

## 1. Purpose

The standard antenatal check provides the basis for routine screening, assessment, referral and education for women attending the antenatal clinic.

These guidelines are not exhaustive. They are designed to work alongside the antenatal record

Please also refer to the [Antenatal Care Schedule- Routine Low Risk](#).

## 2. Definitions

**LNMP:** Last normal menstrual period.

## 3. Responsibilities

Midwives, Medical staff and Shared Care GP'/Midwives.

## 4. Guideline

### 4.1. Gestation and estimated due date (EDD)

Gestation is recorded at each visit.

Calculate the EDD according to the following:

- **The EDD is according to the LNMP is used if:**
  - The LNMP is reliable (the woman is certain of the first day of LNMP and she has a regular 28 to 35\* day cycle)
  - The early dating scan calculates the EDD to be within 5 days of a reliable LNMP due date
- **The EDD according to the Early Dating Ultrasound is used if:**
  - The LNMP is unreliable and/or
  - The early dating scan calculates the EDD outside 5 days of a reliable LNMP due date
  - Ultrasound performed prior to 14 weeks is more accurate for estimating gestation
- **The 19-21 week scan should be used if:**
  - there was no dating scan performed and
  - the LNMP is unreliable and /or
  - the 19-21 week scan calculates the EDD outside 10 days of a reliable LNMP due date\*.

*\*Add 7 days to the EDD when a woman has a regular 35 day cycle.*

### 4.2. Urinalysis

Urine testing for asymptomatic bacteriuria (AB) and chronic renal disease (CRD) to be done at first antenatal visit

- If at any visit a woman reports symptoms of a urinary tract infection, or screening for bacteriuria is indicated, then a MSU for MC&S should be sent to pathology. Contact the team registrar as they may decide to commence antimicrobial agents and/or review the woman before awaiting results. If left untreated, UTIs can lead to pre-term births and low birth weight infants.

### Urine testing for proteinuria

The Women's does not routinely screen low-risk women for proteinuria at each antenatal visit (Level IV evidence).

# Standard Antenatal Check



Please refer to the section headed Blood Pressure for further clarification on testing for proteinuria when indicated.

## Urine testing for glycosuria/ screening for diabetes in pregnancy

Glycosuria is normal in pregnant women.

The Women's do not screen women routinely for glycosuria at each antenatal visit. If a woman is suspected of having a problem with carbohydrate metabolism, then a Glucose Tolerance Test (GTT) is indicated.

All women will continue to be offered routine screening for gestational diabetes with a Glucose Tolerance Test (GTT) at 26-28 weeks via venepuncture

Any woman with a history of GDM or immediate family history of diabetes requires a GTT by 16 weeks or as soon as feasible and referred to the diabetic educator for counselling if the GTT is abnormal. If the GTT is negative, repeat the GTT at 26-28 weeks.

### 4.3. Blood pressure

Strategies to avoid and treat light-headedness and fainting that are due to normal physiological changes should be discussed with all pregnant women.

Blood Pressure <sup>1</sup> is monitored at every antenatal visit to detect the following hypertensive disorders:

- Essential hypertension
- Gestational hypertension<sup>2</sup>
- Pre-eclampsia / eclampsia

A woman is hypertensive when:

- Systolic BP is  $\geq 140$ mmHg and/or
- Diastolic BP is  $\geq 90$ mmhg for two or more consecutive occasions over several hours

For women with an upper arm circumference  $>35$ cm, use large cuff

1. If hypertensive, wait 15 minutes before repeating BP, following rest.
2. If hypertension persists, perform a dipstick urinalysis as an initial screen for proteinuria.
3. Inquire about fetal movements, general wellbeing, headaches, visual disturbances, epigastric pain and assess for oedema. Record these details in the Pregnancy Record. Notes: 50-80% of normotensive pregnant women experience moderate oedema, usually in the lower limbs but also fingers, face or generalised (change to ref no)
4. Refer all hypertensive women (BP  $\geq 140/90$  and  $<170/110$ ), with or without symptoms, to the Pregnancy Day Care Centre before 5pm. After hours refer to the Emergency Department assessment clinic or consider admission.
5. The woman's assessment in the PDCC may include serial blood pressure measurements over four hours, in addition to some of the following: a CTG, AFI, Dopplers, FBE, LFT, urea, creatinine, uric acid, and spot protein creatinine ratio.
6. Depending on outcomes, the staff of the PDCC, Emergency Department assessment clinic and/or the reviewing medical officer will decide with the woman her subsequent care path.
7. It is envisaged that it is a shared responsibility between the assessing area/unit, team doctors and midwives to communicate and follow up the woman's subsequent care path.

**Note:** If BP  $\geq 170/110$ mmHg, refer immediately to the obstetric registrar on call for admission to Birth Suite for intensive care

- Provide a calm environment and do not leave the woman unattended
- Do not ask the woman to provide a specimen for urinalysis

### Notes on blood pressure measurement

The following instructions for antenatal blood pressure measurement are given by the Three Centres consensus Guidelines on Antenatal Care, 2001, in order to standardise BP measurement methods:

- To be measured, women should sit down with feet supported. Measurement should be taken after two or three minutes resting in this position. (Level iii-2 evidence)
  - A standard size cuff should be used for women with an arm circumference 35cm and a large cuff used for arm circumference >33cm (Level IV evidence)
  - Systolic blood pressure should be palpated at the brachial artery and the cuff inflated to 20mmHg above this level. The cuff should be deflated slowly, at approximately 2mmHg per second (Level IV evidence).
  - Diastolic blood pressure readings should be recorded using the Korotkoff V sound. If phase V is not present, phase IV should be recorded (Level II evidence)
  - Hypertension is defined when systolic blood pressure is 140mmHg and/or diastolic blood pressure (Korotkoff V) is 90mmHg or there is an incremental rise of 30mmHg systolic or 15Hg diastolic (Level IV evidence).
  - Evidence supports the use of a mercury sphygmomanometer to measure blood pressure but only an anaeroid sphygmomanometer complies with the Occupational Health and Safety Recommendations (1999). It is necessary to recalibrate anaeroid machines regularly, especially in high use situations (Level III evidence) (Three Centres Collaboration 2001 :p41)
  - Please note phase V is the disappearance of the Korotkov sounds. Phase IV is the muffling of the sounds (Enkin et al, 2000:p71).
1. Pregnancy-induced hypertension may occur at any time in the second half of pregnancy. It rarely occurs before 28 weeks of pregnancy, but when it does occur this early it frequently leads to pre-eclampsia with its associated high rate of perinatal morbidity and mortality. On the other hand, when pregnancy induced hypertension occurs late in the third trimester, a much more frequent occurrence, the maternal and fetal risks are much smaller. Therefore, although routine antenatal screening for hypertensive disorders before 28 weeks gestation may have a low productivity in terms of the number of positive diagnoses per visit, it has a high potential to prevent maternal and fetal morbidity and mortality (Enkin et al. 2000: p73).
  2. The reduction in velocity of lower-limb flow (due to increased venous distensibility and to flow obstruction related to pressure from the gravid uterus) and the hypercoagulable state of pregnancy (due to increased concentrations of vitamin K dependent factors and to decreased fibrinolytic activity) increases the risk of thrombo-embolic disease. Consequently, pulmonary embolism joins pregnancy-induced hypertension and maternal cardiac disease as the most important non-traumatic causes of maternal death. Between 10% and 15% of women with deep venous thrombosis in their leg veins will have a pulmonary embolus (Humphrey, 1999:p85).

#### **4.4. Fundal height – symphysis- fundal (S-F) height measurement**

Fundal height is used to indirectly measure fetal growth in relation to gestational age. Fundal height, measured in centimetres, should equal the number of week's gestation plus or minus no more than 2 cm.

A discrepancy between fundal height and gestation may indicate a fetus is small or large for gestational age and should be investigated, usually by ultrasound for macrosomia or intra-uterine growth restriction (IUGR).

Polyhydramnios, oligohydramnios, malpresentation and uterine anomalies (e.g. fibroids) are also possible reasons for a discrepancy in fundal height and may be diagnosed with ultrasound.

1. Fundal height is measured and recorded at each visit. Measurement should start at the variable point (the fundus) and continue to the fixed point (the symphysis pubis) using a non-elastic tape measure. The centimetre side of the tape should be face down to avoid a biased measurement.

2. A discrepancy of 3 cm or more after 20 weeks should be referred ASAP to the obstetric registrar or clinic consultant for further investigation, which may include (depending on the gestation and clinical picture) CTG, AFI, Dopplers and growth scan.

#### 4.5. Fetal movements

We can expect primigravida women to begin feeling fetal movement from around 20-22 weeks and multigravida woman from around 18-20 weeks. Each woman will experience fetal movements at an amount that is normal for her, i.e. she will get used to the pattern of fetal movements.

##### In Clinic

1. All women are to be asked about fetal movements at each visit from around 20 weeks and encouraged to report any perceived reduction in fetal movements as soon as possible.
2. Any woman with a perceived reduction in fetal movements after 26-27 weeks, including women approaching term, should be referred immediately to the PDCC (or Emergency Department Assessment Clinic if after 5pm) for CTG assessment.
3. You may or may not detect fetal movements during your palpation, but if so, record in the Pregnancy Record as FMF (fetal movements felt).

**Note:** CTGs are not usually performed under 26 weeks. However, if a woman is <26 weeks and reports reduced/no fetal movements, refer her to the obstetric registrar on call, clinic consultation or the PDCC, even if the FH is audible via a Sonicaid. Perceived reduced fetal movements under 26 weeks in the presence of an audible fetal heart may still require further obstetric assessment, e.g. ultrasound (AFI) or Dopplers.

#### 4.6. Auscultation of the fetal heart (FH)

- A growing uterus and normal fetal movements indicate a fetus that is alive and well
- However, women benefit emotionally and psychologically from listening to the FH
- Therefore, offer auscultation of the FH at each visit from the time a FH can be detected using a Sonicaid
- As a guide, auscultation of the fetal heart from 16-20 weeks is recommended
- In practice, early detection of the FH is more successful on slimmer women than heavier women
- Failure to detect the FH at any gestation requires immediate referral to the obstetric registrar on call, PDCC or emergency department for viability scanning to exclude fetal demise.

**Note:** with regard to early auscultation, each clinician must explore the benefits and disadvantages in the light of his/her experience in conjunction with each woman's wishes and informed choice. Many experienced doctors and midwives successfully auscultate the FH with a Sonicaid from around 14 weeks. However, flexibility is encouraged for those practitioners who, given the above conditions, wish to wait longer than 16-20 weeks or choose to provide auscultation a little earlier. What is important is that women are informed reassuringly of the issues regarding early auscultation.

#### 4.7. Abdominal palpation

It is expected all clinicians are skilled in performing abdominal inspection and palpation.

1. **The lie** is recorded from 30 weeks. Refer any woman found with an unstable lie from 36 weeks to the consultant.
2. **The presentation** is recorded from 33-34 weeks. A woman with breech presentation found or persisting at 36 weeks may have External Cephalic Version (ECV) discussed, offered and organised for 37 weeks in the PDCC by the obstetric Registrar or clinic Consultant. The obstetrician performing the ECV is required to confirm the booking of the ECV.
3. **Abdominal station** is recorded from 36 weeks. Its record is useful in terms of revealing a trend that may be useful for management of labour / induction.

#### 4.8. Thrombo-embolic disease

# Standard Antenatal Check



## Antenatal risk factors for thrombo-embolic disease:

- History of thrombosis
- Older women (>35)
- Grand-multiparity (>4)
- Obesity
- Heart disease
- Presence of lupus anticoagulant or other antiphospholipid antibodies
- Thrombophilia (inherited)
- Prolonged bed rest
- Pre-eclampsia

## Superficial thrombo-phlebitis

May appear as a tender, inflamed linear area with or without varicose veins.

If you suspect superficial thrombophlebitis, the woman will require referral to the obstetric registrar on call or clinic consultant for assessment.

Treatment may require any, or a combination of:

- Stockings
- Short-term aspirin (unless close to term)
- Ointments containing anticoagulant compounds

## Deep Venous Thrombosis (DVT)

During pregnancy – more common in left limb by a ratio of 9:1.

Classical signs (of which any may be absent):

- Calf pain
- Tenderness
- Swelling
- Warmth
- A positive Homan's sign

Any suspicion of a DVT requires immediate referral to the obstetric registrar or clinic consultant for further investigation.

Clinical assessment alone will be wrong in 30-50% of cases.

DVT can only be confirmed by Doppler Ultrasound or Venography.

Doppler Ultrasound is less invasive but is limited in assessing the pelvic veins.

## Pulmonary embolism

Requires high index of suspicion towards:

- SOB, tachypnoea, dyspnoea
- Pleuritic chest pain
- Central chest pain
- Cough, haemoptysis
- Collapse

# Standard Antenatal Check



- Any suspicion requires urgent medical attention.

## 4.9. Referral guidelines

If at any time you are unsure in your assessment, ask another more experienced colleague to perform the assessment with a woman's permission. If you are both unsure of a decisive finding, e.g. unsure of presentation at 36 weeks, it will be necessary to ask for the on-call obstetric registrar or clinic consultant to review the assessment.

- Women with obstetric related complaints, which require same day medical attention, can be referred to the obstetric registrar, the emergency department or the assessment centre
- Women with obstetric related complaints, which do not require same day medical attention, can be referred to the team obstetrician at his/her next clinic day
- Women with minor non-obstetric medical complaints can be referred to their local GP
- For women who need CTGs or hypertension assessment, they can be referred to the Pregnancy Day Care Centre (before 4.30pm) or the assessment centre (after hours) are also available for CTGs and hypertension assessment.

## 5. Evaluation, monitoring and reporting of compliance to this guideline

Complete the following statement compliance to this guideline will be monitored, evaluated and reported through review of incidents.

## 6. References

1. 3 Centres Collaboration. *Three Centres Consensus Guidelines on Antenatal Care*. (2001). Retrieved from <http://3centres.com.au/guidelines>
2. Enkin, et al. (2000). *A Guide to Effective Care in Pregnancy and Childbirth*. Oxford Medical Publications.
3. Clinical Practice Guidelines: Antenatal care – Module 1+2 Australian Health Ministers Advisory Council, 2012, Australian Government Department of Health and Ageing,

## 7. Legislation related to this guideline

Not applicable.

## 8. Appendices

Not Applicable.

## Standard Antenatal Check



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