there would be no heartbeat seen
- **Incomplete miscarriage.** This is where there has been some bleeding and the woman has tried to have a miscarriage but that there is still some tissue (usually placental) left behind
- **Complete miscarriage.** There has been some bleeding, sometimes pain, and the woman has completed a miscarriage
- **Ectopic pregnancy.** There has been a positive pregnancy test, there may have been some pregnancy symptoms but the pregnancy develops outside the uterus, most commonly in the uterine tubes. Usually only placental tissue develops and the baby does not form

Reasons for miscarriage:
The first question that many people will ask is why did this happen? It is important to remember that miscarriage is very common. The number of pregnancies that don't make it is about 1:3 and this may be higher if you could detect all the pregnancies that do not develop before the missed period.

There is a list of things we know that can definitely cause a miscarriage such as chromosomal (the right genes), infections, some drugs, problems with the mother's health, problems with the father's health but often we do not have a reason why this particular pregnancy went wrong. After one miscarriage the most likely thing to happen is that the next pregnancy is normal. There are tests that can be done but these are usually done after a woman has had 3 miscarriages and the chance that something is actually wrong with her or her partner is very low.

Where do I go from here?
In most instances you do not have to do anything straight away. Some people need to ring people to talk to or for support. Some people need time to get used to the idea that they are no longer pregnant. It is important to remember that most people don't think of what is involved

in the early stage of pregnancy to produce a well-grown baby at the end. When a woman has a positive pregnancy test she may think only of a well-grown baby and it may take some time for her to accept that her pregnancy has gone wrong. There are a few instances where it is important to seek medical attention early and your doctor will explain these to you.

Depending on your situation there are a number of choices:

- There is no need to do anything as your body has done all the work and that you do not need an operation. The bleeding will settle over the next 2 weeks and your next cycle will happen about 4–6 weeks after your miscarriage
- You may wish to wait a period of time to see if your body does the work and therefore you avoid needing to have an operation. This may take a couple of days but then should settle. It would not be recommended that you take this option if you cannot access the hospital easily or that if the process is taking a long time
- You can have an operation called a curette, which requires a general anaesthetic
- There is a medication that is suitable for some women, which will assist your body to complete the miscarriage.

All these options have their good points and bad points. These will need to be discussed in the context of your situation.

What about after the miscarriage?

Whether you have an operation or not, the bleeding can take about 2 weeks to settle down. If you bleed longer than that it does not mean that anything is wrong but you should see your doctor. You should not have any intercourse until the bleeding has stopped.

If at any stage the bleeding increases or you feel unwell you must see a doctor immediately. This may mean that you have an infection and this will need to be treated.

If you are planning another pregnancy then you should continue to take folic acid. You may need to add an iron supplement if your blood count is low after the miscarriage.

It is usually recommended that you have at least 1 normal menstrual cycle before you become pregnant again.

Your emotions can sometimes be disturbing. The reaction to having a miscarriage can be very different for each woman and her partner. Some women will have a very philosophical or spiritual reaction and see it as 'nature's way' while others may have a very deep grief reaction. There is a huge range of reactions and most of these are normal. There are support groups available if you think you are not dealing with your reaction (SIDS & Kids 02 4969 3171).

Sometimes even if you have dealt with it well there are anniversary dates that may remind you, such as the day you had a scan booked, the day you had your first antenatal visit or the day the baby was due. Remember that miscarriages happen very often and many women will have been through what you are going through so don't be afraid to talk to people if you think it will help.

Vaginal Birth after Caesarean

Brochure available via
http://www0.health.nsw.gov.au/policies/gl/2014/GL2014_004.html or from the nearest Public Maternity Unit.

Your Next Birth After Caesarean section

INFORMATION ABOUT YOUR BIRTH OPTIONS

NSW KIDS + FAMILIES

NSW GOVERNMENT Health

What are my chances of VBAC success?

A number of factors impact on the likelihood of VBAC success. The reason for your previous caesarean section will be taken into consideration when you discuss your options with your doctor and/or midwife, however, national and international research shows that the majority (63-94%) of women who attempt a VBAC are successful.

A VBAC is more likely to be successful if:

- You have previously given birth vaginally
- This pregnancy has been straightforward
- You go into labour spontaneously in this pregnancy
- Have a Body Mass Index (BMI) less than 30
- Your previous caesarean section was for reasons such as a breech presentation, placenta praevia or fetal distress.

Frequently asked questions

Q. Can I have my labour induced if I have had a previous caesarean section?

The risk of the scar opening is increased if labour is induced. Therefore, induction of labour should only be considered on an individual basis and with recommendation and support of an obstetrician.

Q. Can I have an epidural in labour?

Whilst there are advantages to staying upright and moving around in labour, there are no contraindications to having an epidural.

For further information talk to your midwife or obstetrician.

This information leaflet has been written by an Expert Advisory Group of NSW Kids and Families.

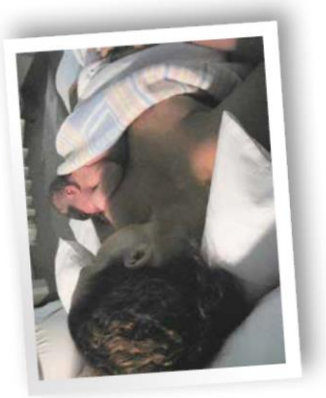
If I choose a VBAC what will happen in my labour?

Because of the small risk of the previous scar opening during labour, women having a VBAC are closely monitored once labour is established (usually when you are having regular contractions about every 5 minutes and your cervix is about 4cm dilated).

When you arrive at the hospital in labour you will probably have a drip placed in the back of your hand. It is recommended that your baby's heart beat is monitored electronically throughout labour.

The midwife and doctor will regularly assess your progress in labour by abdominal palpation (to assess strength of contractions and monitor baby's position) and vaginal examination (to assess how your cervix is dilating). If your labour progresses slowly it may be possible to use Syntocinon (a hormone drip) to help your contractions. This will be done with care due to the scar from your previous caesarean section.

If the labour does not progress or if the baby shows signs of distress you will be advised to have an emergency caesarean section.



Options for your Next Birth After Caesarean section (NBAC)

If you have had one or more caesarean sections, you may be thinking about how to give birth next time. Most women who have had a caesarean section are able to have a Vaginal Birth After Caesarean section (VBAC). Whether you choose to have a VBAC or a caesarean section in a future pregnancy, either option is safe with different benefits and risks. Overall, both are safe options for most women with very small risks.

This information brochure has been designed to provide you with consistent information based on current research and evidence to assist you in deciding about your next type of birth. The information will support the discussions you will have with your midwife and doctor.

When VBAC is not recommended

VBAC is not recommended if you have had:

- A previous complicated caesarean section such as a classical caesarean section (a caesarean section through the upper part of the uterus)
- A previous hysterotomy (an incision through the muscle of the uterus)
- A previous uterine rupture (the uterus tears along your previous caesarean section scar)
- Three or more previous caesarean sections
- Some types of surgery on your uterus, however, a VBAC may still be possible following a discussion with your doctor
- A short duration between pregnancies (less than 18 months).

Vaginal Birth After Caesarean section (VBAC)

Most women who have had a previous lower segment caesarean section can safely give birth vaginally in their next pregnancy. This is called a Vaginal Birth After Caesarean section or VBAC.

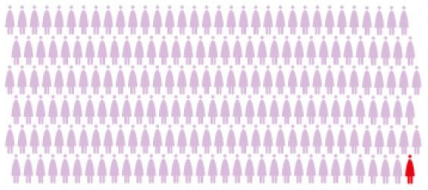
The risk of serious harm to your baby is the same risk as having your first baby and is very small (about 2 for every 1000 women attempting a VBAC).

Benefits of a successful VBAC include:

- A greater chance of an uncomplicated birth in future pregnancies
- A shorter recovery time and hospital stay
- Reduced risk of blood clots (deep vein thrombosis)
- Enhanced mother-infant bonding and long term wellbeing of your baby.

Disadvantages of VBAC include:

- An emergency caesarean section if labour slows or if the baby becomes stressed
- A slight increase in the need for a blood transfusion postnatally if you need an emergency caesarean section.
- A weakening or separation (referred to as rupture) of the previous scar. Although rare, if the scar ruptures it can have serious consequences for you and your baby. The chance of your scar rupturing is small (about 1 for every 200 women attempting a VBAC).



Elective Repeat Caesarean Section (ERCS)

If you choose to have an ERCS, and there are no other problems, this will be arranged for you after your 39th week of pregnancy.

Benefits of ERCS include:

- There is virtually no risk of your previous scar rupturing
- A slight reduction in the need for blood transfusion postnatally.

Disadvantages of ERCS include:

- A longer more complicated operation due to scar tissue from your previous caesarean section
- An increased risk of infection postnatally
- A longer recovery time and stay in hospital
- Increased chance of developing blood clots (deep vein thrombosis)
- Breathing problems are more common in babies born by elective caesarean section
- Increased risk of problems in future pregnancies, for example placenta praevia (placenta close to or overlying the cervix).

Induction of labour

Induction of labour is a process designed to start labour artificially.

When is induction recommended?
The doctor may suggest an induction if the mother's or the baby's health is likely to benefit. On average about one in five labours is induced.

There are a number of reasons why induction may be offered and recommended. For example:

- if your blood pressure is high
- your pregnancy is 10-14 days past the average or the estimated date of birth
- there is slowing down of your baby's growth in your uterus or there is not much fluid (amniotic fluid) around your baby
- you have diabetes which requires insulin
- your waters break before labour starts

When induction of labour is being considered, the doctor or midwife should fully discuss the options with you before any decision is reached. This should include explaining the procedures and care that will be involved and whether there are any risks to you or your baby.

If you have had a previous caesarean section or have had more than five babies, this may affect whether induction is recommended. For some women there are medical reasons to start or induce labour, in order to reduce any of the risks, for mother or baby, associated with continuing the pregnancy.

What are the benefits of having an induction?
The major benefit is that any risks associated with continuing your pregnancy are removed.

There is also a minor advantage to you and your family in planning to be ready for the day the baby will be born. This is not an important factor if there are not other indications to have an induction.

What are the risks and disadvantages of having an induction?

- The risks depend on the reason for induction and talking with the doctor should give you a clear understanding of these before the induction takes place
- Unplanned premature baby if the expected date of birth is not correct. This risk is usually avoided if the result of an ultrasound scan is checked with your dates before 20 weeks of pregnancy
- Labour can seem longer if the time between the labour induction and the onset of labour is added. The more closed your cervix is at the start, the longer this time will be.
- Sometimes women request more pain relief
- The baby's heartbeat may need to be monitored continuously using an electronic Fetal monitoring machine. This type of monitoring may be recommended because of the reason you are being induced
- Failed induction. There is a chance that the induction will not bring on contractions and progress to have a baby. When this happens, the doctor may suggest stopping the induction and if there is a need for the baby to be born, a caesarean section may be discussed or you may be asked to be rescheduled for an induction on another day.
- It can be hard for the woman to move in labour when she has an intravenous drip and if the electronic Fetal monitor is attached. Options

such as labour in the bath or shower may not be possible

How is labour induced (started)?
There are a variety of methods that can be used to induce labour. You may be offered one or all of the methods described below depending on individual circumstances.

Membrane sweeping
This has been shown to increase the chances of labour starting naturally within the next 48 hours and can reduce the need for other methods of induction of labour.

Membrane sweeping involves the midwife or doctor placing a finger just inside your cervix and making a circular, sweeping movement to separate the membranes from your cervix.

If you have agreed to induction of labour, you may be offered membrane sweeping before other methods are used. The procedure may cause some discomfort or bleeding, but will not cause any harm to your baby and it will not increase the chance of you or your baby getting an infection. Membrane sweeping is not recommended if the membranes have ruptured (waters broken).

Using prostaglandins
Prostaglandins are drugs that help to induce labour by encouraging the cervix to soften and shorten (ripen). This allows the cervix to open and contractions to start.

Prostaglandins are normally given as a gel or a tape that is inserted into the vagina. This is done in hospital on an antenatal ward. More than one dose may be needed to induce labour. Doses should only be given every six to eight hours.

If your membranes have not yet ruptured (waters broken) prostaglandins are usually the recommended method of induction. However, your cervix may already be too ripe even if your membranes are not ruptured and prostaglandins would then not be the safest form of induction. This is the case whether this is your first pregnancy or not.

Before giving prostaglandins the midwife or doctor will check the baby's heart beat using an electronic Fetal heart rate monitor. After being given prostaglandins you should lie down for at least thirty minutes. Once your contractions start the midwife or doctor should monitor your baby's heartbeat again. Once it is established that everything is okay monitoring may be discontinued and you will be able to move around.

There is no evidence to suggest that labour induced with prostaglandins is any more painful than labour that has started naturally. However prostaglandins sometimes cause vaginal soreness.

Very occasionally prostaglandins can cause the uterus to contract too much which may affect the pattern of your baby's heartbeat. If this happens you will be asked to lie on your left side. You may be given other medication to help relax the uterus and any prostaglandin gel or tape remaining in your vagina may be removed.

Amniotomy (Breaking of the waters)
If your waters have not broken, a procedure called an amniotomy (ARM-artificial rupture of membranes) may be recommended. This is when your midwife or doctor makes a hole in your membrane to release (break) the waters. This procedure is done at the time of a vaginal examination using a small plastic hook called an "Amnihook ". This will cause no harm to your baby, but the vaginal examination needed to perform this procedure may cause you some discomfort. This is performed in the delivery room (labour ward).

Using Oxytocin
Oxytocin is given in hospital in the birthing room (labour ward).

This is a drug that encourages contractions. Oxytocin is given through a drip and enters the bloodstream through a tiny tube called a cannula into a vein in your arm. Once contractions have begun, the rate of the drip can be adjusted so

that your contractions occur regularly until your baby is born. Whilst being given the oxytocin the midwife or doctor will monitor your baby's heartbeat continuously using a CTG monitor.

Very occasionally oxytocin can cause the uterus to contract too much which may affect the pattern of your baby's heartbeat. If this happens you will be asked to lie on your left hand side and the drip will be turned down or off to decrease the contractions. Sometimes another drug will be given to counteract the oxytocin and decrease the contractions.

If you have already had prostaglandins, oxytocin should not usually be given for at least six hours.

The doctor or midwife will discuss all of these options with you before any decision is reached. They will explain the procedures and care that will be involved and whether there are any risks to you or your baby.

Further information

For further information about induction of labour talk to the midwife or doctor caring for you.

Nuchal Translucency Scan

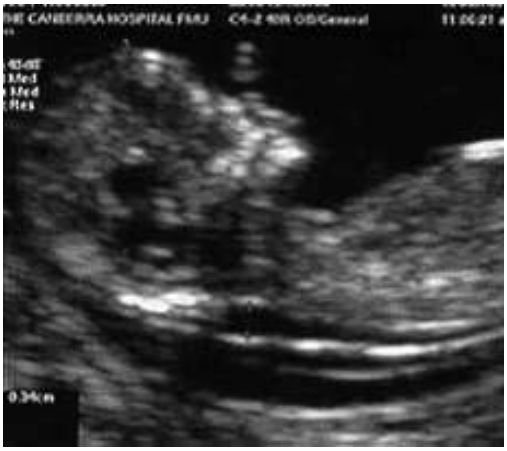
First trimester screening for Down syndrome consists of a Nuchal Translucency Scan (NTS) and first trimester serum screening. The NTS is an ultrasound test done between 11 weeks 3 days and 13 weeks 6 days of pregnancy and the serum screening test can be done after 9 weeks gestation. The aim of the test is to determine if you are at an increased risk of having a baby with a chromosome abnormality, most commonly, Down syndrome. This is a screening test and does not diagnose an abnormality, it merely finds those who are at greater risk and who may opt for further testing.

How common is Down syndrome?
Down syndrome occurs in about 1 in every 700 births and the chance of having a baby with this condition increases with maternal age. For example the risk at age 20 is approximately 1:1500 but at age 40 is about 1:100.

What is a Nuchal Translucency?
All babies have a fluid collection within the skin at the back of the neck and this is called the Nuchal Translucency (NT). The larger the measurement of the translucency, the higher the chance the baby will have Down syndrome. This fluid often disappears by 15 weeks.

How is it measured?
The nuchal translucency is measured by using ultrasound, usually through the abdomen. Occasionally a transvaginal approach may be required.

Ultrasound is the passage of inaudible sound waves into the body that reflect off the internal structure and then bounce back to the machine where they are converted into a picture. Ultrasound is considered safe in pregnancy and will not you're your baby.



The ultrasound picture may be clearer if you have a full bladder, this is why we ask you to drink 2 glasses of water an hour before your appointment. However, there is no benefit in being painfully uncomfortable so if your scan is delayed please feel free to make yourself comfortable, trying not to completely empty your bladder.

What is the First trimester Serum Screening test?
A blood test can be taken preferably a week before the scan, or at the time of the scan and this measures two hormones, Free Beta HCG and PAPP-A in the mother's blood. When the blood test is performed prior to the NT scan the results are usually available on the day of the scan so that a combined risk assessment is available immediately.

How do we calculate the risk for Down syndrome?
The nuchal translucency measurement, the length of the baby from head to bottom (Crown Rump length) and your date of birth are entered into a computer program, along with the results of the first trimester serum screening to calculate your ***combined adjusted risk***.

This risk assessment is based on data from the Fetal Medicine Foundation in UK. All operators performing this test should be accredited by the Australian Nuchal

Translucency Education, Ultrasound and Monitoring Program to perform this test. www.nuchaltrans.edu.au

What is an increased risk?
Risk is a very individual thing, however, it is generally accepted that a risk greater than 1 in 300 is considered increased and further testing may be appropriate.

How do I get the result and how accurate is it?
You will be given the result as soon as all of the data is available. If the blood test has been done prior to the nuchal translucency and the results are available, you will receive the adjusted risk at the time of the scan.

A Nuchal Translucency scan, properly performed, has been shown to pick up about 70% of babies with Down syndrome.

It is now reported that using the NT scan and the 1st trimester serum screening blood test together increases the detection rate of Down Syndrome to around 95%.

More recently, the detection of the Fetal nasal bone has been added to this test to give further reassurance. (In Australia the nasal bone component of the NT software is not activated and is not part of the algorithm that calculates risk)

What next?
After the results are explained to you, you will be given several options.

1. Do nothing more – you are happy with your new adjusted risk result

2. Invasive testing by either Amniocentesis or Chorionic Villus Sampling (CVS)

What if I want a definite answer?
If you want a definite answer or if your adjusted risk is increased there are two tests available which will give you a definitive result.

CVS – performed from 11 weeks onwards. Under ultrasound guidance placental cells are removed and tested.

Amniocentesis – performed from 14–15 weeks onwards. Under ultrasound guidance a small amount of amniotic fluid is taken from around the baby and the cells contained in the fluid are cultured and examined. Both of these tests have a miscarriage risk of 0.5% –1%.

These tests can be carried out in the Fetal Medicine Unit at The Canberra Hospital and the Cytogenetics Department of the Canberra Hospital. At the Canberra Hospital these tests will be bulk billed. These services can also be arranged in private specialist practice.

Do I need another ultrasound? The NT scan at 11^{+3} – 13^{+6} weeks may be too early to detect many other abnormalities so another scan should be carried out at 18–20 weeks to look for structural anomalies.

Remember that a normal ultrasound does not guarantee a normal baby. There are a number of conditions that may be apparent after birth but are not detectable by ultrasound.

If you have any questions regarding this test please do not hesitate to ask the person performing your ultrasound.

Amniocentesis

What is amniocentesis?

Amniocentesis is a procedure where a small quantity of the fluid surrounding the Fetus in the uterus, is withdrawn through a needle passed through the abdominal wall of the mother.

When is it performed?

It is usually performed from around the 15th week of pregnancy. Sometimes the amount of fluid (liquor) present at this time is not enough and the procedure may need to be deferred for a week or two.

What are the indications?

The most common indication for the procedure is to detect the presence of chromosomal abnormalities in the Fetus. Every cell in the body contains genetic information (chromosomes). Cells shed from the skin of the Fetus are found in the liquor surrounding it. By culturing these cells, the arrangement of the chromosomes making up the genetic information inside the cell can be identified. The most common chromosomal abnormality is Down syndrome, but there are other abnormalities.

Who should have the test?

For a healthy couple with no previous history of this abnormality, the risk of giving birth to an infant with a chromosomal abnormality is related to the age of the mother. The risks are approximately as follows:

Women's age:	Risk
20	1 in 1500
30	1 in 800
35	1 in 170
37	1 in 80
40	1 in 40
45	1 in 20

These values change significantly if a mother has had a previous baby with Down Syndrome. There are other indications for amniocentesis but these usually involve rare problems. The test will not diagnose many common abnormalities like a cleft lip or a heart abnormality. It is for that reason we still recommend a morphology scan if the results are normal. If your pregnancy is otherwise uncomplicated this scan will be done by a private service.

The figures above should be viewed in relation to the overall risk. At the Fetal Medicine Unit we believe the age at which women should be offered amniocentesis solely on the grounds of maternal age should be 35; however we are happy to discuss the situation with younger women.

Is my partner welcome?

Partners and support persons are very welcome. It is very useful for them to be present at the discussion prior to the procedure. They will also have an opportunity to see the ultrasound scan performed prior to the procedure. If possible please do not bring children as they may become bored and disruptive.

How is it done?

An ultrasound scan is performed to check on the baby's age and to choose a site for amniocentesis. Sometimes, if the pregnancy is not as far advanced as expected (and this bears no significance as to whether the Fetus is normal or not), you will be asked to return at another time.

Under ultrasound guidance the amniocentesis needle is inserted through the skin into the pregnancy sac. A small amount of liquor is removed. This is not painful but some discomfort following the procedure is not unusual. We usually do not use local anaesthetic to numb the skin because there is some evidence that it might interfere with the growth of the culture.

What are the risks?

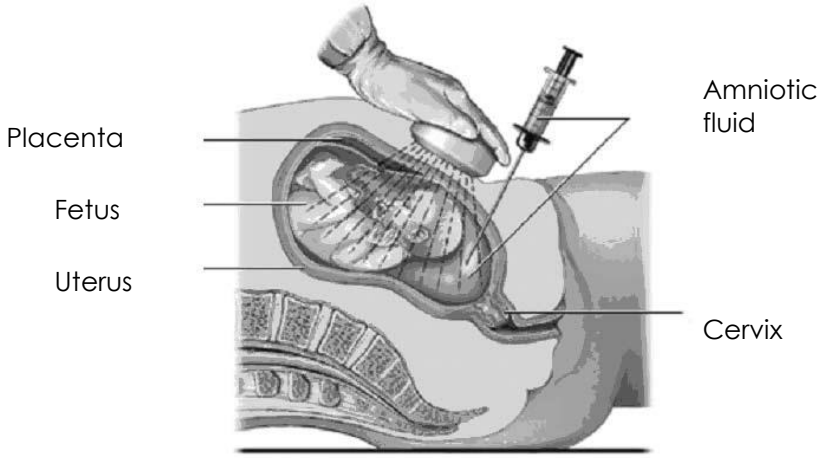
Current knowledge is that ultrasound scanning is harmless to both mother and baby. Approximately 1 in 200 of women

who have an amniocentesis will miscarry not because of the procedure but because spontaneous miscarriage is not uncommon at this stage of pregnancy. If miscarriage does occur, it normally will happen within a week or two.

What should you do after the test?
A quiet day is all we suggest. If there is vaginal blood or fluid loss, you should report it to your referring doctor right away and rest in bed until the problem settles. Fluid loss is not too unusual and is not necessarily a sign of miscarriage.

When are the results known?
The chromosome studies take two to three weeks, or sometimes a little longer. Very occasionally the amniotic fluid cells fail to grow and a chromosome result is not possible. If this happens, we would usually notify you about two weeks after the initial test, when it becomes obvious that growth is not occurring and we would normally offer to repeat the test. Cell culture failure has no relationship to chromosomal abnormalities. The result will include the baby's gender. If you do not want to know the sex of your baby, it is important to tell the clinic staff. We will contact you as soon as the results are available.

Request Form for this Procedure
You will be asked to sign a consent form for this procedure stating that you have read this information and understand it. If you do not understand anything, please discuss this further with the medical staff at the time of your appointment. Please refrain from asking administrative staff for medical information — it can often lead to more confusion.



Chorionic Villus Sampling (CVS)

What are chorionic villi?
Chorionic villi are part of the developing placenta and as such, are Fetal cells. By obtaining some of these cells early in pregnancy, it is possible to assess the chromosomal makeup of the Fetus and on occasions, to identify whether particular infants are likely to carry abnormal genes.

The advantage of this test over amniocentesis is that it can be done earlier and consequently, results can be obtained earlier.

The test can usually be done between 10–12 weeks. If the test is done to exclude genetic syndromes like cystic fibrosis it is done earlier than when excluding chromosomal abnormalities, which is often timed to coincide with the nuchal translucency scan closer to 12 weeks. It has been performed worldwide since 1983.

There are two main techniques of taking the sample:

– sampling via the cervix

– sampling via the maternal abdomen

Abdominal sampling will normally be used at the Fetal Medicine Unit, but occasionally sampling via the cervix is the preferred approach.

Abdominal Chorionic Villus Sampling
This is a very similar procedure to amniocentesis, except that the amniotic sac is not entered. Local anaesthetic is inserted into the skin of the abdominal wall. Under ultrasound control, the developing placenta is identified and a needle is inserted into the wall of the uterus. The same needle is then inserted into the placenta. When the needle is in the placenta, a syringe is attached and a sample of cells is removed by suction.

The Risks
The procedure is associated with a risk of miscarriage of approximately 1/2–1% on top of the usual risk of miscarriage in any pregnancy. Although this is usually a simple test, some women find it uncomfortable and very occasionally, painful.

Sometimes more than one attempt may need to be made before suitable tissue is obtained. Occasionally, the procedure is unsuccessful. If this occurs, a further attempt might be made a week or so later or amniocentesis might be necessary.

A few years ago evidence showed that, if CVS is done prior to 9 1/2 weeks, some abnormalities in Fetal limb development might rarely occur. Because of this, if there is any doubt about gestation, then the procedure may be deferred until you are definitely more than ten weeks gestation.

Is my partner welcome?
Partners and support persons are very welcome. It is very useful for them to be present at the discussion prior to the procedure. They will also have an opportunity to see the ultrasound scan performed prior to the procedure. If possible please do not bring children as they may become bored and disruptive.

How It Feels
During the transabdominal procedure, you will feel a short, sharp sting when the local anaesthetic is injected to numb your skin. There is usually no pain however there can be some discomfort especially if access is not straightforward. You may feel some cramping when the needle is inside your uterus.

It is normal to experience mild cramping and some light vaginal spotting for the first day or two following the procedure. Notify your doctor immediately if you develop:

– moderate or severe abdominal pain or cramping

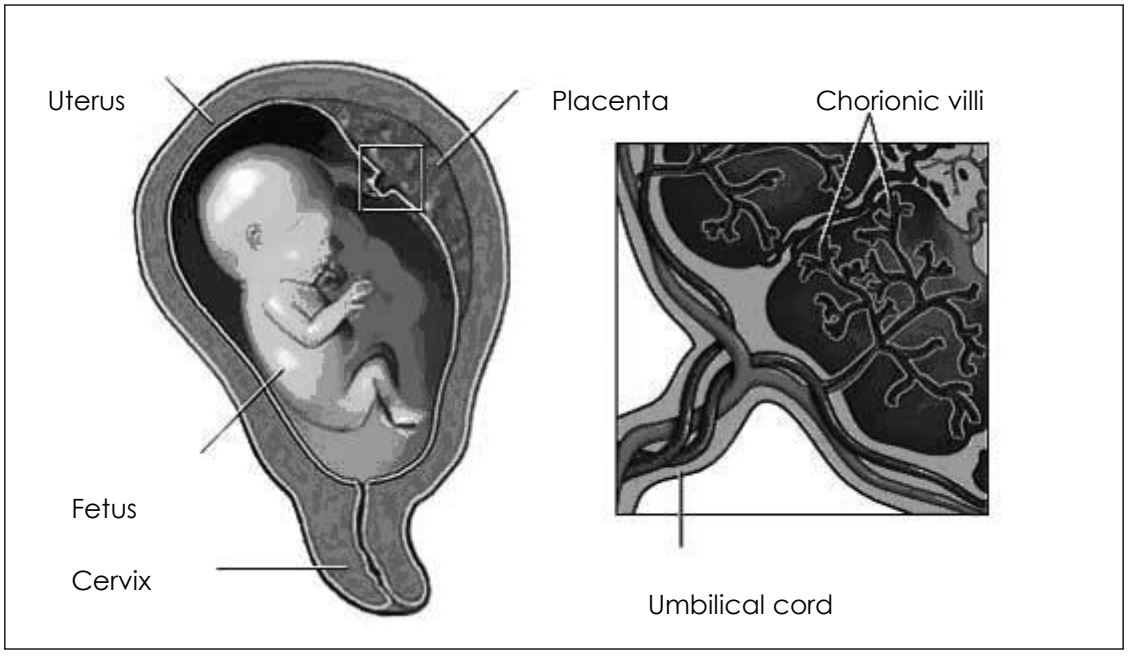
– increasing vaginal bleeding (more than spotting)

– chills or a fever

Results

Results take two to three weeks for chromosome analysis. Once we receive the results we will ring you with the results and we will also write to your doctor to inform him/her of the results. Please note that we will know the sex of your baby from the results so let us know whether you want to know the sex when we contact you. The chances of a confusing result, due to contamination with maternal cells, is slightly higher than with amniocentesis and a further procedure might be required to check the diagnosis in 1% to 2% of cases. Rarely, the cell culture technique fails and no result can be obtained. The procedure can be repeated if this occurs.

Request Form for this Procedure You will be asked to sign a consent form for this procedure stating that you have read this information and understand it. If you do not understand anything, please discuss this further with the medical staff at the time of your appointment. Please refrain from trying to obtain medical information from administrative staff — it can often lead to more confusion.



The use of anti-D in Pregnancy

What are Blood Groups?
All humans have special proteins on the surface of their red blood cells. These proteins (which are called antigens) will cause a specific response if injected into a person who does not possess them. This response is the production of antibodies, which are capable of breaking up the red cells – a process called haemolysis. We say that two people belong to the same **Blood Group** if they possess the same antigens.

Thus people who have the A antigen but not the B antigen belong to blood group **A**; people who only have the B antigen belong to group **B**; people who have both antigens are group **AB** and people who have neither are group **O**.

A special **D** antigen is also called the Rhesus (or Rh) factor. Everyone is either positive or negative for this factor.

Why are Blood Groups important?
If a person (referred to as a recipient) needs to have a blood transfusion then it is important *not* to give donated blood, which contains antigens that are not present in the recipient. If this should happen, the donated red cells will be broken up (haemolysed) and this reaction can be severe and often fatal. This is why donated blood is cross-matched with the recipient before a transfusion is given.

What is so special about Pregnancy?
Pregnancy is a unique situation because blood from the baby can enter the mother's circulation. If a woman is carrying a baby who has a different blood group to hers, then any Fetal blood that enters her circulation can cause her to make antibodies against the baby's red cells.

She is then said to be sensitised. If those antibodies cross back over into the baby they can cause the baby's red cells to break up and this can make the baby very sick. If the reaction is severe then the baby can die of heart failure.

The most common problem is the D antigen. If blood from an Rh(D) positive baby gets into the blood stream of its Rh(D) negative mother, then the mother can make anti-D antibodies which may have serious consequences for the baby.

What can we do to prevent this? In the vast majority of cases, blood from the baby only reaches the mother's circulation during childbirth. This does not affect the existing baby because it has already been born. However it can cause problems with the *next* baby.

In order to prevent an Rh negative mother from making antibodies to the blood of her Rh positive baby we administer anti-D immunoglobulin to the mother. This has the effect of removing the baby's D antigens and preventing the mother from being exposed to them.

When is anti-D administered?

1. Because 1.5% of Rh negative women become sensitized during pregnancy (even in the absence of bleeding), a preventative dose of anti-D is recommended at 28 weeks and again at 34 weeks of pregnancy.

2. If an Rh negative pregnant woman has an injury, or any vaginal bleeding or she has a procedure (such as an amniocentesis) a dose of anti-D is usually administered at that time.

3. When an Rh negative woman gives birth a sample of the baby's blood is taken from the cord and the Blood Group is determined. If the baby is Rh positive, the mother is given a dose of anti-D. If the baby is Rh negative, nothing needs to be done.

Group B Streptococcus (GBS) in Pregnancy

Based on current medical evidence, it is standard practice to offer screening for Group B Streptococcus (GBS), to all pregnant women from their 36th week of pregnancy.

What is GBS?
Group B Streptococcus bacteria are found in the genital tract of some women. These women are said to be 'colonized' with GBS bacteria. Around 10 to 30% of women in Australia are affected. Normally the bacteria are harmless and these women do not experience any symptoms. They do not need to be treated during pregnancy and GBS is *not* classed as a sexually transmitted infection. However when pregnant, up to 70 % of women who have GBS will pass the bacteria on to their baby during the birth process. For this reason all pregnant women who carry GBS are given antibiotics in labour.

Will GBS affect the baby?
Whilst the bacteria do not affect most babies, about 4 per 1000 babies will become ill with GBS infection. This usually happens within the first 7 days of life. The illness can produce mild to severe problems including infection of the blood and pneumonia. GBS infection can also develop later up to the age of 3 months — this is termed late onset GBS. The most serious problem in late onset GBS infection is meningitis but late onset disease is very rare.

How will I be screened?
When you are about 36 weeks pregnant your doctor or midwife will ask for a vaginal swab to be taken – usually it is self-collected. You will be informed of the result at your next appointment. If you have a positive result this will be recorded on your antenatal card.

When you are in labour, if you are GBS positive you will be offered intravenous antibiotics. Antibiotics will decrease the chances of your baby becoming ill. The antibiotic normally used in this hospital is Ampicillin. If you are allergic to Penicillin an alternative will be given.

In some situations, antibiotics will be given to women who are at a high risk of passing GBS on to their babies, even if their swab is negative.

These situations are:

- If labour starts before 37 weeks. (Pre term babies are at a higher risk)
- If the membranes have been ruptured for longer than 18 hours
- If a woman has a temperature higher than 38^{O} in labour
- If a woman has ever tested positive for GBS
- If a previous baby has been affected by GBS regardless of the result of any swab collected during the current pregnancy

Treatment with antibiotics earlier in pregnancy will not guarantee that GBS will not grow back before you go into labour and is only given if GBS is found in the urine.

Treatment for baby
All newborn babies whose mothers are GBS positive are observed closely for signs of illness, particularly in the first 24 hours. Signs may be unstable temperature, drowsiness and poor feeding. If your baby shows signs of illness, he/ she will be tested for GBS infection, maybe treated with antibiotics and be under the care of a neonatologist.

Remember!

If you are GBS positive, this does not mean your baby will definitely become ill.

Instructions for self collecting a swab

(1) Remove the swab from the package. Insert swab 2 cm into vagina and wipe along the perineal tissue towards the anus. Do not touch the cotton end.
(2) Remove the cap from the sterile tube.
(3) Place the swab into the tube. Ensure the cap fits firmly.
(4) Make sure that the swab is properly labelled.

Further information

NSW Department of Health Circular 2002/28. *Minimization of neonatal early onset of Group B Streptococcal (EOGBS) Infection.*

Centres of Disease Control (CDC) *Prevention Guidelines. Prevention of Perinatal Group B Streptococcal Disease: A public Health Perspective.* MMWR May 31 1996/45 (RR7): 1–2

What to Bring to Hospital

To make your stay in hospital more comfortable, this basic list suggests what to pack. You may wish to add more items. The hospital is well heated so bring lightweight clothing only.

Mother Pack

- Casual day clothes, nightwear, a dressing gown and slippers or footwear
- Maternity bras and comfortable underwear
- Four packets of maternity sanitary napkins
- Toiletries (including soap) and tissues
- Plastic bag for your washing or the "extras" you acquire while in hospital
- Two pens
- Phone cards for bedside phones are available from the auxiliary shop in the hospital
- Your Medicare card and any Health Fund cards

For Your Labour

- Your Maternity Record Booklet
- We encourage you to wear comfortable clothes to labour in
- Bring anything you feel will be of use eg CDs, magazines, camera, favourite pillow, barley sugar, drinks
- Please bring all food/drink required for your partner/support person
- Wheat pack (hot pack). Please discuss with your midwife prior to use in labour
- Refillable water bottle

Baby Pack

- The hospital provides essential baby items, however you are welcome to bring your own baby clothes with you
- Select a "going home" outfit (including nappies and pins/nappy clip) that can be brought into the hospital before your discharge
- The soap/bath solution you plan to use for the baby
- Make sure you have bought/hired and correctly fitted in your car an infant restraint before coming to the hospital. If you need to have your capsule checked contact RTA HOTLINE on 13 22 13

For more information, please contact the Pregnancy Care Education Clinic.

Contraception following the birth of your baby

Choosing to use a form of contraception following the birth of a baby will be a decision based on many personal considerations. It is important that you spend time talking to your GP about your decision as some forms of contraception may not be suitable for medical reasons. This sheet is intended to give you some information to consider and you should write down your questions to discuss with your GP when you next visit them.

To make a decision you will need to take into consideration aspects of your history such as what form of contraception you are comfortable with, whether you have had side-effects before, whether you want to have another baby, when you want to have another baby, whether you are breastfeeding and how long you intend to do so. These are just examples of the things you will need to think about.

If you are breastfeeding

If your baby is less than 16 weeks old, you are fully breastfeeding, your baby does not sleep longer than about 6 hours and you have not resumed periods then breastfeeding alone will provide sufficient contraception equal to any of the other options. However if one or more of these do not apply anymore and you do not want to become pregnant again soon it is recommended that you add another form of contraception.

Condoms: Condoms are very effective when used, have very few side effects and only have to be used at times of intercourse. The disadvantage is that sometimes people forget to use them, especially if they have previously used a hormonal form of contraception; and you need to make sure there is a supply. They are very good if you have previously relied on them for contraception and/or wish to only use contraception for a short period of time.

Diaphragms/"caps": If you have previously used this as your form of contraception you will need to have a new one fitted as the cervix, or the neck of the womb, which is covered by the diaphragm, may well have changed shape or size since the birth of your baby. Your GP or sexual health and family planning will be able to help.

"Pills": If you are breastfeeding, the pill you should take is the 'mini-pill' or progesterone only pill. This is different to the normal pill in that it doesn't contain any oestrogen. While breastfeeding you shouldn't take any oestrogen as it will be passed through the breast milk to your baby. It also affects breast milk production. If you are breastfeeding, the minipill is just as effective in terms of failure rates, however, you do need to remember to take it at the same time every day. It works by changing the mucus produced by the opening of the womb so that sperm cannot pass through. It also works by stopping the lining of the uterus developing. Some women will get irregular spotting when taking the minipill. It is safe to use when breastfeeding.

Implanon: This is a hormone rod that is placed in the arm. It contains the hormone similar to the minipill but is slightly different and works by stopping ovulation. It has a very low failure rate, and will last for up to 3 years. It has to be inserted by your GP, family planning or a specialist gynaecologist. A possible side-effect is irregular bleeding, but it is a good option if you find it difficult to remember to take pills on a regular basis. It is safe to use when breastfeeding.

Mirena: This is another form of progesterone only contraception. It works in the same way as the minipill. It is an implant that is placed into the womb. It can last up to 5 years but can be removed at any time. Most women who have had a vaginal birth can have it placed by doctors trained in the insertion in their rooms. It is very easy to remove. It too has the disadvantage of irregular bleeding but

most women have very little bleeding at all, about 2 days of spotting per month. It is also a very safe form of contraception with about 3–4/1000 women failure rate (this is the same as a vasectomy or a tubal ligation) and is completely reversible.

Temperature charts, rhythm method, billings methods: These methods are much more difficult to use when you are breastfeeding. Breastfeeding produces different hormones, which affect the changes you are used to seeing in your body, such as temperature rise and mucus production.

If you are not breastfeeding

If you have chosen not to breastfeed then it is possible to ovulate within 4 weeks of birth or after stopping breastfeeding. In addition to the options described above you can also use the normal pill or the combined oral contraceptive pill. This is a little more protective against pregnancy than the minipill if you are not breastfeeding. You still have to remember to take it everyday at the same time.

Permanent contraception

In addition to the options described above there are available permanent, non-reversible options available. There is an option for your partner, called a vasectomy, which is available by referral through your GP. The options for you will also require referral to Canberra Hospital. For both you and your partner you will need to be absolutely sure that you don't ever want to have another baby. These methods must be considered permanent and irreversible. If you change your mind the reversal is not covered by Medicare and may not succeed.

Tubal ligation: This operation requires a general anaesthetic and keyhole surgery to place clips on the tubes that would normally allow the egg to travel to be fertilised. It has a failure rate of about 3–4/1000.

Essure Tubal occlusion: This operation can be done under local anaesthetic in an operating theatre but also with general anaesthetic. It is done without cuts or incisions and places coils within the tubes, which then grow into the coils to occlude them. It does take about 3 months to have its complete effect.

There are many choices for you and your partner and every person needs to consider what is best for them. This is only a guide and your GP will be able to discuss each method in more detail and with your individual circumstances in mind.

For more information, contact your local Women's Health Centre.

Questions for your GP

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beyond babyblues

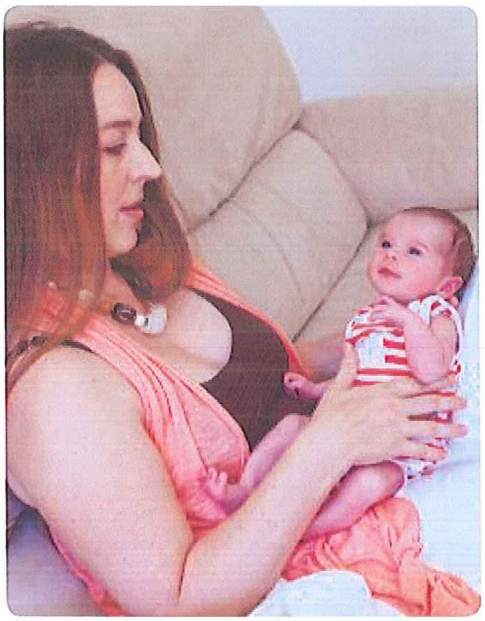
Perinatal depression and anxiety

A guide for primary care health professionals

Adjusting to pregnancy and life as a mother can have its challenges. In fact, for many women, having a baby is the most significant life-changing event they will ever experience. While adjusting to this major life change, as well as coping with the day-to-day demands of pregnancy or a new baby, some women are more likely to experience depression and/or anxiety, particularly if they've experienced a mental health problem in the past.

WHAT IS PERINATAL DEPRESSION AND ANXIETY?

'Perinatal' is the collective term used to describe both *antenatal* and *postnatal* depression and anxiety. *Antenatal* depression and anxiety is experienced during pregnancy and *postnatal* depression and anxiety is experienced within the first year after the baby's birth.



HOW COMMON IS PERINATAL DEPRESSION AND ANXIETY?

- Australian research indicates that up to one in 10 women will experience depression during pregnancy. This rate of depression increases to around one in seven women in the year following the birth of their baby.
- The information available on perinatal anxiety disorders indicates that anxiety is likely to be at least as common as depression (if not more) during this time. It is also common for women to experience symptoms of depression as well as anxiety, however severe anxiety can also be present without depression.

WHAT CAUSES PERINATAL DEPRESSION AND ANXIETY?

As with depression and anxiety disorders that occur at any other time during a woman's life, there is no single, definite cause. A combination of factors is known to increase a woman's chances of experiencing depression and/or anxiety during the perinatal period. These factors may be identified by undertaking a psychosocial assessment. (For more information see the beyond babyblues booklet *Psychosocial assessment in the perinatal period: A guide for primary care health professionals*.)

These factors include:

- past or present mental health problems
- previous or current abuse (sexual, physical or psychological)
- previous or current drug and/or alcohol abuse
- recent life stressors (e.g. moving house, financial worries, relationship problems, IVF, multiple birth)
- lack of practical and emotional support
- poor (insecure) attachment with a woman's own mother.

For some women, other factors that might play a role are:

- experiencing severe 'baby blues'
- complications during labour and/or delivery
- multiple births and/or problems with the baby's health
- difficulty breastfeeding
- difficulties in close/family relationships
- single parenthood
- an unsettled baby (difficulty with feeding or sleeping)
- unrealistic expectations about motherhood
- being a 'perfectionist'.

HOW DO YOU KNOW IF A WOMAN HAS PERINATAL DEPRESSION AND/OR ANXIETY?

Depression and anxiety experienced during pregnancy and after birth have the same symptoms as depression and anxiety experienced at any other time of life.

The Edinburgh Postnatal Depression Scale (EPDS)[1] is a set of questions designed to detect the likelihood of depression and anxiety in women during the perinatal period. The EPDS deliberately excludes the problems experienced by most women in the perinatal period (e.g. tiredness, sleep disturbance, irritability). **The EPDS is a screening tool and does not provide a diagnosis.** The woman's answers to the questions will indicate if she has symptoms that are commonly found in women with perinatal depression and anxiety.

To complete this set of questions, a woman should circle the number next to the response that comes closest to how she has felt in the **PAST SEVEN DAYS**. If the woman has difficulty reading or understanding the questions, it may be more appropriate to go through the questions with her.

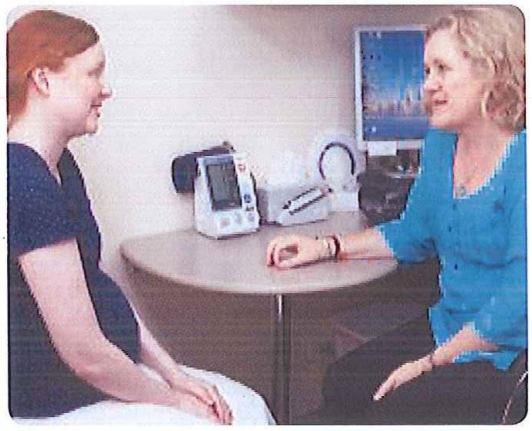
Here is a completed example.

I have felt happy	
Yes, all the time	0
Yes, most of the time	(1)
No, not very often	2
No, not at all	3

This would mean:

"I have felt happy most of the time during the past week".

Please complete the other questions in the same way.



1.	I have been able to laugh and see the funny side of things	
	As much as I always could	0
	Not quite so much now	1
	Definitely not so much now	2
	Not at all	3
2.	I have looked forward with enjoyment to things	
	As much as I ever did	0
	Rather less than I used to	1
	Definitely less than I used to	2
	Hardly at all	3
3.	I have blamed myself unnecessarily when things went wrong	
	Yes, most of the time	3
	Yes, some of the time	2
	Not very often	1
	No, never	0
4.	I have been anxious or worried for no good reason	
	No, not at all	0
	Hardly ever	1
	Yes, sometimes	2
	Yes, very often	3
5.	I have felt scared or panicky for no very good reason	
	Yes, quite a lot	3
	Yes, sometimes	2
	No, not much	1
	No, not at all	0
6.	Things have been getting on top of me	
	Yes, most of the time I haven't been able to cope at all	3
	Yes, sometimes I haven't been coping as well as usual	2
	No, most of the time I have coped quite well	1
	No, I have been coping as well as ever	0
7.	I have been so unhappy that I have had difficulty sleeping	
	Yes, most of the time	3
	Yes, sometimes	2
	Not very often	1
	No, not at all	0
8.	I have felt sad or miserable	
	Yes, most of the time	3
	Yes, quite often	2
	Not very often	1
	No, not at all	0
9.	I have been so unhappy that I have been crying	
	Yes, most of the time	3
	Yes, quite often	2
	Only occasionally	1
	No, never	0
10.	The thought of harming myself has occurred to me	
	Yes, quite often	3
	Sometimes	2
	Hardly ever	1
	Never	0

The total score is calculated by adding the numbers circled for each of the 10 questions. The higher the score, the more likely it is that the woman completing the questionnaire is distressed and may be depressed and/or anxious.

INTERPRETING AND RESPONDING TO EPDS SCORES

Low risk	Possible risk	Possible high risk
Total EPDS score (symptoms of depression)		
Score 10, 11, 12	13 or more	15 or more
• Arrange repeat EPDS in 2–4 weeks. • Review existing supports.	• Antenatal: arrange repeat EPDS in 2–4 weeks. • Postnatal: refer for mental health assessment.* • Discuss referral.*	• Ensure timely access to mental health assessment.
Score on Question 10 (self-harm)		
0	1, 2 or 3	
• Care as usual.	• Assess safety of woman, fetus or infant and other children in her care. • Seek timely advice and/or refer for mental health assessment.	
Scores on Questions 3, 4 and 5 (anxiety)		
0	0 & yes to psychosocial risk question on worry.	1, 2 or 3 on more than one item ± yes to psychosocial risk question on worry.
• Care as usual.	• Note in woman's record. • Offer information on self help.	• Arrange repeat EPDS in 2–4 weeks. • Discuss referral for assessment.*

Risk of suicide (Question 10 on EPDS)		
Low risk	**Possible risk**	**Possible high risk**
Passing thoughts of self-harm or suicide but no plan or means	**Suicidal thoughts and intent but no plan or immediate means**	**Continual/specific suicidal thoughts, intent, plan and means**
• Discuss support and treatment. • Arrange follow-up.	• Discuss support and treatment. • Develop safety plan with the woman including rapid re-assessment if symptoms escalate. • Provide support/crisis numbers. • Arrange re-assessment within 1 week.	• Ensure woman is in a safe and secure environment with social/professional supports. • Arrange re-assessment within 24 hours. • Provide crisis contact numbers. • Assess risk to infant. • Contact appropriate crisis support. • Consider hospital admission.

Notes: * Ideally, referral will be to the woman's usual general practitioner (GP), local groups focusing on parenting or specific services (e.g. domestic violence).

HOW ARE PERINATAL DEPRESSION AND ANXIETY TREATED?

Psychological therapies

Cognitive behavioural therapy (CBT), interpersonal psychotherapy (IPT) and psychodynamic therapy have been shown to improve depression and anxiety symptoms in the postnatal period. The choice of therapy involves consideration of psychological and physical comorbidities, barriers to help-seeking and the likely impact on the woman, infant and family of not treating the condition. Discuss the suitability and acceptability of therapies with the woman and her significant other(s) to assist in making an informed decision.

For women with moderate to severe symptoms, pharmacological treatment needs to be considered initially. Psychological interventions can be introduced once the more severe symptoms have resolved and the woman is able to engage in therapy.

Psychotherapy involving the mother and the infant may improve mother–infant interaction. The mother and infant are seen together and the therapy focuses on the mother-infant relationship and maternal sensitivity.

Psychological therapies should be provided by registered practitioners with accredited training in the relevant therapy.

Medication

Medication can play an important role in helping people with depression and/or anxiety manage from day to day.

Medication should only be prescribed after careful deliberation with the woman and her significant other(s) when she is planning a pregnancy, is pregnant or breastfeeding.

When symptoms are severe involving a psychiatrist is advisable.

Depression

Based on the quantity of evidence available, the preferred antidepressants are selective serotonin reuptake inhibitors (SSRIs). Less is known about the safety of tricyclic antidepressants (TCAs) but they can also be considered, especially if they have been effective previously.

Anxiety

Benzodiazepines can be used to treat panic attacks and severe anxiety disorder in the short-term while awaiting the onset of action of an SSRI or TCA. Long-acting benzodiazepines should be avoided.

While there are risks associated with using medications in the perinatal period, it should not be assumed that it is always better to avoid medication. The decision to take medication is up to the individual and should be made after considering the risks and benefits to both the mother and the infant.

For more information, see the beyond babyblues booklet *Management of perinatal mental health disorders: A guide for primary care health professionals.*

HOW TO HELP A WOMAN WITH PERINATAL DEPRESSION AND ANXIETY

- Remind the woman that **these conditions can be treated and managed.**
- Provide the woman with information about perinatal depression and anxiety.
- Encourage the woman to consult and keep regular appointments with her general practitioner (GP) or other qualified health professional.
- Encourage the woman to draw on her support networks for time out and assistance with housework, like cooking and cleaning.
- Encourage the woman to seek friendships with other women, including those who have experienced perinatal depression and/or anxiety. Let the woman know how well she is doing when she makes small gains.
- Encourage the woman to use some self-help strategies as outlined in the beyond babyblues booklets designed for expectant and new parents.
- Encourage the woman to call a support service or mental health crisis line if she is feeling distressed and/or needs support.
- Encourage the woman to contact her doctor or go to her local hospital if she has thoughts of self harm or harming others.
- Offer information and support for the woman's partner.

INFORMATION RESOURCES FOR WOMEN AND THEIR FAMILIES

The beyond babyblues guide to emotional health and wellbeing during pregnancy and early parenthood

Managing mental health conditions during pregnancy and early parenthood: A guide for women and their families

INFORMATION AND HELP LINES

For women and their families

beyondblue
Info line 1300 22 4636
www.beyondbabyblues.org.au

Post and Antenatal Depression Association Inc (PANDA)
1300 726 306
www.panda.org.au

Mothersafe
www.seslhd.health.nsw.gov.au/mothersafe/

For health professionals

beyondblue
Info line 1300 22 4636
www.beyondbabyblues.org.au

Parent-Infant Research Institute (PIRI)
www.piri.org.au

GP Psych Support
1800 200 588
www.psychsupport.com.au

Refer to the TGA electronic Therapeutic Guidelines and Medications Handbook for current advice.

Black Dog Institute
www.blackdoginstitute.org.au

REFERENCES

[1] Cox JL, Holden JM, Sagovsky R (1987) Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale. *Brit J Psychiatry* 150: 782-86. Developed as the Edinburgh Postnatal Depression Scale and validated for use in both pregnancy and the postnatal period to assess for possible depression and anxiety.

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beyondblue info line 1300 22 4636
infoline@beyondblue.org.au • www.beyondbabyblues.org.au

Edinburgh Depression Scale

EDINBURGH POSTNATAL DEPRESSION SCALE (COX ET AL 1987)

Instructions

We would like to know how you have been feeling in the past week. **Please indicate which of the following comes closest to how you have felt in the past week**, not just how you feel today.

Please **TICK ONE BOX** for each question, which is the closest to how you have felt in the **PAST SEVEN DAYS**.

Here is a completed example.

I have felt happy	☐ Yes, all the time ☑ Yes, most of the time ☐ No, not very often ☐ No, not at all

This would mean:
"I have felt happy most of the time during the past week".
Please complete the other questions in the same way.

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 less than I used to ☐ 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 been anxious or worried for no good reason	☐ No, not at all ☐ Hardly ever ☐ Yes, sometimes ☐ Yes, very often
5. I have felt scared or panicky for no very 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

Source: Cox JL, Holden JM, Sagovsky R (1987) Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale. *Brit J Psychiatry* 150: 782-86. Developed as the Edinburgh Postnatal Depression Scale and validated for use in both pregnancy and the postnatal period to assess for possible depression and anxiety.

CALCULATING A SCORE ON THE EDINBURGH POSTNATAL DEPRESSION SCALE

The EPDS is a 10-item questionnaire. Women are asked to answer each question in terms of the past seven days. A clean copy without scores is given on the preceding page.

		Score
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	0 1 2 3
2. I have looked forward with enjoyment to things	As much as I ever did Rather less than I used to Definitely less than I used to Hardly at all	0 1 2 3
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	3 2 1 0
4. I have been anxious or worried for no good reason	No, not at all Hardly ever Yes, sometimes Yes, very often	0 1 2 3
5. I have felt scared or panicky for no very good reason	Yes, quite a lot Yes, sometimes No, not much No, not at all	3 2 1 0
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	3 2 1 0
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	3 2 1 0
8. I have felt sad or miserable	Yes, most of the time Yes, quite often Not very often No, not at all	3 2 1 0
9. I have been so unhappy that I have been crying	Yes, most of the time Yes, quite often Only occasionally No, never	3 2 1 0
10. The thought of harming myself has occurred to me	Yes, quite often Sometimes Hardly ever Never	3 2 1 0

Source: Cox JL, Holden JM, Sagovsky R (1987) Detection of postnatal depression: development of the 10-item Edinburgh postnatal depression scale. *Brit J Psychiatry* 150: 782-86. Developed as the Edinburgh Postnatal Depression Scale and validated for use in both pregnancy and the postnatal period to assess for possible depression and anxiety.