North West Anglia NHS Foundation Trust  
Department of Pathology

Venepuncture and blood sample collection procedures.

The Pathology Department at the North West Anglia NHS Foundation Trust utilises the Sarstedt blood collection system, below is a brief description of the procedures that should be followed when undertaking venepuncture. All users should note compliance with these procedures for phlebotomy/venepuncture is a minimum requirement for the utilisation of the Pathology service at North West Anglia NHS Foundation Trust.

All users should ensure individuals who undertake venepuncture procedures are suitably trained and assessed for competency periodically and refer to their local venepuncture Standard Operating Procedure for further guidance.

1. Prior to undertaking the procedure, the phlebotomist should ensure their hands are thoroughly cleaned with an alcohol gel and/or soap and water.
2. Ensure the patient is suitably prepared for the procedure (for example, where indicated check the patient has fasted, etc.).
3. Ask the patient to confirm their full name and date of birth, and home address. Check these against the request form provided by the requesting clinician.
4. Prepare the equipment; a safety needle, alcohol wipe, cotton wool and a tourniquet are required. Ensure you have all required bottles for the tests selected.
5. Maintain sterility of the needle by keeping the cover on until required. Place the needle on the first sample bottle (ensure you have the correct draw order, see appendix 1), do not vacuum the first bottle (other bottles may be vacuumed at the discretion of the phlebotomist).
6. Inspect the patient’s arm and locate a suitable vein. Apply the tourniquet on the appropriate arm, causing the vein to swell.
7. Open the alcohol wipe and clean the area of venepuncture and allow the skin to dry.
8. Remove the cover of the needle (taking care to maintain sterility) and ensuring the bevel of the needle is uppermost, insert the needle into the vein.
9. Pull the specimen tube plunger creating a vacuum in the bottle and drawing blood into the tube.
10. Collect all tubes required in the correct order. (see below correct order)
11. Remove pressure from the tourniquet.
12. Disconnect sample from needle.
13. Place the cotton wool over the end of the needle and draw out of the arm. Ask the patient to apply pressure to the cotton wool or apply tourniquet over the cotton wool.
14. Label the specimens immediately at the patient’s side with the required details (patient’s full name, date of birth, patient number if available, date and time of collection and location). For specimens for transfusion requests, in the absence of a patient number the sample should be labelled with the patient address.
15. Fill in the time and date of collection on the request form and sign form.
16. Specimens taken from ‘high risk’ patients (e.g. patients with blood borne virus infections such as HIV, Hepatitis B or C), specimens should be labelled with yellow high risk stickers.
17. Apply a plaster, or clean cotton wool and micropore tape, to the site of venepuncture.
18. Ensure all waste is appropriately disposed, needles should be disposed in a biological sharps bucket.
19. Send the specimens with the corresponding request form(s) in the appropriate sample bag compartments to the Peterborough Pathology laboratory further details see appendix 1.

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Specimen bottles Draw Order

Please note separate bottles are required for each department, i.e. Clinical Biochemistry, Immunology, Microbiology, etc.

For the majority of other tests, it is recommended that bottles are half-filled at a minimum. For further advice on individual specimen volumes, please contact the individual laboratories concerned.

Specimens should be collected in the order listed below. Failure to follow this order may result in the invalidation of a number of assays and unnecessary repeat venepuncture.

For full test repertoire and bottle type see please see individual departments on the Pathology website [http://www.pch-pathlab.com/cms/](http://www.pch-pathlab.com/cms/)

<table>
<thead>
<tr>
<th>Draw order</th>
<th>Tube colour</th>
<th>Picture</th>
<th>Contents</th>
<th>Key Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Brown</td>
<td></td>
<td>Clotted serum, gel barrier</td>
<td>Clinical Biochemistry, Immunology, some Microbiology</td>
</tr>
<tr>
<td>2nd</td>
<td>Green</td>
<td></td>
<td>Citrate</td>
<td>Coagulation</td>
</tr>
<tr>
<td>3rd</td>
<td>Orange</td>
<td></td>
<td>Lithium heparin</td>
<td>Clinical Biochemistry</td>
</tr>
<tr>
<td>4th</td>
<td>Purple</td>
<td></td>
<td>Citrate</td>
<td>ESR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NB: not applicable for Peterborough Laboratories</td>
</tr>
<tr>
<td>5th</td>
<td>Red (3.4.ml, small)</td>
<td></td>
<td>EDTA</td>
<td>Haematology (FBC, ESR), HbA1c,</td>
</tr>
<tr>
<td>6th</td>
<td>Red (7.5.ml, large)</td>
<td></td>
<td>EDTA</td>
<td>Cross match, group and save, PCR tests</td>
</tr>
<tr>
<td>7th</td>
<td>Yellow</td>
<td></td>
<td>Fluoride, EDTA</td>
<td>Glucose, lactate, PTH</td>
</tr>
</tbody>
</table>

It is essential to gently and thoroughly MIX all anticoagulant samples by gently tilting the bottle three or four times.

Mixing immediately after venepuncture is particularly important for the EDTA (red) bottles.

When obtaining blood for Coagulation studies it is essential that the bottle is filled to the line.

For Spillage advice: Contact the laboratory 01733 678455 for advice in cases of specimen spillages.

For Instructions or queries for online ordering of Sarstedt bottles and other consumables please contact the Laboratory on 01733 678468.