1. **Introduction and who the guideline applies to:**

This guideline is intended for the use of all health professionals involved in the care of all pregnant women in both Primary and Secondary care settings. It covers the information to be given to women about the bloods and the urine tests which are offered at booking excluding those for screening for Down’s syndrome. The guidance aims to ensure women understand the implications and consequences of agreeing to these tests and the further assessment and management they may be offered.

**Background:**

The booking bloods and urine tests that are offered are as follows:

- Blood Grouping, Rhesus factor and antibody detection
- Infectious diseases screening including HIV, Hepatitis B and Syphilis.
- Sickle cell and Thalassaemia
- Full blood count
- MSU
2. **Recommendations:**

1. All pregnant women booking with the University Hospitals of Leicester NHS Trust are offered blood grouping, antibody testing, Infectious Diseases screening, screening for Sickle Cell and Thalassaemia, full blood count and midstream specimen of urine testing at the first booking visit.

2. All blood tests submitted to the Laboratory must fit the required criteria for testing.

3. Screen negative results should be sent by the laboratory to the requestor and communicated to the woman.

4. Appropriate action should be taken where the result is not available.

5. Detection of a red cell antibody should be managed appropriately.

6. Abnormal full blood count and urine test results should be reviewed should be sent by the UHL laboratory to the requestor.

7. Positive results from Infectious diseases screening should be telephoned and faxed by the UHL laboratory to the Specialist Midwives for Blood Borne Infections and a copy of the report sent to the requestor and the booking Hospital.

8. Clinically Significant Sickle Cell and Thalassaemia results should be managed as per the Sickle Cell and Thalassaemia in Pregnancy Screening Guideline.
Recommendation One:

All pregnant women booking with University Hospitals of Leicester NHS Trust are offered blood grouping and antibody testing, Infectious disease screening, screening for Sickle Cell and Thalassaemia, full blood count and midstream specimen of urine testing at the first booking visit.

- At the first contact with the Community Midwife (booking appointment) the woman is given verbal information about the tests that are available. This is to ensure she understands the implications of these tests to enable her to make an informed choice.

- The tests for you and your baby leaflet should be given

- The offer, consent and sample taken for each test should be documented in the Maternity health records.

- Where the woman has declined a screening test please refer to the relevant screening test guideline

- Where a woman has declined other booking bloods such as full blood count and blood group and rhesus factor she should be referred to a consultant clinic for further discussion. Women may be signposted straight to clinical psychology if they report a severe needle phobia.

- The Community Midwife remains the point of contact for the woman should she have any further queries or concerns.

- Women presenting unscreened/unbooked in labour – refer to appendix 1.

- Interpreting services should be used where appropriate, reference can be made to the ‘Accessing Interpreters’ (Maternity Unit, UHL, 2011) guideline
Recommendation Two:

All blood tests submitted to the Laboratory must fit the required criteria for testing.

**UHL samples:**
- The dedicated UHL Antenatal request form for blood group, antibodies and infectious diseases screening must be fully completed.
- Use 7.5ml EDTA bottle for blood grouping and 4.9ml gel bottle for infectious diseases screening. Both bottles should be full and dispatched to the Lab immediately.
- If NHS number is available this must be used on both the form and the sample bottles.
- If NHS number is not available the reason for this must be documented on the form. The first line of address used on the form and sample bottles and Lab informed of NHS number in retrospect when available.
- Information such as known antibody or anti-D prophylaxis must be included on the form.
- DO NOT use addressograph labels on the sample bottles.
- Rejected samples must be repeated within 10 working days of the Lab informing maternity services that a repeat sample is required.
  - A monthly list is also created by the Lab and sent to the screening co-ordinator to highlight which repeat samples have not been received by the Lab.
  - The screening co-ordinator checks this list for women who have miscarried or given birth and plans care accordingly for these women.
  - Community team leaders are informed of women still requiring repeat samples and a repeat sample is arranged with the woman.
  - Women who remain on the list for longer than a month are highlighted in red/amber for teams to be aware that the repeat sample is urgent and incident forms are completed by the Lab and sent to the Senior Midwife for Community services.

**Haemoglobinopathies:**
- Leicestershire Antenatal Family origin request form to be submitted with all samples unless using electronic requesting through ICE system.
- Purple bottle to be submitted with the top copy of the form. Bottom copy of the form should be retained in the woman’s notes.
- FBC must always be submitted with a haemoglobinopathy screening sample.

Refer to Sickle cell and Thalassaemia screening in pregnancy guideline for further details.
The antenatal and Newborn screening team provide quarterly cohort matched data for the KPI’s and to failsafe the Haemoglobinopathy and Infectious diseases screening programmes. This process is outlined in appendix 2.

**Recommendation Three:**

Screen negative results should be sent by the laboratory to the requestor and communicated to the woman.

- Screen negative results are sent from the laboratory to the requestor.
- These results are given to the woman at the first appointment after booking.
- These results are documented in the Maternity health records.
- If the woman requires further or more detailed discussion about her result she is referred to the Antenatal Core Midwives or the Specialist Midwives/Nurse depending on the test.

**Recommendation Four:**

Appropriate action should be taken if a result is not available

- If the health professional identifies that the result is not available at the follow up appointment they contact the laboratory to check their records.
- If there is no result available the test should be repeated and a further appointment made for the woman to receive her result.

**Recommendation Five:**

Detection of a red cell antibody should be managed appropriately

- A newly detected or rising antibody result is telephoned to the Antenatal Core Midwives
- The result is confirmed by fax and hard copy.
• The Antenatal Core Midwife documents the result in the Hospital notes on receipt of the fax. Relevant antibodies requiring consultant referral include:
  o D,
  o c,
  o K
  o Any other red cell antibody as requested by an Obstetrician or Haematologist.

• An appropriate appointment for a consultant Led Clinic is identified.

• The Antenatal Core Midwives inform the woman of her abnormal result by telephone and she is informed of the appointment for her to attend the consultant Led Clinic.

• A contact number for further enquiries is given.

• Any red cell antibodies that do not require further treatment antenatally, should have the pre-printed intrapartum care plan for red cell antibodies completed and filed in the Hospital notes with the relevant “alert” sticker highlighting the potential risk for cross matching.

**Recommendation Five:**

Abnormal full blood count test and urine test results are sent by the UHL laboratory to the requestor

• Abnormal full blood count and urine results are managed on an individualised basis depending on the result and the history. The Midwife should inform the woman of this result.

• The Midwife is responsible for ensuring referral and treatment takes place.

• The GP should be the first point of referral for treatment of anaemia or urinary tract infection.

**Recommendation Seven.**

Positive results from Infectious diseases screening

• For positive infectious diseases screening refer to the relevant UHL guideline.
3. **Education and Training:**

- Antenatal and newborn (ANNB) screening training is provided as part of induction training for midwives, obstetricians and midwifery care assistants.
- ANNB screening training is provided on annual mandatory training for midwives and children’s nurses.

4. **Monitoring Compliance:**

- ANNB screening is monitored through the screening Key Performance Indicators (KPI’s) and annual data returns the National screening committee programme centre.
- Quarterly ANNB screening programmes boards chaired by NHS England, alongside PHE QA teams monitor the annual and quarterly data returns from UHL.

5. **Supporting References:**

- UHL Hepatitis B & Syphilis screening in pregnancy guideline
- UHL HIV in pregnancy guideline
- UHL Down’s, Edwards’ and Patau’s screening

6. **Keywords:** Downs Syndrome, Patau’s syndrome, Edwards syndrome, screening, Trisomies, booking bloods, blood group and rhesus factor, infectious diseases screening, full blood count, MSU

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**DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT**

<table>
<thead>
<tr>
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**Approved by:** Maternity Service Governance Group

**Date Approved:** 18 07 18 November 2018

**REVIEW RECORD**

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<td>July 2018</td>
<td>As above</td>
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<td>Removal of Rubella screening from the antenatal infectious diseases screening programme Change of screening lab details Change of process for women who decline booking bloods</td>
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**DISTRIBUTION RECORD:**

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<td>8 18</td>
<td>All Midwives and Obstetricians</td>
<td>Maternity</td>
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Appendix 1 – Checklist for women unscreened/unbooked in labour.

<table>
<thead>
<tr>
<th>Blood test required</th>
<th>Sample bottle</th>
<th>Form</th>
<th>Sign &amp; date when sample taken</th>
<th>Sign and date result received</th>
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<tbody>
<tr>
<td>FBC</td>
<td>Red EDTA 4.5ml</td>
<td>UHL Combined Haematology/Paediatics</td>
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<td>HIV point of care test</td>
<td>Point of care test kit on delivery suite</td>
<td>Document in notes if the was offered but declined by patient</td>
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<td>Virology - URGENT request for HIV, Hep B and Syphilis</td>
<td>White blood count</td>
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<td>Neonatal inpatient screening</td>
<td>Purple bottle</td>
<td>Dedicated UHL neonatal inpatient screening form</td>
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PLEASE NOTE - ALL BLOOD RESULTS SHOULD BE DOCUMENTED WITHIN 24 HOURS OF THE SAMPLE BEING TAKEN or a clear plan made to follow up results.
Appendix 2 – Cohort matching process for Haemoglobinopathy and Infectious Diseases screening in pregnancy.

In order to complete the quarterly KPI’s the booking cohort of women are compared to samples received in the Lab.

The booking cohort is rigorously checked for accuracy by the screening team in order to complete the failsafe process for Down’s syndrome screening. This provides accurate data on booking gestation, miscarriages/TOP’s and women who move away prior to screening.

The “booking cohort” is sent to the relevant screening laboratory and a data analyst matches the women with the sample received and tested in the Lab. Any “missing” samples are reported back to the screening team.

Management of “missing samples”.

The data is checked for accuracy and each woman reviewed on an individual basis to see if they have moved away, miscarried/TOP’d or given birth.

- Any women who are still pregnant without having screening are referred back to their named Midwife to arrange screening.
- Women who have miscarried/TOP’d and do not have a conclusive result for screening are sent a letter informing them of this and offering repeat screening.
- The notes of any woman who have given birth are investigated and if it is found that screening in pregnancy has been missed the woman would be offered screening in the postnatal period.