The Microbiological Screening Programme:
Microbiological screening tests for all those infections currently included in the UK antenatal screening programme:

- Treponema pallidum (syphilis) antibody.
- Hepatitis B surface antigen.
- HIV 1&2 antibodies.

Discretionary Testing:
- Hepatitis C antigen testing can be performed on request.

The purpose of microbiological screening in pregnancy is:
- To identify infection which could be harmful to the fetus or baby.
- Reduce the risk to the baby.
- Support control with appropriate management.

Tests are normally performed once in pregnancy on booking samples. Testing is fully automated and benefits from the scale and security of NHSBT donation testing facilities. Microbiology confirmatory testing is provided by a UKAS accredited NHS Trust.

For further information, please visit our website http://hospital.blood.co.uk/ or contact:

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Testing women for ABO, RhD and screening for irregular antibodies are key elements in the prevention and treatment of Haemolytic Disease of the Fetus and Newborn (HDFN). NHS Blood and Transplant (NHSBT) has great expertise and experience in blood grouping and the detection and identification of antibodies. The Red Cell Immunohaematology (RCI) department has the infrastructure, scientific and clinical knowledge to deliver an antenatal screening service across England.

More women are electing to give birth in hospitals of their choice rather than in the closest hospital. NHSBT maintains a national patient database (Sp-ICE) which enables health care professionals to have access to NHSBT reports at the hospital where the woman chooses to receive antenatal care. This direct access to information supports better transfusion therapy and enhances safety.

Key Points:
- RCI laboratory staff have expertise working with hospital professionals to support their needs and help ensure the best outcome for patients.
- Our antenatal screening services are complemented by reference red cell serology and antibody monitoring.
- Our serologists are capable of quickly dealing with very complex investigations with access to rare blood group components sourced from the UK Frozen Blood Bank.
- We provide automated testing, with positive sample identification.
- All our RCI laboratories are ISO 15189 accredited by the United Kingdom Accreditation Service (UKAS).
- Our centres have secure transport links with all hospital transfusion laboratories.

The Antenatal Red Cell Screening Programme

The Antenatal Red Cell Screening Programme for the Prevention of HDFN provides:
- ABO and RhD type.
- A screen for red cell alloantibodies, supported by reference serology, using testing protocols which comply with the relevant British Society for Haematology (BSH) guidelines (www.b-s-h.org.uk/guidelines) and the Royal College of Obstetricians & Gynaecologists (RCOG) Green-top Guidelines (www.rcog.org.uk/guidelines).

The objectives of the screening programme are:
- Identify RhD negative women who may need anti-D prophylaxis.
- NICE recommend non-invasive prenatal fetal RhD screening, from 11+ weeks gestation, for all RhD negative women. Giving anti-D prophylaxis only to those who need it.
- Please note that the fetal RhD screening test requires a separate sample and is only available to NHS Trusts who have signed a contract for this service. See contact detail at the end of the leaflet for further information.
- Supply a blood group card with explanatory notes to all RhD negative women screened by RCI.
- Detect and identify red cell antibodies which have the potential to cause HDFN.
- Identify pregnancies at risk of HDFN due to maternal antibodies.
- Simplify the pre-transfusion testing needed in providing blood urgently for obstetric emergencies.
- Plan transfusion support for mothers with rare antibodies.

When red cell antibodies are present during pregnancy the follow-up investigations are:
- Monitoring the maternal antibody concentration:
  - Anti-D and anti-c are quantified against international standards and are reported as IU/mL.
  - The concentration of other clinically significant antibodies is assessed by titration.
- In both cases reports include advice as to the clinical significance of the antibody, monitoring, frequency and transfusion support.
- Complex cases are referred for review to consultant haematologists.
- Detection and identification of possible further antibodies. Those who develop one antibody are more likely to develop additional antibodies.
- Fetal genotyping if required.

The objectives of the follow-up tests are:
- Identify the fetuses which may need treatment before term.
- Predict which infants might require treatment and should be monitored carefully after birth.
- Provide information to underpin medical advice on the management of the pregnancy.
- Allow planned provision of suitable units for intra-uterine or exchange transfusion.