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College Statement

Title	**Antenatal Screening Tests**
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Statement

Fundamental to antenatal care is the early detection of variations from the norm, so that potential sequelae to the mother or her fetus can be avoided or minimised. Most important is a detailed medical history and clinical examination in early pregnancy, followed by diligent clinical review during the antenatal period.

The initial antenatal visit is often the first time an apparently 'healthy' woman has had a detailed medical history and physical examination performed, with specific laboratory testing for a range of conditions. This can provide information which may significantly alter the subsequent management of her pregnancy and may be useful for the provision of her long-term health care.

As with any test or procedure, these investigations should only be undertaken with the informed consent of the patient after adequate and appropriate counseling as to the implications, limitations and consequences of such investigation.

Tests recommended at the first antenatal visit of each pregnancy:

1. **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.

2. **Full blood examination**

3. **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.

4. 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.

5. Midstream urine

Examination by culture, e.g. dipslide.

6. Screening for Viral Infections in Pregnancy

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.

6.a. Hepatitis B serology
All pregnant women should be recommended to have Hepatitis B screening in pregnancy.

6.b. HIV

All pregnant women should be recommended to have HIV screening at the first antenatal visit and at 28 weeks.

6.c. Hepatitis C serology
All pregnant women should be recommended to have Hepatitis C screening in pregnancy.

However it is acknowledged that this is a contentious area of practice.

6.d. CMV serology
Screening for CMV infection in pregnancy is currently not recommended as a routine. (A link to the Consensus Statement Prepared by the CMV in Pregnancy Working Group will be added when available. Jul 08)

Other tests that may be considered:

1. Cervical cytology

Documented normal cervical cytology within the recommended screening interval may be used to delay repeat screening if there is no clinical indication for another Papanicolaou (PAP) smear. There is no evidence to suggest that a PAP smear in pregnancy is harmful.

2. Vitamin D
To prevent vitamin D deficiency in infants, pregnant women, especially those who are dark-skinned, veiled or otherwise at risk, should be tested and treated for vitamin D deficiency. Breastfed infants of at risk mothers should be supplemented with vitamin D for the first 12 months of life.

3. 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 MCV and 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.

4. Varicella

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

Tests after the First Antenatal Visit:

1. 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 and to assess/confirm dates.

2. Screening for Down Syndrome

Refer to C-Obs 4 Antenatal Screening for Down syndrome and other fetal aneuploidy, (see link below).

3. Gestational Diabetes

Screening for Gestational Diabetes Mellitus is recommended in all pregnant women. The original (1998) ADIPS guidelines are available at:
http://www.mja.com.au/public/issues/jul20/hoffman/hoffman.html

4. Group B Streptococcal Disease (GBS)

Refer to C-Obs: 19 Swabbing for Group B Streptococcus, (see link below).

5. Blood group antibody testing

Refer to 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.

6. Iron deficiency

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

7. 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.

8. Syphilis

Syphilis screening should be repeated at 28 weeks in high-risk populations.

9. 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.

10. Chlamydia

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

Links to other related College Statements

C-Obs 4 Antenatal screening for Down Syndrome and other fetal aneuploidy

C-Obs 6 Guidelines for the use of RhD immunoglobulin (anti-D) in obstetrics in Australia

C-Obs 7 Diagnosis and management of gestational diabetes

C-Obs 19 Swabbing for Group B Streptococcus

C-Gen 2 Guidelines for consent and the provision of information regarding proposed treatment

C-Gen 3 Hepatitis B

C-Gen 4 Hepatitis C

Patient Resources

RANZCOG patient information pamphlets:
Antenatal care and routine tests during pregnancy - a guide for women (July 2002)
Prenatal Screening tests for Down syndrome and other conditions (July 2002)

References

1. 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.
http://www.mja.com.au/public/issues/181_06_200904/letters_200904_fm-2.html

2. ADIPS Gestational diabetes mellitus – management guidelines, L Hoffman, C Nolan, J D Wilson, J J N Oats and D Simmons, MJA 1998; 169: 93-97.
http://www.mja.com.au/public/issues/jul20/hoffman/hoffman.html

3. Antenatal Care: Routine care for the healthy pregnant woman, NHS and NICE October 2003.
http://www.rcog.org.uk/resources/Public/Antenatal_Care.pdf

3. 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.
http://www.mja.com.au/public/issues/185_05_040906/mun10153_fm.html

Disclaimer

This College Statement is intended to provide general advice to Practitioners. The statement should never be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of each patient.

The statement 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, and the application of this statement in each case. In particular, clinical management must always be responsive to the needs of the individual patient and the particular circumstances of each case.

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

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