The Royal Australian and New Zealand College of Obstetricians and Gynaecologists

College Statement
C-Obs 3 (b)
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C-Obs 3 (b)

Routine Antenatal Assessment in the Absence of Pregnancy Complications

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.

FIRST ANTENATAL VISIT IN PREGNANCY

All women should be advised to attend in early pregnancy with a view to:

1. Confirming pregnancy and establishing an estimated date of confinement (albeit that may alter after subsequent ultrasound examinations);
2. A comprehensive clinical assessment in order to determine any clinical conditions 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**.**

Clinical assessment

As always, of greatest importance is a careful medical history and thorough clinical examination. 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 Mean Corpuscular Volume as a potential indicator of an underlying Haemoglobinopathy.

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. This is particularly so given the low level of wild virus circulating in the community to boost women whose levels may fall below that of protection.

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 assay (TPPT). The non-specific Treponema pallidum assays, such as rapid plasma regain (RPR) test, although cheaper, are less likely to pick up latent infection.

Midstream urine
Biochemical analysis and culture.

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 antigen and viral replicative status (viral load) with liver function tests performed, and be referred for specialist support.

Hepatitis C serology
All pregnant women should be advised to have Hepatitis C screening in pregnancy. 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).The viral load helps predict the risk of perinatal transmission, being rare if Hepatitis C RNA PCR is negative at delivery but approximately a 6% risk if positive, proportional to the viral load.[1] Consider referral to an Infectious Disease specialist for counselling and planning postnatal follow up. This is a contentious area of practice, where some overseas centres do not screen for Hepatitis C in pregnancy because treatment is not recommended during pregnancy.

Varicella
Consideration should be given to checking varicella antibodies at the first visit where there is no history or uncertain history of previous illness.

Cervical cytology
A cervical (Pap) smear 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.

OTHER TESTS THAT MAY BE CONSIDERED

Screening for haemoglobinopathies
Each unit should have a defined policy for screening for haemoglobinopathies, taking into account the ethnic mix of patients screened. As a minimum, all women should be screened with Mean Corpuscular Volume (MCV) and Mean Corpuscular Haemoglobin Concentration (MCHC). Haemoglobin electrophoresis and iron studies should be performed in the event of thresholds not being reached. Consideration should also be given to the further screening of patients with DNA analysis for alpha-thalassaemia. Testing of normal-MCV women for haemoglobinopathies may be considered if they are members of high-risk groups.

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

Cytomegalovirus (CMV)
Screening for CMV infection in pregnancy is currently not recommended as a routine.

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.

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. Vitamin and mineral supplementation; see College Statement (C-Obs 25) Vitamin and Mineral Supplementation in Pregnancy through link below;
4. Model of care, expected visit frequency, place of booking for confinement, expected costs for both pregnancy and confinement where relevant;
5. Antenatal education options.

SUBSEQUENT VISITS DURING THE ANTENATAL CARE

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

1. Utilising the principles of preventative medicine to 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.

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. 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 localization usually at 18-20 weeks gestation. Other scans may be indicated depending on individual circumstances.

Screening for Down syndrome
Refer to College Statement (C-Obs 59) Prenatal Screening and Diagnosis of Chromosomal and Genetic Abnormalities in the Fetus in Pregnancy.

Gestational diabetes
Screening for Gestational Diabetes Mellitus is recommended in all pregnant women. See the original 1998 ADIPS Management Guidelines; Hoffman L, Nolan C and Simmons D. Gestational Diabetes Mellitus - Management Guidelines. Med J Aust 1998; 169 (2): 93-97.

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

Blood group antibody testing
Refer to College Statement (C-Obs 6) Guidelines for the use of Rh-D immunoglobulin (anti-D) in obstetrics in Australia; 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.

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

Cytomegalovirus/Toxoplasmosis

Selective testing for cytomegalovirus and toxoplasmosis is recommended only for those women at a substantially increased risk of acquiring an infection. Ideally such patients should be tested prior to pregnancy.

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 (C-Obs 45) Influenza Vaccination during Pregnancy; 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 post partum. 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.[2]

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 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 mandatory in pregnancies at or beyond 42 weeks gestation.

Chlamydia
Selective testing for Chlamydia should be considered for those who may be at increased risk (e.g. less than 25 years).

References

1. Palasanthiran P, Starr M, Jones C, editors. Management of perinatal infections. Sydney: Australasian Society for Infectious Diseases (ASID); 2002, Emendations 2006. Available at: http://www.asid.net.au/documents/item/368

2. Australian Government. The Australian Immunisation Handbook: 10th Edition 2013. In: Department of Health, editor. Canberra; 2013. Available at: http://www.immunise.health.gov.au/internet/immunise/publishing.nsf/Content/Handbook10-home

Links to other related College Statements

(C-Obs 03a) Pre-pregnancy Counselling
http://www.ranzcog.edu.au/component/docman/doc_download/1170-c-obs-03a-pre-pregnancy-counselling.html?Itemid=341

(C-Obs 06) Guidelines for the use of RhD immunoglobulin (anti-D) in Obstetrics in Australia
http://www.ranzcog.edu.au/component/docman/doc_download/940-c-obs-06-guidelines-for-the-use-of-rhd-immunoglobulin-anti-d-in-obstetrics-in-australia-.html

(C-Obs 07) Diagnosis of Gestational Diabetes Mellitus
http://www.ranzcog.edu.au/doc/diagnosis-of-gestational-diabetes-mellitus-gdm-c-obs-07.html

(C-Obs 19) Swabbing for Group B Streptococcus Maternal Group B Streptococcus in

Pregnancy: screening and management
http://www.ranzcog.edu.au/component/docman/doc_download/953-c-obs-19-screening-and-treatment-for-group-b-streptococcus-in-pregnancy.html

(C-Obs 25) Vitamin and Mineral Supplementation in Pregnancy
http://www.ranzcog.edu.au/component/docman/doc_download/958-c-obs-25-vitamin-and-mineral-supplementation-in-pregnancy.html?Itemid=341

(C-Obs 44) Pre-pregnancy and Pregnancy Vaccinations
http://www.ranzcog.edu.au/component/docman/doc_download/977-pre-pregnancy-and-pregnancy-vaccinations-c-obs-44.html?Itemid=946

(C-Obs 45) Influenza Vaccination during Pregnancy
http://www.ranzcog.edu.au/component/docman/doc_download/978-c-obs-45-influenza-vaccination-for-pregnant-women.html?Itemid=341

(C-Obs 46) Testing of serum TSH levels in Pregnant Women
http://www.ranzcog.edu.au/component/docman/doc_download/1080-c-obs-46-testing-of-serum-tsh-levels-in-pregnant-women.html?Itemid=341

(C-Obs 50) Management of Hepatitis B in Pregnancy
http://www.ranzcog.edu.au/component/docman/doc_download/900-hepatitis-b-in-pregnancy-management-of-c-obs-50.html?Itemid=946

(C-Obs 51) Management of Hepatitis C in Pregnancy
http://www.ranzcog.edu.au/component/docman/doc_download/901-hepatitis-c-in-pregnancy-management-of-c-obs-51.html?Itemid=946

(C-Gen 02a) Consent and provision of information to patients in Australia regarding proposed treatment
http://www.ranzcog.edu.au/component/docman/doc_download/899-c-gen-02-guidelines-for-consent-and-the-provision-of-information-regarding-proposed-treatment-.html

(C-Gen 02b) Consent and provision of information to patients in New Zealand regarding proposed treatment
http://www.ranzcog.edu.au/component/docman/doc_download/1460-consent-and-provision-of-information-to-patients-in-new-zealand-regarding-proposed-treatment-c-gen-02b.html?Itemid=946

(C-Gen 15) Evidence-based Medicine, Obstetrics and Gynaecology
http://www.ranzcog.edu.au/component/docman/doc_download/894-c-gen-15-evidence-based-medicine-obstetrics-and-gynaecology.html?Itemid=341

Patient Resources

RANZCOG patient information pamphlet:
Antenatal care and routine tests during pregnancy - a guide for women (July 2002).

Other suggested reading

New Zealand Ministry of Health. Immunisation Handbook: 6th Edition 2014
Ministry of Health, editor. Wellington 2014. Available at: http://immunisation.book.health.govt.nz/

Revision of guidelines for the management of gestational diabetes mellitus, Letter to the Editor, J J N Oats and H D McIntyre, MJA September 2004. Available at:
http://www.mja.com.au/public/issues/181_06_200904/letters_200904_fm-2.html

L Hoffman, C Nolan, J D Wilson, J J N Oats and D Simmons. ADIPS Gestational diabetes mellitus – management guidelines. MJA 1998; 169: 93-7.

Antenatal Care: Routine care for the healthy pregnant woman, NHS and NICE October 2003. Available at: http://cpd.screening.nhs.uk/choicestoolbox/docs/antenatal-care.pdf

Munns C, Zacharin MR, Rodda CP, Batch JA, Morley R, Cranswick NE, Craig ME, Wayne S, Cutfield WS, Hofman PL, Taylor BJ, Grover SR, Pasco JA, Burgner D and Cowell CT. Prevention and treatment of infant and childhood vitamin D deficiency in Australia and New Zealand: a consensus statement. MJA 2006; 185 (5): 268-272. Available at: http://www.mja.com.au/public/issues/185_05_040906/mun10153_fm.html

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