Routine antenatal assessment in the absence of pregnancy complications

This statement has been developed and reviewed by the Women’s Health Committee and approved by the RANZCOG Board and Council.
A list of Women’s Health Committee Members can be found in Appendix D.
Disclosure statements have been received from all members of this committee.

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: March 2022
Review due: March 2027

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

Target audience: All health practitioners providing antenatal care.

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 November 2019.

Funding: This statement was developed by RANZCOG and there are no relevant financial disclosures.
1. Plain language summary

Regular antenatal care is a key component of a healthy pregnancy and provides an opportunity to receive information, support and advice about pregnancy that suit a woman’s individual needs. Care should ensure a woman-centred approach that acknowledges pregnancy and childbirth as a normal life stage. Regular antenatal care improves pregnancy outcomes for mother and baby by identifying potential problems early. 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 by 10 weeks of 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. If the pregnancy is low-risk there is no need for an ultrasound before 12 weeks’.
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 and optimising these conditions; and
3. Obtaining general advice regarding common issues of concern in early pregnancy.
4. Determine the schedule for antenatal visits based on the individual woman’s needs. For a nulliparous woman without complications, a schedule of ten visits should be adequate.

3.1.1 Clinical assessment

A careful medical history and appropriate clinical examination should be undertaken. Height and weight should be measured, 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 titres 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**
Routine syphilis testing is recommended at the first antenatal contact\(^1,2\). Syphilis testing should be performed by screening with a specific treponema pallidum assay, for example, Treponema pallidum haemagglutination 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 and Gonorrhoea**
Selective testing for Chlamydia and Gonorrhoea should be considered for those with known risk factors or who may be at increased risk according to local prevalence and for pregnant women younger than 30 years. In areas of high prevalence repeat testing may be required\(^1\). These infections are a modifiable risk factor for spontaneous pre-term birth and untreated may cause neonatal and maternal complications postpartum.

**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).\(^3\) Consider referral to an appropriate specialist for counselling and planning postnatal follow up.

**Varicella**
Women booking for antenatal care should be asked about previous chickenpox/shingles infection.
Women who have not had chickenpox, or are known to be seronegative for chickenpox, should be advised to avoid contact with chickenpox and shingles during pregnancy and to inform healthcare workers of a potential exposure without delay.

**Cervical screening**
If a patient is due for screening, screening can be carried out safely at any time provided the correct equipment is used according to the National Cervical Screening Program. Refer to Cancer Council Australia Cervical Screening Guidelines.

**Screening for chromosomal conditions**
Refer to College Statement Prenatal Screening and Diagnosis of Chromosomal and Genetic Conditions in the Fetus in Pregnancy (C-Obs 59).

**Carrier Screening**
Refer to College Statement Genetic Carrier Screening (C-Obs 63).

### 3.1.2 Other tests that may be considered

**Screening for haemoglobinopathies**
Each region 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**
Do not test Vitamin D levels in pregnancy as part of routine pregnancy screening, regardless of maternal risk factors.

Refer to College Statement Vitamin and Mineral Supplementation in Pregnancy (C-Obs 25) for further information.

**Cytomegalovirus (CMV)**
Routine serological screening for CMV infection in pregnancy is not recommended. Early pregnancy screening with CMV IgG may be considered for women who come into frequent contact with large numbers of very young children (eg child care workers).
For more detail including advice to help women minimise the chance of acquiring CMV from an infected child refer to College Statement Prevention of Congenital Cytomegalovirus (CMV) Infection guideline (C-Obs 64).

**Toxoplasmosis**
Routine serological screening for toxoplasmosis infection in pregnancy is not recommended.
**TSH**
Do not routinely test pregnant women for thyroid dysfunction. Screening for thyroid dysfunction to be considered for at risk groups. Refer to College Statement Subclinical hypothyroidism and hypothyroidism in pregnancy (C-Obs 46).

**Maternal Mental Health Screening**
Depression is a common and serious issue in pregnancy and the postnatal period. Antenatal assessment should include an assessment of the mental health of the woman using the approach supported in your jurisdiction. In Australia this will generally be the Edinburgh Postnatal Depression Scale (EPDS). Further assessment of psychosocial risk assessment using a validated tool such as Antenatal Risk Questionnaire (ANRQ). Refer to College statement on Mental Health Care in the Perinatal Period (C-Obs 48)

**Family Violence**
It should be explained to all women that asking about family violence is a routine part of antenatal care. This should be done when the woman is alone, utilising the screening tool used in your jurisdiction. Women found to be at risk of family violence should be referred to an appropriate professional.

### 3.1.3 General advice

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

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

### 3.2 Subsequent visits during the antenatal period

All women should be advised to attend with a view to:

- Taking a proactive approach to preventive measures that optimise pregnancy and birthing outcomes;
- Obtaining advice that will assist the woman in preparation for labour, birth and the early puerperium;
- Ongoing assessment and treatment of any particular conditions or circumstances of relevance to the pregnancy;
- Obtaining general advice regarding common issues of concern in pregnancy.
- Being advised to sleep on their side from 28 weeks of pregnancy. Refer to
  - https://www.sleeponside.org.nz/
- Having a labour and birth discussion by 36 weeks regarding mode of delivery, analgesia etc.
3.2.1 Clinical assessment

All women should have a directed clinical assessment at each antenatal visit, with a focus on general wellbeing and early diagnosis of pregnancy complications.

3.2.2 Fetal growth assessment

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\textsuperscript{4} 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.\textsuperscript{5} 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.\textsuperscript{6}

It is recommended that the fundal height measurement is plotted on a customised antenatal growth chart and that early pregnancy risk selection is undertaken for fetal growth restriction with serial scanning recommended for women with specific risk factors. Refer to the following link - https://www.gestation.net/NewZealandalgorithm.htm

Concerns about fetal growth at any stage of pregnancy should be investigated using an endorsed approach such as that outlined in Perinatal Society of Australia & New Zealand position statement on Detection and Management of Women with Fetal Growth Restriction in Singleton Pregnancies (2019), or NZ MFM Network Guideline for the Management of Suspected Small for Gestational Age Singleton Pregnancies and Infants after 34 weeks gestation (2014)

Investigations recommended are:

*Obstetric ultrasound scan*

All women should be offered an obstetric ultrasound before 20 weeks' gestation. In New Zealand it is recommended that the first ultrasound of the pregnancy should ideally be offered when the gestational age is thought to be between 12 and 13+6 weeks’ gestation, to confirm viability, accurately establish gestational age, determine the number of viable fetuses, evaluate fetal gross anatomy and, if requested, assess the nuchal translucency (NT) as part of the risk assessment for aneuploidy.

An ultrasound for fetal morphology and placental localisation is recommended usually at 20 weeks gestation. Other scans may be indicated depending on individual circumstances.

*Gestational diabetes*

Screening for Gestational Diabetes Mellitus is recommended in all pregnant women. The screening approach used should be that endorsed by the local jurisdiction. In Australia that will be the 2014 ADIPS Consensus Guidelines for the Testing and Diagnosis of Hyperglycaemia in Pregnancy in Australia and New Zealand (2014). Guidelines for the Testing and Diagnosis of Hyperglycaemia in Pregnancy in Australia and New Zealand).
In New Zealand the 2014 Ministry of Health Guideline Screening, Diagnosis and Management of Gestational Diabetes in New Zealand is followed. 

**Group B Streptococcal Disease (GBS)**
Refer to College Statement Maternal Group B Streptococcus Maternal Group B Streptococcus in Pregnancy: screening and management (C-Obs 19).

**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). 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**
It is recommended that tests conducted at earlier antenatal visits be followed by further investigations early in the third trimester (28–32 weeks) and at the time of birth for women at high risk of infection or reinfection or in areas with an ongoing outbreak. Additional tests can be added to expand the testing schedule based on local needs. Consider repeat screening at 28 weeks in high-risk populations. In addition syphilis serology at 36w, birth and 6w post-partum in high prevalence areas and for women at high risk, reassess risk at each visit and test if required. For local issues and clinical management, refer to local guidelines.

**Vaccination**
Vaccination of pregnant women is strongly recommended to protect them against respiratory illness including Influenza and SARS COVID-19. Refer to College Statement Influenza Vaccination during Pregnancy (C-Obs 45). 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 between 20 and 32 weeks.

### 3.3 Tests of fetal wellbeing after 41 weeks
Tests of fetal wellbeing should be considered after 41 weeks gestation. Although there is a lack of high-level evidence on routine surveillance between 41 and 42 weeks. Women should be advised to be vigilant of a change (reduction) in fetal movements between 41 and 42 weeks. From 41 weeks, it may be reasonable to offer twice weekly cardiotocography and ultrasound to assess amniotic fluid index for surveillance of fetal wellbeing.

Detailed and frequent assessment of fetal wellbeing, including an assessment of liquor volume, is strongly recommended in pregnancies at or beyond 42 weeks gestation. However, adverse fetal outcome in late pregnancy is not always predicted by these investigations and the relative risks and benefits of further prolonging the pregnancy should be evaluated in each case. Women should be offered the option of IOL to reduce the risks associated with post-term pregnancy.
4. References


5. Other suggested reading


https://www.sleeponside.org.nz/
6. Links to other College statements

Pre-pregnancy Counselling (C-Obs 03a)

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

Diagnosis of Gestational Diabetes Mellitus (C-Obs 07)

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 (and in women planning pregnancy) (C-Obs 45)

Testing for hypothyroidism during pregnancy with serum TSH (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)
https://ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-
Appendices

Appendix A Women’s Health Committee Membership

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<th>Name</th>
<th>Position on Committee</th>
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<tr>
<td>Dr Scott White</td>
<td>Chair</td>
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<tr>
<td>Dr Gillian Gibson</td>
<td>Deputy Chair, Gynaecology</td>
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<tr>
<td>Dr Anna Clare</td>
<td>Deputy Chair, Obstetrics</td>
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<td>Associate Professor Amanda Henry</td>
<td>Member and Councillor</td>
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<td>Dr Samantha Scherman</td>
<td>Member and Councillor</td>
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<td>Dr Marilla Druitt</td>
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<td>Dr Frank O’Keeffe</td>
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<td>Dr Kasia Siwicki</td>
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<td>Aboriginal and Torres Strait Islander Representative</td>
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<td>Professor Kirsten Black</td>
<td>SRHSIG Chair</td>
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<tr>
<td>Dr Nisha Khot</td>
<td>Member and SIMG Representative</td>
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<tr>
<td>Dr Judith Gardiner</td>
<td>Diplomate Representative</td>
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<tr>
<td>Dr Angela Brown</td>
<td>Midwifery Representative, Australia</td>
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<tr>
<td>Ms Adrienne Priday</td>
<td>Midwifery Representative, New Zealand</td>
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<tr>
<td>Ms Leigh Toomey</td>
<td>Community Representative</td>
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<tr>
<td>Dr Rania Abdou</td>
<td>Trainee Representative</td>
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<tr>
<td>Dr Philip Suisted</td>
<td>Māori Representative</td>
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<tr>
<td>Prof Caroline De Costa</td>
<td>Co-opted member (ANZJOG member)</td>
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<tr>
<td>Dr Steve Resnick</td>
<td>Co-opted member</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 March 2022. 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 March 2022 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.

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<td></td>
<td>B Body of evidence can be trusted to guide practice in most situations</td>
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<td>C Body of evidence provides some support for recommendation(s) but care should be taken in its application</td>
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<td>Consensus-based</td>
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<td>Good Practice Note</td>
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Appendix C Full Disclaimer

Purpose
This Statement has been developed to provide general advice to practitioners about women’s health issues concerning routine antenatal assessment 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 person. 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 person with a need for antenatal assessment and the particular circumstances of each case.

Quality of information
The information available in Routine antenatal assessment in the absence of pregnancy complications (C-Obs 3b) is intended as a guide and provided for information purposes only. The information is based on the Australian/New Zealand context using the best available evidence and information at the time of preparation. While the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) had endeavoured 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. The use of this information is entirely at your own risk and responsibility. For the avoidance of doubt, the materials were not developed for use by patients, and patients must seek medical advice in relation to any treatment. The material includes the views or recommendations of third parties and does not necessarily reflect the views of RANZCOG or indicate a commitment to a particular course of action.

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Policy Version: Version 12.1
Policy Owner: Women’s Health Committee
Policy Approved by: RANZCOG Council/Board
Review of Policy: March/2027