Routine antenatal assessment in the absence of pregnancy complications

Objectives: To provide advice on the assessment and care a woman should receive during the antenatal period in the absence of pregnancy complications.

Target audience: All health practitioners providing antenatal care and patients.

Values: The evidence was reviewed by the Women’s Health Committee (RANZCOG), and applied to local factors relating to Australia and New Zealand.

Background: This statement was first developed by Women’s Health Committee in July 1992 and most recently reviewed in July 2016.

Funding: The development and review of this statement was funded by RANZCOG.

Disclaimer: This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

First endorsed by RANZCOG: July 1992
Current: July 2016
Review due: July 2019
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Routine Antenatal Assessment in the Absence of Pregnancy Complications
C-Obs 3b
3
1. **Patient summary**

Attending regular antenatal appointments during pregnancy is a key component of a healthy pregnancy. Appointments provide an opportunity to receive information, support and advice about pregnancy that suit a woman’s individual needs. Regular antenatal care helps to identify and treat complications and improves pregnancy outcomes mother and baby. During antenatal appointments, the doctor or midwife will discuss available screening tests and arrange these as required.

2. **Introduction**

A woman’s health during her pregnancy is critical to the outcome of the pregnancy and may have a lifelong impact on her baby’s health.

3. **Discussion and recommendations**

3.1 **FIRST ANTENATAL VISIT IN PREGNANCY**

All women should be advised to attend a health professional capable of assessing maternal and fetal risk in early pregnancy with a view to:

1. Confirming pregnancy and establishing the best estimate of gestational age and due date. Where gestational age is uncertain a dating ultrasound may be performed or organised.

2. A comprehensive clinical and psycho-social assessment in order to determine any conditions or circumstances that may be of relevance to the pregnancy; with a view to planning the management of these conditions; and

3. Obtaining general advice regarding common issues of concern in early pregnancy.

3.1.1 **Clinical assessment**

A careful medical history and appropriate clinical examination should be undertaken. Height and weight should be recorded, and BMI calculated.

The following investigations are recommended (in the absence of specific complications):

- **Full blood examination**
  Particular note should be taken of the haemoglobin level (anaemia), mean corpuscular volume (MCV)(thalassemia or iron deficiency) and platelet count (thrombocytopenia).

- **Blood group and antibody screen**
  Where the blood group has already been performed it does not need to be repeated. However, the antibody screen should be repeated at the beginning of each pregnancy.

- **Rubella antibody status**
  All women should have their rubella antibody titre measured for each pregnancy. Although the past antibodies titre from a previous pregnancy screens may have been used to exclude a further antenatal test, there is evidence that levels may decline, particularly following immunization as compared to natural infection.
**Syphilis serology**
Syphilis testing should be performed by screening with a specific treponema pallidum assay, for example, Treponema pallidum haemaglutination assay (TPHA) or the Treponema pallidum particle agglutination assay (TPPA). The non-specific Treponema pallidum assays, such as the rapid plasma regain (RPR) or Veneral Diseases Reference Laboratory (VDRL) tests, although cheaper, are less likely to pick up latent infection.

**Midstream urine**
Biochemical analysis and culture to identify asymptomatic bacteriuria.

**Chlamydia**
Selective testing for Chlamydia should be considered for those who may be at increased risk according to local prevalence.

**HIV**
Before instituting screening for any viral infection in pregnancy, it is imperative that the woman is provided with appropriate counselling as to the limitations of screening for viral infections in pregnancy and the implications of both positive and negative findings. All pregnant women should be recommended to have HIV screening at the first antenatal visit.

**Hepatitis B serology**
All pregnant women should be recommended to have Hepatitis B screening in pregnancy. Women found to be chronic carriers of Hepatitis B, should have an assessment of their viral replicative status (i.e. HBV DNA level and HBe antigen status) and liver function performed, and be referred for specialist support.

**Hepatitis C serology**
Serological screening for Hepatitis C may be offered according to risk factors or universally, depending on local health jurisdiction policies. Women who are known to be Hepatitis C antibody positive should have liver function tests performed and an assessment of their viral load (Hepatitis C RNA PCR). Consider referral to an appropriate specialist for counselling and planning postnatal follow up.

**Varicella**
Consideration should be given to checking varicella antibodies at the first visit where there is no definite history of chicken pox.

**Cervical screening**
Cervical screening for HPV/dysplasia should be recommended at the first antenatal visit if this would fall due during the pregnancy, according to cervical screening guidelines. There is no evidence to suggest that a Pap smear in pregnancy is harmful.

**Screening for Down syndrome**
Refer to College Statement Prenatal Screening and Diagnosis of Chromosomal and Genetic Conditions in the Fetus in Pregnancy (C-Obs 59).
3.1.2 Other tests that may be considered

Screening for haemoglobinopathies
Each unit should have a defined policy for screening for haemoglobinopathies, taking into account the ethnicity of the local antenatal population. As a minimum, all women should be screened with mean corpuscular volume (MCV), provided in the full blood examination. Specific haemoglobinopathy evaluation with hemoglobin electrophoresis (HbEPG) or high performance liquid chromatography (HPLC) and exclusion of iron deficiency (ferritin level) should be performed in the event of low MCV. DNA analysis for alpha-thalassaemia may be considered if clinically indicated. Full assessment of fetal risk requires investigation of the partner (father of the baby).

Vitamin D
Pregnant women at risk for vitamin D deficiency should be tested in early pregnancy OR provided with vitamin D supplementation.

Cytomegalovirus (CMV)
Routine serological screening for CMV infection in pregnancy is not recommended.

Toxoplasmosis
Routine serological screening for toxoplasmosis infection in pregnancy is not recommended.

TSH
Routine screening for subclinical thyroid disease remains controversial. Screening for thyroid dysfunction to be considered for at risk groups. See College Statement (C-Obs 46) Testing of serum TSH levels in pregnant women through the link below.

3.1.3 General advice
All women in early pregnancy should be informed with respect to:

1. Potential teratogens (medications, alcohol, X-rays etc);
2. Lifestyle advice which may include dietary precautions in pregnancy, cessation of cigarette smoking and other recreational drug use, optimal gestational weight gain in pregnancy, exercise in pregnancy, work and travel precautions;
3. Influenza and pertussis vaccination recommendations
4. Vitamin and mineral supplementation; see College Statement (C-Obs 25) Vitamin and Mineral Supplementation in Pregnancy through link below;
5. Model of care, expected visit frequency, place of booking for confinement, expected costs for both pregnancy and confinement where relevant;
6. Antenatal education options.

3.2 Subsequent visits during the antenatal period
All women should be advised to attend with a view to:

1. Taking a proactive approach to preventive measures that minimise the risk of problems in pregnancy, labour and the puerperium;
2. Obtaining advice that will assist the woman in preparation for labour, birth and the early puerperium;

3. Ongoing assessment and treatment of any particular conditions or circumstances of relevance to the pregnancy;

4. Obtaining general advice regarding common issues of concern in pregnancy.

### 3.2.1 Clinical assessment

All women should have a directed clinical assessment at each antenatal visit, with a focus on general well-being and early diagnosis of pregnancy complications. Clinical assessment should include measurement of symphysio-fundal height (SFH) to assist in detection of abnormal fetal growth. Although it has been difficult to clearly demonstrate an effect of SFH measurement in systematic reviews this reflects the methodology and statistical power of studies performed to date, and differences in technique of SFH measurement used. There is likely to be benefit with the use of serial measurement of SFH, taking into account maternal size and using targeted ultrasound. Bearing in mind that measurement of SFH during an antenatal visit has no associated cost and takes minimal time during routine palpation, there is consensus opinion that measurement and recording of SFH should be a routine part of antenatal visits.

Investigations recommended are:

**Obstetric ultrasound scan**

All women should be offered an obstetric ultrasound before 20 weeks' gestation. This will include an ultrasound for fetal morphology and placental localisation usually at 18-20 weeks gestation. Other scans may be indicated depending on individual circumstances.

**Gestational diabetes**


**Group B Streptococcal Disease (GBS)**

Refer to College Statement Swabbing for Group B Streptococcus Maternal Group B Streptococcus in Pregnancy: screening and management (C-Obs 19); see link below.

**Blood group antibody testing**

Refer to College Statement Guidelines for the use of Rh-D immunoglobulin (anti-D) in obstetrics in Australia (C-Obs 6); see link below. Further screening is recommended for Rh negative women at approximately 28 weeks gestation. Screening of Rh positive women at 28 weeks gestation is at the discretion of the clinician/managing health service.

**Full blood examination at 28 weeks**

The haemoglobin level and platelet count should be repeated at 28 weeks gestation. If anaemia or thrombocytopenia are detected, further investigation is warranted.

**Syphilis, Hepatitis B, Hepatitis C, HIV**

Consider repeat screening at 28 weeks in high-risk populations.
Vaccination

Influenza vaccination of pregnant women is strongly recommended. Refer to College Statement *Influenza Vaccination during Pregnancy* (C-Obs 45); see link below. Data suggests pertussis vaccination during pregnancy is more effective in reducing the risk of pertussis in young infants than vaccination of the mother postpartum. dTpa vaccine is recommended as a single dose during the third trimester of each pregnancy. The optimal time for vaccination is early in the third trimester between 28 and 32 weeks.5

3.3 LATE PREGNANCY TESTS OF FETAL WELL-BEING

Late pregnancy tests for assessment of feto-placental function should be performed when indicated on clinical grounds - either through a clinical suspicion of placental insufficiency, a predisposing factor for placental insufficiency or through an inability to clinically ascertain fetal growth (e.g. obesity). Tests of fetal wellbeing should be considered after 41 weeks gestation. Detailed and frequent assessment of fetal wellbeing, including an assessment of liquor volume, is strongly recommended in pregnancies at or beyond 42 weeks gestation.
4. **References**


5. **Other suggested reading**


6. Links to other College statements

Pre-pregnancy Counselling (C-Obs 03a)

Guidelines for the use of RhD immunoglobulin (anti-D) in Obstetrics in Australia (C-Obs 06)

Diagnosis of Gestational Diabetes Mellitus (C-Obs 07)

Swabbing for Group B Streptococcus Maternal Group B Streptococcus in Pregnancy: screening and management (C-Obs 19)

Vitamin and Mineral Supplementation in Pregnancy (C-Obs 25)

Pre-pregnancy and Pregnancy Vaccinations (C-Obs 44)

Influenza Vaccination during Pregnancy (C-Obs 45)

Testing of serum TSH levels in Pregnant Women (C-Obs 46)

Management of Hepatitis B in Pregnancy (C-Obs 50)

Management of Hepatitis C in Pregnancy (C-Obs 51)

Consent and provision of information to patients in Australia regarding proposed treatment (C-Gen 02a)

Consent and provision of information to patients in New Zealand regarding proposed treatment (C-Gen 02b)

Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)
Appendices

Appendix A Women’s Health Committee Membership

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<tr>
<th>Name</th>
<th>Position on Committee</th>
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<tbody>
<tr>
<td>Professor Stephen Robson</td>
<td>Chair and Board Member</td>
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<tr>
<td>Dr James Harvey</td>
<td>Deputy Chair and Councillor</td>
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<tr>
<td>Associate Professor Anusch Yazdani</td>
<td>Member and Councillor</td>
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<tr>
<td>Associate Professor Ian Pettigrew</td>
<td>Member and Councillor</td>
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<tr>
<td>Dr Ian Page</td>
<td>Member and Councillor</td>
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<tr>
<td>Professor Yee Leung</td>
<td>Member of EAC Committee</td>
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<tr>
<td>Professor Sue Walker</td>
<td>General Member</td>
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<tr>
<td>Dr Lisa Hui</td>
<td>General Member</td>
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<tr>
<td>Dr Joseph Sgroai</td>
<td>General Member</td>
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<tr>
<td>Dr Marilyn Clarke</td>
<td>General Member</td>
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<tr>
<td>Dr Donald Clark</td>
<td>General Member</td>
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<tr>
<td>Associate Professor Janet Vaughan</td>
<td>General Member</td>
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<tr>
<td>Dr Benjamin Bopp</td>
<td>General Member</td>
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<tr>
<td>Associate Professor Kirsten Black</td>
<td>General Member</td>
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<tr>
<td>Dr Bernadette White</td>
<td>General Member</td>
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<tr>
<td>Dr Jacqueline Boyle</td>
<td>Chair of the ATSIWHC</td>
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<tr>
<td>Dr Martin Byrne</td>
<td>GPOAC representative</td>
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<tr>
<td>Ms Catherine Whitby</td>
<td>Community representative</td>
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<tr>
<td>Ms Sherryn Elworthy</td>
<td>Midwifery representative</td>
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<tr>
<td>Dr Michelle Proud</td>
<td>Trainee representative</td>
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Appendix B Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was originally developed in July 1992 and was most recently reviewed in July 2016. The Women’s Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the June 2016 teleconference, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix B part iii.

ii. Declaration of interest process and management

Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women’s Health Committee.

A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women’s Health Committee members.
were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.

Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.

There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines. Where no robust evidence was available but there was sufficient consensus within the Women’s Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

<table>
<thead>
<tr>
<th>Recommendation category</th>
<th>Description</th>
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<tbody>
<tr>
<td>Evidence-based</td>
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<tr>
<td>A</td>
<td>Body of evidence can be trusted to guide practice</td>
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<tr>
<td>B</td>
<td>Body of evidence can be trusted to guide practice in most situations</td>
</tr>
<tr>
<td>C</td>
<td>Body of evidence provides some support for recommendation(s) but care should be taken in its application</td>
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<tr>
<td>D</td>
<td>The body of evidence is weak and the recommendation must be applied with caution</td>
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<tr>
<td>Consensus-based</td>
<td>Recommendation based on clinical opinion and expertise as insufficient evidence available</td>
</tr>
<tr>
<td>Good Practice Note</td>
<td>Practical advice and information based on clinical opinion and expertise</td>
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Appendix C Full Disclaimer

This information is intended to provide general advice to practitioners, and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient.

This information has been prepared having regard to general circumstances. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual patient and the particular circumstances of each case.

This information has been prepared having regard to the information available at the time of its preparation, and each practitioner should have regard to relevant information, research or material which may have been published or become available subsequently.

Whilst the College endeavours to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available.