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AUTHOR/S

This Clinical Guideline has been developed by the Maternity Guideline Development Group to ensure pregnancy care is informed by evidence and that each woman receives consistent clear information so she may make informed decisions about her pregnancy and care.

TARGET AUDIENCE and SETTING

Monash Health medical staff, midwives and Maternity Shared Care Affiliates.

Pregnant women.

CLINICAL GUIDELINE

1. The number and timing of pregnancy visits

At the first hospital visit women are to be given a Monash Women's '**Appointment card'**. This details their anticipated visit schedule and care provider for each visit. Women are to be given an opportunity to discuss this schedule with their midwife or doctor.[1]

Healthy women with an uncomplicated pregnancy will have 7-10 visits during their pregnancy. The number and timing of visits can be flexible to suit the needs of the woman.[1] Women may need to be offered more visits if they or their midwife or doctor think they there is a need or if problems arise.[1,2]

2. Pregnancy care options for women

A **Pregnancy care options flyer**, is mailed to each woman with her initial booking visit appointment details (Midwife Assessment Clinic or 'MAC').

All women booked to birth as a public patient at Monash Health will be allocated to a maternity team at one of the three hospitals (Monash Medical Centre, Dandenong Hospital or Casey Hospital). Monash Health has eleven maternity teams identified by gemstone name and colour.

Pregnancy care may be:

1. Full hospital clinic care
2. Hospital shared care with a Maternity Shared Care affiliate (SMCA). This may be an affiliated GP, midwife or non-Monash Health accredited specialist.
3. Obstetric non-hospital care with a Monash Health employed specialist obstetrician.

The maternity inclusion and exclusion policies and procedures provide the framework to ensure women are offered the appropriate site with an appropriate carer to safely meet each woman's needs.

Each midwife and medical practitioner is required to understand their scope of practice and when to refer and consult.

3. The hand held Pregnancy Record

All women should be offered to carry a copy of their pregnancy record as their hand held record (HHR) and its use explained.[1,2] The HHR is the key means of communication between pregnancy care providers and possibly any other health professionals the woman may encounter during her pregnancy.

Women having full hospital care the HHR is printed from the Birthing Outcome System (BOS):

- 'Pregnancy Record summary' (MRF01) page 1, is printed at booking
- 'Pregnancy Record Summary' (MRF02) page 2 is printed at all subsequent review visits.
- The management plan should be updated when there is a significant change at any subsequent time, and the woman's HHR copy replaced.

Women having **shared care** and obstetric **non-hospital care** are to be provided a hard copy (MRF03) Pregnancy Hand Held Record - for ongoing entries by all care providers.

A team coloured HHR wallet is to be provided at booking with discussion about the team ongoing care.

Confidential notes when using BOS:

If 'confidential' is marked on the episode the issue will not print on the woman's hand held pregnancy record. If 'Psychosocial Notes' or 'Management Plan' are red in the navigation bar this indicates there is confidential information. To read in BOS click 'in the 'Management Plan 'Show All'.

Shared care

It is essential all shared care providers record written examination findings legibly in the HHR (MRF03) at every visit. All entries (including the ordering of tests) must be dated and signed. If a woman attends either a Shared Maternity Care Affiliate (SMCA) or hospital visit without her HHR, the clinician must ensure she leaves the visit with a printed or written record that she can attach to her HHR.

It is good practise to include printed copies of key investigations and reports for the woman's HHR where care is shared or for tests performed externally to minimise risk of loss of key information being missed.

At the end of pregnancy

The HHR is the property of the woman and should be returned to her after giving birth as a keepsake. Where the hospital does not have a record of the complete episode, (i.e. shared and non-hospital care), hospital staff should either :

- Ricoh scan the HHR directly to the Scanned Medical Record (SMR) HISSupport@monashhealth.org and give the original back to the woman), or
- Photocopy the HHR and send it to the Scanning Centre with the admission notes to be scanned into SMR (and give the original back to the woman).

If the woman does not want to keep her hard copy HHR the original can be sent to HIS to scan at the same time as the inpatient records.

Private in public

At the booking visit any women referred as 'private patients' are to be provided a **grey wallet** for their hand held record rather than a public maternity team colour, to aid identification of private patients on admission.

4. Provision of smoking cessation interventions during pregnancy

Smoking cessation interventions are offered to all pregnant women who smoke or who have recently quit.[1,2] At every visit midwives and doctors ask women about their smoking behaviour and advise them about the risks to their own and their baby's health. Midwives and doctors assist women to quit or remain quit by providing written material on the effects of smoking, the role of the partner in helping to reduce the health risks to the baby, on ways to quit and stay quit and where to find extra support. Every woman assessed as a smoker or recent quitter is followed up at least once prior to 20 weeks and preferably at each pregnancy visit.[1,2]

See: Smoking cessation in pregnancy

5. Screening for blood conditions

Blood group and antibodies

- All pregnant women are offered a blood group and antibody screening at the first pregnancy care visit.[1,2]
- Antibody screening at 28 weeks is only indicated for women who are Rhesus (D) negative. The specimen should be collected before giving Anti-D prophylaxis.
- Anti-D prophylaxis is recommended routinely to all non-sensitised pregnant women who are Rhesus D negative. See: Rhesus (D) negative women (maternity)

Pregnant women with clinically significant antibodies should be referred to a specialist obstetrician for review and further management.

Women with Rhesus isoimmunisation or any atypical isoimmunisation are to be booked at MMC.

See: Isoimmunisation in pregnancy

See: Dandenong Hospital Maternity booking inclusion /exclusion criteria

See: Casey - Maternity booking inclusion/exclusion criteria

Anaemia and haemoglobinopathy screening

- As soon as possible in early pregnancy, all pregnant women are to be offered a full blood examination, haemoglobin electrophoresis, ferritin and DNA analysis (if indicated) to screen for anaemia and haemoglobinopathies.
    - See: Screening for haemoglobinopathies in pregnancy

Haemoglobin levels outside the normal range for pregnancy (i.e. <110 g/L in the 1st trimester and <105 g/L at 28 weeks) should be investigated with a ferritin level and iron supplementation considered if indicated.[2,3] If ferritin stores are normal, concomitant causes of anaemia such as B12 deficiency should be excluded.

6. Screening for syphilis

National Guidelines and RANZCOG recommend universal screening for syphilis at the first antenatal visit/ as soon as possible in early pregnancy.[2,3,4]

Women with positive syphilis serology should be referred to the 'Infections in Pregnancy' clinic for confirmation of the diagnosis and review of treatment requirements. [2,3]

- See: Abnormal results - infectious disease screening in pregnancy
- See: Syphilis management in pregnancy, newborn and mother

7. Screening for hepatitis B virus

National guidelines and RANZCOG recommend universal screening for hepatitis B infection with hepatitis B serology at the first pregnancy care visit/ as soon as possible in early pregnancy.[2,3] Hepatitis B surface antigen (HBsAg) is the recommended screening test.

Women who are HBsAg positive should be referred to infectious diseases for review. All babies born to HBsAg positive mothers should receive hepatitis B immunoglobulin in addition to the universal recommended hepatitis B vaccination as soon as possible after birth. The need for this should be recorded in the 'management plan' and the hand-held pregnancy record.

See: Abnormal results - infectious disease screening in pregnancy

8. Screening for rubella immunity

National guidelines and RANZCOG recommend universal screening for rubella at the first pregnancy care visit/ as soon as possible in early pregnancy.[2,3]

Women with low (<30 IU/mL) tested at Monash Health Pathology) or no (<10 IU/mL tested anywhere) immunity should be offered postnatal vaccination prior to discharge from hospital. The need for this should be recorded in the 'Management plan' and on the hand-held Pregnancy Record.

9. Screening for varicella immunity

Testing for varicella is not routine in pregnancy however knowledge of varicella status is helpful in cases of exposure as maternal infection in the first and second trimesters are associated with risk of fetal varicella syndrome. Therefore some women will attend booking with varicella serology results.

Presence of IgG reflects past infection or vaccination although even vaccinated women may have negative IgG as some assays do not detect vaccine-induced IgG. All women with negative IgG should be advised they may be susceptible to infection and should contact their caregiver promptly if there is concern regarding exposure so post-exposure prophylaxis can be considered.

Varicella vaccination is recommended for all non-immune adults. However varicella vaccine is not offered in pregnancy as it is a live vaccine (although there have not been any documented cases of congenital varicella syndrome with inadvertent varicella vaccination in pregnancy).

10. Testing for hepatitis C virus (HCV)

National guidelines and RANZCOG recommend universal screening for hepatitis C infection with hepatitis C serology at the first pregnancy care visit/ as soon as possible in early pregnancy.

Women with positive hepatitis C serology should be referred to the 'Infections in Pregnancy clinic' if either the hepatitis C PCR is positive and/or LFTs are abnormal.

See: Abnormal results - infectious disease screening in pregnancy

11. Screening for Human Immunodeficiency Virus (HIV)

National guidelines and RANZCOG recommend universal serological screening for HIV.[2-3] Informed consent must be obtained according to Monash Health guidelines and procedures.

All staff authorising this test must be familiar and comply with the Monash Health maternity requirements for pre-test discussion, post-test counselling and management of results.

Seropositive (infected) women should be referred for a specialist obstetric and infectious diseases review for further care. See:

- HIV (human immunodeficiency) virus screening in pregnancy procedure
- Abnormal results - infectious disease screening in pregnancy
- Maternal Fetal Medicine (MFM) inclusion criteria

Women who are at high risk of blood borne virus infection in pregnancy e.g. due to ongoing unsafe intravenous drug abuse should be offered repeat serology at 26-28 weeks with the glucose tolerance test due to risk of infection during pregnancy.

12. Screening for asymptomatic bacteriuria

National guidelines and RANZCOG recommend universal screening for asymptomatic bacteriuria.[2,3] All women should have a mid-stream urine specimen collected and tested for microscopy, culture and sensitivity early in pregnancy. Bacteriuria diagnosed in pregnancy should be treated with antibiotics (according to sensitivities) as treatment is effective in reducing the incidence of pyelonephritis.[1,2,3] Most urinary tract infections (UTI) will be recognized, by a high white cell count (WCC) (>100x10^6/L) and a pure growth of one isolate (>10^8/L).

In asymptomatic pregnant women with GBS bacteriuria, treatment is recommended where there is high GBS colony count,[27,28] reported as >10^8 colony forming units/Litre (CFU/L) by Australian laboratories. In addition intrapartum GBS antibiotic prophylaxis is recommended for women diagnosed with a GBS bacteriuria at any stage in pregnancy (and of any colony count) to reduce the chance of early onset neonatal sepsis.

See: Group B streptococcal (GBS) perinatal disease prevention CG

13. Screening for chlamydia and gonorrhoea

Chlamydia trachomatis is the most common sexually transmitted infection (STI) and is usually asymptomatic. Gonorrhoea is increasingly common and also responsible for similar pregnancy morbidity. Treatment of chlamydia with antibiotics is effective, although re-infection rates are often high. Untreated infection can cause pelvic inflammatory disease, ectopic pregnancy, and infertility.

Testing is recommended for pregnant women < 25 years old and women from other population groups with a high prevalence of sexually transmitted infections. Gonorrhoea screening is a reasonable concurrent option.[2]

See: Chlamydia screening and treatment in pregnancy

14. Screening for vitamin D deficiency

Universal screening for vitamin D deficiency is not recommended.[1-2]

All women should be advised about the prevalence of vitamin D deficiency in the population, and of the importance for their own and their baby's health of maintaining adequate vitamin D levels during pregnancy and whilst breastfeeding.[1] Women should be encouraged to take a 'pregnancy multivitamin' containing at least 400 units of colecalciferol (vitamin D) per day, to maintain and increase vitamin D levels with safe sensible sun-light exposure.

Selective testing for vitamin D deficiency in early pregnancy should be based upon the presence of high risk factors. If the woman is found to be vitamin D deficient (< 50 nmol/L) supplementation is recommended as it has implications for both maternal and child health.[2]

See: Vitamin D in pregnancy and the term newborn

15. Screening for vitamin B_{12} deficiency

Vitamin B_{12} screening is not recommended for all women.[1-3]

The main causes of vitamin B_{12} deficiency include dietary deficiency, vitamin B_{12} malabsorption, pernicious anaemia and post-surgical malabsorption. Consider assessment of serum vitamin B_{12} levels in pregnant women who present with:

- *strict vegetarian and vegan diet*
- *gastrointestinal pathology (coeliac disease, Crohn's disease, gastric banding/bypass etc.)*
- *family history of vitamin B12 deficiency or pernicious anaemia.*
- *increased mean corpuscular volume (MCV) (pregnancy ref. Range 78 – 102 fL)*
- *presence of iron deficiency.*

Pregnant women with low or equivocal total vitamin B12 results (<180 pmol/L by the Beckman method at Monash) will be routinely tested for holo-transcobalamin (Active B12) to clarify their B12 status. Serum holotranscobalamin is a better marker for B12 status during pregnancy.[15]

Vitamin B12 supplementation must be considered for vegans during both pregnancy and lactation to ensure enough vitamin B12 is transferred to the fetus and infant. The recommended supplementation dose in pregnancy is 2.6 mcg/day and 2.8 mcg/day when breast feeding.[12,17]

- See: Vegetarian healthy eating in pregnancy information sheet

If a true deficiency is diagnosed, replacement of Vitamin B12 (Cyanocobalamin) orally would be suitable for individuals with normal gastric absorption (i.e. vegans) at a dose of 1000 mcg/day (1 mg/day) for one month.[13,16,17]

Consider re-testing women with vitamin B12 deficiency on supplementation at 28 weeks.

Vitamin B12 crosses the placenta during pregnancy and is present in breast milk. Exclusively breastfed infants of women who consume no animal products may have very limited reserves of vitamin B12 and can develop vitamin B12 deficiency within months of birth. Untreated vitamin B12 deficiency in breastfed infants can result in severe and permanent neurological damage.

Offer lactating women who follow a strict vegetarian or vegan diet a referral for a paediatric consultation regarding vitamin B12 supplements for their infants.

16. Other incidental blood tests

At times women will attend for pregnancy care with other investigations having been organised by their general practitioner. Common examples include liver function testing (LFT), electrolytes and other general haematological tests. Abnormal results require clarification (with the prescribing GP) as to the indication for the test so that appropriate diagnostic workup is pursued.

Lipids. Elevations in lipid levels are common in pregnancy and both triglyceride and total cholesterol increase throughout pregnancy.[25] For this reason measurement of lipids are not recommended in

women with no specific indication and if abnormal should be repeated by the woman's general practitioner postpartum.

Erythrocyte sedimentation rate (ESR) is elevated in pregnancy due to elevated fibrinogen and globulin, in general another test such as C-reactive protein (CRP) is used if inflammation or infection is suspected.[26]

Thyroid Function Test (TFT) are appropriate in women with a known history of thyroid disease. Other women may be screened on risk factors or if there is a history of symptoms suggesting of thyroid dysfunction. Refer abnormal results for endocrinology opinion.

Haemoglobin A1c (HbA1c) has utility in detecting pre-existing type 2 diabetics early in pregnancy and may be encountered in this context. A normal early pregnancy HbA1c probably does not reliably exclude impaired glucose tolerance.[27]

Infectious diseases:

National guidelines and RANZCOG currently do NOT recommend screening for Cytomegalovirus (CMV), Parvovirus or Toxoplasmosis.

All women should be advised of the importance for their own and their baby's health of reducing the chances of infection by maintaining good hygiene practices, safe food handling and storage, and wearing gloves when gardening and avoiding contact with to cat litter/faeces. See Your pregnancy What to expect and what you can do

Refer: Australasian Society for Infectious Diseases (ASID) guidelines

17. Pregnancy ultrasound

Ultrasound examination in recommended for all pregnant women. In the **first trimester of pregnancy (6-13^{+6} weeks**) women should be offered an ultrasound scan to assess fetal number and viability, gestational age, early anatomy and, if wanted, aneuploidy risk assessment as part of combined first trimester screening or non-invasive prenatal testing (NIPT). It is not ideal to have NIPT without a scan to confirm dating, viability and plurality although women may arrive for care with this scenario.

- See: Down syndrome, aneuploidy and high risk screening CG

All women should be offered a **detailed fetal anatomy** ultrasound examination preferably at 20-22 weeks of pregnancy to assess fetal anatomy, placental site and cervical length.

Any deviations from normal with ultrasound results should be escalated to a senior registrar or consultant.

Cervical length

The presence of a shortened cervix (< 25 mm) is associated with an increased risk of preterm birth. Women with a shortened cervix should be referred urgently to a specialist obstetrician for review to discuss surveillance and treatment.

Placental location

If a placenta is in the lower uterine segment on the 20-22 week scan (within 2 cm of the internal cervical os, organise a follow-up ultrasound in the third trimester. Ensure that a maternal history of caesarean section and consideration of possible accreta is on the request where the praevia involves the anterior lower uterine segment.

- See: Placenta praevia placenta accreta and vasa praevia CG

Estimated due date

If a 20-22 week anatomy ultrasound significantly varies in the estimated gestation this must be discussed with a senior registrar or consultant as it may indicate early fetal growth restriction (FGR).

- See: Estimated due date procedure
- Small for gestational age (SGA) and growth restricted fetus (FGR) detection investigation

18. Test results – responsibility for follow up

It is the responsibility of the maternity provider, or team, ordering a test or noting any abnormal finding to ensure appropriate follow-up, communication and management processes are in place.

All care providers should ensure that follow-up of any incomplete or abnormal investigation results or findings has occurred and that results are recorded in the hospital and hand held Pregnancy Record.

Results are searchable in WEBSTRO by clinician in the 'doctor' field which permits regular review of requested tests. Documentation of the result and follow up should be recorded in BOS as an event note contemporaneously to aid clinical communication.

19. Blood pressure measurement in pregnancy

Blood pressure must be recorded at every visit.[1-3] The recording is taken after the woman has been sitting for two to three minutes with her feet supported. A standard size cuff is used for women with an arm circumference of 33 cm or less and a large cuff used if the arm circumference is greater than 33 cm.

Occasionally a thigh cuff may be appropriate if the arm is very large. All cuffs contain their rated arm circumference in print.

Hypertension is defined when systolic blood pressure is ≥ 140 mmHg and/or diastolic blood pressure is ≥ 90 mmHg.

- See: Hypertensive disorders in pregnancy pre-eclampsia/eclampsia

Advise women at mod-high risk of pre-eclampsia to initiate low dose aspirin, at night (ideally **150 mg)** before 16 weeks, and continue until 36 weeks for its benefit in prevention of preterm pre-eclampsia.

- See: Aspirin to help prevent pre-eclampsia

20. Urinalysis by dipstick for proteinuria

The routine use of dipstick measurement for screening of proteinuria in low risk pregnant women is not necessary. However, dipstick screening for proteinuria is indicated if the woman's blood pressure is elevated or if the woman has risk factors for hypertension in pregnancy, for example hypertension in a previous pregnancy, diabetes, BMI >35 at booking and multiple pregnancies.[1-3]

Assessment of hypertension in pregnancy requires quantification of proteinuria by spot urine protein: creatinine ratio or by 12 hour (or 24 hour) urine collection.

21. Symphyseal-fundal height

The detection of abnormal fetal growth (fetal growth restriction (FGR) or macrosomia) is one of the most important aims of pregnancy care.[1,2] The sensitivity of symphysis-fundal height (SFH) measurement to detect small for gestational age (SGA) fetuses has limitations has been assessed in several systematic reviews. [20,21] The first concluded that SFH measurement together with targeted ultrasound could be effective,[20] and the second that there was insufficient evidence to make any recommendation.[21] Observational cohort studies show wide ranges of sensitivity from 17% to 93%.[19] The lack of sensitivity with fetal growth screening measurement has mainly been attributed to a wide variety of methods, charts and thresholds used.[18-21] Standardized practice along with continuity of clinician is agreed likely to go some way to improve sensitivity.[18,19]

The multicentre, multiethnic, prospective longitudinal observational study INTERGROWTH-21st published in November 2016 enrolled 4,607 women with singleton pregnancies (without major complications or congenital malformations) concluded that SFH measurement should remain the *first level*, screening tool for evaluating fetal growth.[19] This study group have developed and recommended international SFH standards for plotting growth on charts derived from the mixed populations of healthy well women in the study.[19] While Monash Health currently does not advocate charting SFH measurements, it is imperative to note the INTERGROWTH-21st chart clearly demonstrates (visually) that SFH measurement increases almost linearly with gestational age, and no flattening (nor drop) at term.[19] See: here

Prior to 24 weeks gestation, clinical examination may include estimation of uterine size by gentle abdominal palpation rather than by tape measurement.[1,2]

From 24 weeks gestation, serial measurement of SFH should be performed at each visit to assess fetal growth.[1,2] SFH measured in centimetres, is roughly equal to the number of weeks' gestation plus or minus 2 cm.[1] In general SFH is expected to increase approximately 1 cm per gestational week.

In some women SFH is much less useful (e.g. obese BMI $\geq$ 35, multiple pregnancy, large fibroids or polyhydramnious).[2] These women should be offered serial ultrasound to assess fetal size and exclude fetal growth restriction.[1]

- See: Small for gestational age (SGA) and growth restricted fetus (FGR) detection investigation

The SFH measurement **procedure must be** performed consistently:

- the woman in the supine position, having emptied her bladder
- the measurement should start from the variable point, the fundus, while both hands are available for palpation[18]
- using a non-elastic tape measure; with the centimetre side of the tape face down
- the tape is run along the longitudinal axis of the uterus to the fixed point (the upper border of the symphysis pubis)
- the tape is turned so that the numbers were visible to record the value to the nearest complete half centimetre[19]
- the measurements should be undertaken by the same practitioner to aid continuity. Restricting assessments to one or two carers improves the accuracy significantly.[18,19]

Monash Health defines the threshold 'SGA / 'large for dates (LGA)' requiring further investigation as:

- 2 cm from the equivalent number of weeks of gestational age. A discrepancy must be referred to a specialist obstetrician for review as soon as possible.

- It is also important to note the interval increase of SFH between visits. Women with a lack of (static growth), or excessive increase in the SFH between visits must also be referred for review.

Women with lack of appropriate SFH increase must also be referred to a specialist obstetrician for review.

See: Small for gestational age (SGA) and growth restricted fetus (FGR) detection investigation

See: Macrosomia

22. Auscultation of the fetal heart and enquiry about fetal movements

Auscultation of the fetal heart

Routine auscultation of the fetal heart does not improve pregnancy outcomes but pregnant women enjoy hearing their baby and so it may be of psychological benefit.[1,2]

Fetal movements

Early in pregnancy, women are provided a copy of the brochure: Pregnancy Your baby's movements matter (PSANZ/Stillbirth Alliance).

- This is available in several languages at http://www.stillbirthalliance.org.au/parent4.htm

Encourage all women to view the movements matter YouTube on the Monash's women website.

Women are asked about fetal movements from around 20 weeks. There is currently no evidence to recommend routine daily counting of movements.[8]

Any woman reporting decreased fetal movements (DFM) after 28 weeks of pregnancy (including women approaching term) should be advised to come to hospital for assessment and review.

- See: Decreased fetal movement procedure

23. Weighing throughout pregnancy

Maternal weight and height are measured at the first hospital appointment allowing derivation of the woman's body mass index (BMI).[2] A woman's BMI can be calculated by taking their weight in kilograms and dividing it by the square of their height in metres (weight [kg] / height [m]^2).

Excessive weight gain in pregnancy is associated with poorer maternal and perinatal outcomes. All pregnant women should be provided with information on healthy eating and exercise in pregnancy and what is considered to be a healthy weight gain for her.

Monash Health recommends women are weighed regularly throughout pregnancy to monitor weight gain.[6] Women identified with poor or excessive weight gain are to be provided with dietary and exercise advice and support.

- See: Your pregnancy care, what to expect and what you can do'.

Women with a raised BMI in early pregnancy are at risk of excess weight gain in pregnancy and are at higher risk of poor maternal and child health outcomes.[6] Women with obesity also perceive discrimination in health care settings. **Clinicians need to be aware of the multi-factorial and complex issues associated with obesity. Obese pregnant women may be offered a referral to a community dietitian for weight management support.** See: Allied Health - triggers for dietitian referral

Trimester	Underweight	Healthy weight	Overweight	Obese
BMI	Less than 18.5 kg/m^2	18.5 – 24.9 kg/m^2	25 – 29.9 kg/m^2	Higher than 30 kg/m^2
First 0-12 weeks	Ideal weight gain 1 – 3 kg	Ideal weight gain 1 - 3 kg	Ideal weight gain 0 - 1 kg	Ideal weight gain 0 - 1 kg
Second 13-27 weeks	5 – 7 kg	5 – 6 kg	3 – 5 kg	2 – 4 kg
Third 28-42 weeks	6 – 8 kg	5 – 6 kg	4 – 5 kg	3 – 4 kg
Total	**12 – 18 kg**	**11- 16 kg**	**7 – 11 kg**	**5 – 9 kg**

24. Diagnosis of gestational diabetes mellitus (GDM)

See: Gestational diabetes mellitus (GDM) testing procedure

25. Screening for Group B streptococcal disease (GBS)

Discuss GBS screening with all pregnant women in the third trimester.

Local and international guidelines recommend either a risk-based or a culture-based screening approach for identification of women for whom intrapartum antibiotics prophylaxis (IAP) should be offered for prevention of neonatal early onset sepsis.

Monash Health recommends the culture based, universal screening approach in pregnancy, together with use of the Kaiser Permanente Neonatal Early Onset Sepsis (NEOS) calculator on all infant born ≥ 35 weeks gestation. See: Group B streptococcal (GBS) perinatal disease prevention

26. Planning for birth and early parenting during pregnancy

Postnatal planning during pregnancy may increase women's satisfaction with care.[1,2] All women will be given appropriate information regarding length of stay, admission and discharge procedures and caring for themselves and their baby.

Breastfeeding information and education will be offered to all pregnant women from the first visit. Midwives will provide written information on breastfeeding including the importance of exclusive breastfeeding for the first six months.

Discussion regarding labour and birth preparation, coping with pain in labour and early parenting plans should also occur from about 34 -36 weeks gestation.

- See: Preparation for labour, birth, breast feeding and early parenting

At Monash Health women receiving predominantly medical care during pregnancy are offered a visit with a team midwife later in pregnancy at around 34-36 weeks gestation. This should substitute a clinical visit whenever appropriate. For women with significant medical or pregnancy complications in 'specialty' care stream' this may need to be scheduled as an *additional* visit.

Women having 'shared maternity care' between the hospital and an SMCA will have a 36 week hospital obstetric review and a midwife visit to include birth and postnatal planning.

- See: Pregnancy visit schedule for shared maternity care
- See: Prolonged pregnancy management

27. Family violence screening **(domestic violence)**

Family violence is the preferred Victorian Government terminology. Family Violence is common. Sensitive enquiry is made of every pregnant woman, in an environment in which she feels secure.[2] Health professionals must be mindful of the sensitivity of asking and recording information about family violence / domestic abuse.

There must be no notation made on the woman's hand-held Pregnancy Record.

- See : Social history in pregnancy
- See : Family violence : management & referral options
- See : Family violence: staff resources

28. Pelvic examination and Cervical Screening test

Pelvic examination

Pelvic examination during pregnancy does not accurately assess gestational age, nor does it accurately predict preterm birth or cephalopelvic disproportion and many women find it invasive. It is not recommended unless there is another clinical indication.[2]

Cervical screening test (CST)

The Australian National Cervical Screening Program recommends that every pregnant woman is offered cervical screening if they have not had cervical screening within the past two years if the prior test was a pap and five if a CST.

Cervical screening can safely be undertaken during pregnancy, ideally before 24 weeks gestation Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Cervical screening may only be undertaken by an accredited practitioner. Women who find this test unacceptable also have the option of HPV DNA as a self-collected vaginal swab (red topped tube) outside of pregnancy (See NCSP website for eligibility criteria)

Refer: http://www.cancerscreening.gov.au/internet/screening/publishing.nsf/Content/cervical-screening-1

29. Female Genital Mutilation (FGM)

Female genital mutilation or cutting is defined by the World Health Organisation (WHO) as all procedures involving partial or total removal of the female external genitalia or other injury to the female genital organs whether for cultural or other non-therapeutic reasons. There are four different types of FGM.

The WHO website provides information on female genital mutilation. Available at:

- http://www.who.int/topics/female_genital_mutilation/en/
- http://www.who.int/mediacentre/factsheets/fs241/en/

Women with FGM are significantly more likely than those without FGM to have adverse maternity outcomes. Risks seem to be greater with more extensive FGM. See specific procedures

- Female Genital Mutilation (FGM) pregnancy counselling
- Female Genital Mutilation (FGM) in pregnancy background
- Deinfibulation in pregnancy or labour

30. Breast examination

Routine breast examination during pregnancy is not recommended for the promotion of breast feeding.[2]

Breast examination for detection of breast cancer should continue as per the general population. Women presenting with symptomatic breast lumps in pregnancy require investigation with imaging (usually initially ultrasound), clinical examination and biopsy as clinically indicated ('triple test'), pregnancy is not a reason to delay workup of a new or changing breast lump.

Women attending hospital maternity clinics who present with symptoms suggestive of a breast disorder must be referred to a medical practitioner, either within the maternity service or the woman's general practitioner (GP), for assessment and investigation.

31. Consent to share and exchange information

Entries in the health record are to remain confidential. There are however many instances where it is beneficial to share information with other health professionals (internal and external services) for the health and wellbeing of the mother and baby.

Obtaining consent to enable information sharing between community and acute health services and other providers is consistent with privacy legislation and promotes continuity and consistency of care. Sharing appropriate information (e.g. discharge summary) reduces the need for women to repeat their story and gives service providers a comprehensive handover and understanding of issues that may need to be addressed.
Information sharing with Child Protection or Child FIRST is particularly important when the safety or development of unborn babies, newborn babies or children is compromised.

- See: Vulnerable unborn babies

Health professionals are also subject to mandatory reporting to other agencies in some instances such as notifiable diseases.

32. Influenza vaccination

Influenza vaccination during pregnancy prevents severe influenza in mothers and also reduces influenza and other febrile respiratory illnesses in infants in the first six months of life.

Influenza is a vaccine preventable disease; however vaccines need to be given each year, as the predominant circulating strains vary from year to year. Vaccination early in the season regardless of gestational age is optimal and some women may encounter two flu season strains and require two vaccinations. The influenza vaccine is usually available in Victoria from mid-March till the end of November.

Influenza vaccination is free for pregnant women and can be obtained from their GP, some pharmacies, and local council immunisation services.

Pregnant women can also attend the Monash Immunisation Unit located inside Jessie McPherson Private Hospital (suite I). Monday – Friday, 8:30 - 1545. No referral is required. No appointment is necessary. Email: immunisation@monashhealth.org

Information for women is also available from:

- Influenza vaccine in pregnancy Immunise Australia website Pregnant Women page.
- www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/immunise-influenza

The following websites provide further information for health professionals

- www.health.vic.gov.au/immunisation
- www.immunise.health.gov.au

33. Pertussis vaccination

Vaccination to prevent **whooping cough** is recommended for all pregnant women to reduce the risk of newborn whooping cough in the first 6 months of life.[22-24]

Free pertussis vaccine should be offered to all pregnant women ideally between 20 and 32 weeks gestation.[23,29] The vaccine should be offered in every pregnancy irrespective of when she were last vaccinated, as recommended by the Department of Health, Victoria.

To increase uptake, women may be offered vaccination at the time of their pregnancy care appointment:[24] See:

- Standing Order - Diphtheria Tetanus Pertussis vaccine in pregnancy and postpartum
- https://beta.health.gov.au/services/whooping-cough-pertussis-immunisation-service

If not vaccinated in the previous 10 years, partners and other potential carers/ guardians should be encouraged to see their GP, local maternal and child health centre, or Monash Immunisation Service to receive vaccine prior to the birth of the infant.

Information for women is also available from Monash Immunisation.

Pregnant women can attend the Monash Immunisation Unit located inside Jessie McPherson Private Hospital (suite I). Monday – Friday, 8:30 - 1545.

No referral is required. No appointment is necessary. Email: immunisation@monashhealth.org

34. Key performance measures

- Percentage of women vaccinated for pertussis in pregnancy
- Percentage of pregnant women vaccinated for influenza during the influenza season

Victorian perinatal services performance indicators

- Indicator 3: Severe fetal growth restriction (FGR) Birth at 40 or more weeks gestation of a singleton baby with severe FGR (<3rd centile for gestation, sex and plurality)
- Indicator 7: Smoking cessation
- Indicator 9: Access to antenatal care

RELATED PROCDURES AND GUIDELINES

Chlamydia screening and treatment in pregnancy

Casey - Maternity booking inclusion/exclusion procedure

Casey Hospital maternity transfer out criteria procedure

Collaborative pregnancy care booking criteria procedure

Dandenong Hospital Maternity booking inclusion /exclusion criteria procedure

Maternity transfer CG

Decreased fetal movement procedure

Down syndrome, aneuploidy and screening for high risk pregnancy

Estimated due date (EDD)

Female Genital Mutilation (FGM) pregnancy counselling

Gestational diabetes mellitus (GDM) testing procedure

Group B streptococcal (GBS) perinatal disease prevention CG

Herpes simplex virus in pregnancy

HIV (human immunodeficiency) virus screening in pregnancy procedure

Isoimmunisation in pregnancy

Macrosomia

Maternity Teams: booking descriptors and schedules

Midwifery primary carer booking inclusion / exclusion criteria

Midwifery primary carer referral to obstetric care criteria

Placenta praevia placenta accreta and vasa praevia

Planning for birth and parenting with women tool

Planning for birth and parenting with women during pregnancy procedure

Pregnancy tests, investigations and key visit information

Prolonged pregnancy (post term)

Rhesus (D) negative women (maternity)

Screening for haemoglobinopathies in pregnancy

Shared Maternity Care Affiliate - inclusion, exclusion, referral

Small for gestational age (SGA) and growth restricted fetus (FGR) detection investigation

Smoking cessation in pregnancy CG

Syphilis management in pregnancy, newborn and mother

Social history in pregnancy

Vitamin D in pregnancy and the term newborn

Unborn babies at risk of child abuse

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