Blood Transfusion Laboratory
User Guide

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Introduction

This user guide provides information about the services provided by the Blood Transfusion Laboratory for North Tees & Hartlepool NHS Foundation Trust and how to access them. It is intended for use by clinical and scientific staff that are involved in providing transfusion support and testing for the patients they care for.

Also provided are lists of relevant telephone numbers for Consultant and Senior staff for advice, as well as numbers for general and results enquiries.

Our laboratory is based at University Hospital of North Tees. Our services include routine blood grouping and antibody screening, antenatal testing and issue of blood and blood products when required. A 24/7 service is provided by the Blood Transfusion Laboratory.

There is a satellite laboratory at University Hospital Hartlepool (UHH) where specimens can be dropped off and blood and blood products can be collected, by prior arrangement with the Laboratory. No specimen processing or testing is carried out on site at UHH Laboratory.

This user guide includes the testing, blood and blood products available, specimen and request form requirements and blood availability times.

The Blood Transfusion Laboratory participate in External Quality Assurance Schemes through UK NEQAS. The laboratory is accredited to UKAS ISO 15189:2022 standards and is regulated by the MHRA. Quality is overseen by the Operational and the Technical Lead BMS for Blood Transfusion.

If you require any further information or advice or would like to visit the Blood Transfusion Laboratory please contact a Blood Transfusion Lead BMS, Senior BMS or the Transfusion Coordinator (contact details are available on page 4).

Departmental Telephone Numbers

General Pathology NT

Pathology Reception	24464

Blood Transfusion Laboratory

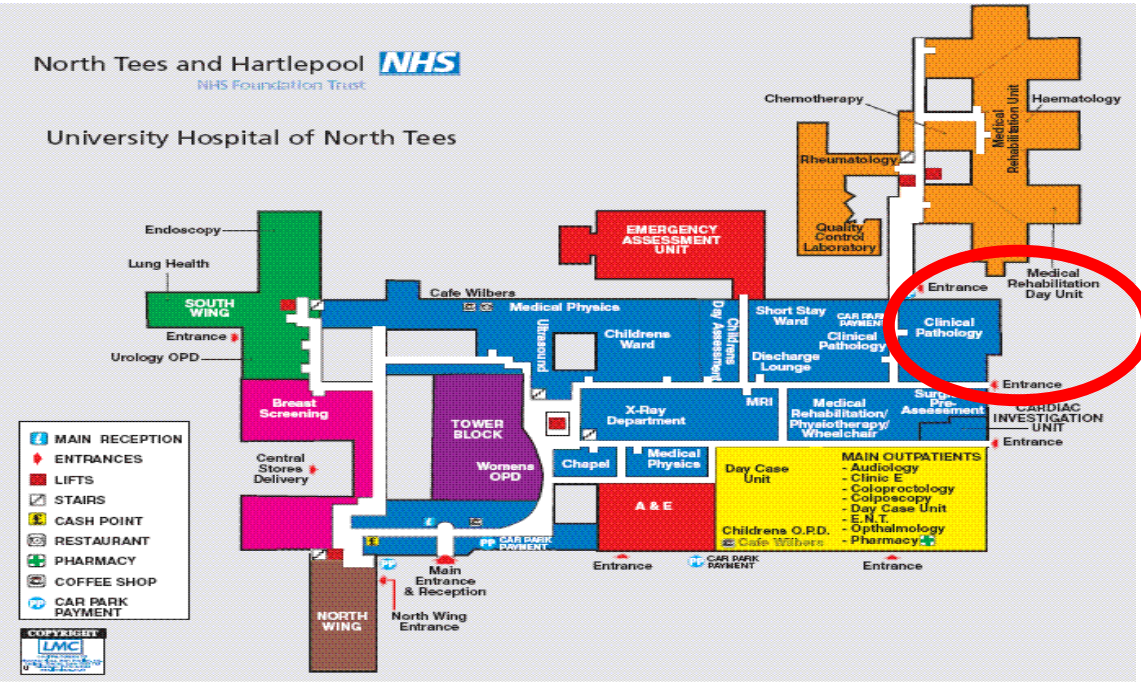
Blood Transfusion Laboratory (Mon-Fri 0900-1700)	24444
Blood Transfusion Laboratory (Mon-Fri 1700-0900 & all Weekend)	46350
Consultant Haematologist- North Tees	Contact Switchboard (01624 617617)
Consultant Haematologist – South Tees	Contact Switchboard (01624 850850)
On Call Consultant Haematologist	Contact Switchboard (01624 617617)
Helen Baxter (Operational Lead Scientist – Tees Valley Pathology) helen.baxter7@nhs.net	NT 83753 JCUH: 01642 282632
Farrakh Azam (Technical Lead Scientist – Tees Valley Pathology) farrakh.azam1@nhs.net	NT: 83753 JCUH: 01642 282632
Christopher Broadbent (Senior Biomedical Scientist for Transfusion) Christopher.Broadbent@nhs.net	83753
Debbie Cox (Transfusion Co-ordinator) debra.cox10@nhs.net	22629
Daniella Winterburn (Blood Sciences Service Manager – Tees Valley Pathology)	01642 854613

Location and Map

The postal address is: -

Blood Transfusion Laboratory
Clinical Pathology
University Hospital of North Tees
Hardwick Road
Stockton On Tees
TS19 8PE

The Blood Transfusion Laboratory is located within Clinical Pathology, which is located just off corridor 2 in-between the cardiac investigation unit and the elderly care entrances.



Hours of Opening

North Tees: The Blood Transfusion Laboratory provides a 24/7 service and can be contacted by telephone at all times.

Hartlepool: The Pathology Laboratory at UHH is located within the X-ray Department and is open Monday – Friday 0900 – 1630 (outside these hours contact the Blood Transfusion Laboratory at UHNT)

Requesting Analyses

The collection of the blood sample from the patient and the subsequent labelling of the sample tubes should be performed as one continuous, uninterrupted event at the patient's (bed) side, involving one patient and one member of staff only. All staff involved in sample collection should be competency assessed to NPSA SPN 14 (2006)

The introduction of a **'zero tolerance'** approach to labelling of transfusion requests has been ratified by the University Hospital Tees Hospital Transfusion Committee and the Trust Medical Director.

Reference should also be made to the Trust policy C47 – Management of Diagnostic Testing Procedures.

Transfusion requests must provide sufficient information to determine the identity of the patient from whom the sample was taken, the date that the sample was taken and the identity of the sample taker.

Samples for transfusion testing must be accompanied by a completed transfusion request form. The information on sample tube and request form must match and be legible and accurate. Request forms may be completed on ICE or by hand but the sample label must be handwritten. Stickers such as ICE labels and addressographs are not acceptable on transfusion samples. It is the responsibility of the sample taker to check that the patient's details have not changed since labels were printed.

If Feto-maternal Haemorrhage estimation is required a Kleihauer form must be completed.

The patient must be uniquely identified on the request form and the specimen and all details must match. The following details must be present:

- Forename
- Surname
- Date of Birth
- NHS number (and/or Hospital Number)
- Blood takers signature (& printed name on form)
- Date & Time taken

} Must match on form and specimen

- Gender assigned at birth
- Requesting Clinician & Location
- Clinical Details and / or indication codes
- If patient pregnant currently or in last 3 months and details of previous anti-D prophylaxis
- Tests Requested
- Products required (date & time required)
- Special requirements (e.g. irradiated)
- Previous Known Antibodies
- Requesting clinicians details
- NHS/ private patient

Only required on form

All the data on the form and specimen must be legible.

In **very exceptional** cases such as newborn babies, where the NHS number or registration number is not available when the patient is bled, the home address can be used as an alternative to the NHS/ registration number. **Acceptance of the home address as an identifier will be on a case-by-case basis, to be agreed only by a Senior BMS before the specimen is taken. If such a request is received in the Laboratory with no prior arrangement the specimen will be rejected immediately.** *NOTE: that the home address must be complete – the post code alone is not acceptable.*

The transfusion services across University Hospital Tees operate on a **strict zero tolerance** policy and no amendments to the specimen or request form are acceptable prior to the sample being received in the laboratory. Any amendments made will result in sample rejection, including but not limited to:

- Overwriting of letters/ numbers
- Strikethrough of an error, including those initialled by the blood taker
- Any amendments to the sample once it has been received in the transfusion laboratory

Requesting Urgent Analyses

For urgently required blood and blood products please telephone the Blood Transfusion Laboratory when the request is sent.

Refer to the Trust Transfusion Policy for more information and the Major Haemorrhage Protocol - Practice Relating to the Transfusion of Blood & Blood Products Policy (C16)

Specimen Bottles

6.0ml Pink top EDTA specimens are required for all transfusion testing. A smaller EDTA specimen can be accepted for paediatric or neonate patients, but the labelling requirements for transfusion specimens must be adhered to.
An adequate sample is required (4-5mls for adults, approx. 1-2mls for paediatric patients, 0.5ml for babies in paediatric bottles). Inadequately filled samples may lead to the rejection of the sample or delay in the provision of blood products.

Testing Performed

- ABO grouping & RhD typing
- Antibody screening
- Antibody Identification
- Rh phenotyping
- Prophylactic Anti-D (PAD) screening
- Feto-Maternal Haemorrhage estimation
- Serological crossmatching
- Direct Coombs Test (DCT / DAT)

Further specialist testing is available by referral to NHSBT to the Red Cell Immunohaematology Laboratory and the Histocompatibility and Immunogenetics Laboratory. For further information please telephone the Blood Transfusion Laboratory or see hospital.blood.co.uk

Products Available

- Packed RBC's
- Platelets (pooled and apheresis)
- Fresh Frozen Plasma
- Cryoprecipitate

Neonatal/paediatric 'splits' available on request

- Anti-D immunoglobulin (1500IU only) (available at both UHH and UHNT)
- Beriplex (Prothrombin complex) (available at both UHH and UHNT)

Other blood products may be available by prior arrangement with the Laboratory, given sufficient time to co-ordinate deliveries from suppliers, if alternative products are required contact the transfusion laboratory at UHNT for further advice.

Transport of Specimens

Specimens taken at UHNT

All specimens should be delivered to Pathology Reception at either North Tees or Hartlepool as soon as possible after they have been taken. At UHNT the pneumatic pod system can be used for all Transfusion specimens or they can be hand delivered to Pathology Reception. Outside Monday to Friday 08:00-17:00 specimens can be posted through the letter box. If the request is urgent and is being hand delivered to Pathology Reception ring the door bell and a member of staff will answer.

Specimens taken at UHH

Specimens must be delivered to the Pathology Laboratory at UHH between the hours Monday – Friday 09:00 – 16:00. They will then be transported to UHNT for processing. If blood or blood products are required at UHH this must be stated on the request form so they can be transported over when available. Outside of opening hours any request for crossmatched blood must be phoned to Blood Transfusion at UHNT (via switchboard). This will be prepared at UHNT and transferred to UHH into the care of the Direct Care Practitioner (DCP).

GP Surgeries

The laboratory operates a transport system to collect specimens for analysis from GP surgeries in and around Teesside and east Durham. The service runs daily Monday to Friday. Contact the Blood Transfusion Laboratory if you require further information.

Discrepancies/Errors

This Trust operates a zero tolerance policy of labelling errors. This means that labelling on specimens and forms cannot be altered or added to retrospectively. All information required must be present and match on both specimen and form with NO amendments.

Results

If you require any clinical advice on result interpretation or suitability of different blood products for a patient, please contact the Haematology Consultant on call (via switchboard). For any other general enquiries please contact the Laboratory on the contact number listed on page 4.

UHNT - Once testing is completed or blood and blood products are available to collect this will be available to see on ICE. Please use the ICE web browser rather than telephoning for results where possible.

For urgent requests please telephone the Laboratory and indicate the urgency on the request form. A 'quick turnaround crossmatch' may be possible in some cases, for example chemotherapy day unit patient's, but only if Laboratory workload permits.

UHH – Non-urgent requests for "group and save" or cross matching will be forwarded to UHNT on the next available regular transfer.

Requests for blood that requires cross matching by the NHSBT, for example due to antibodies being present, will need a minimum of 48 hours' notice.

Fulfilment of same-day requests for blood can only be done if the specimen is present or can be transferred to North Tees for cross matching, antibody status permitting. There will be a turnaround time of approximately 3 hours.

Requests for Theatre patients can only be guaranteed (depending on antibody status) if request is received in Laboratory at UHH before 14:00 the previous day.

All non-urgent specimens will be transferred on the last run of the day that leaves the UHH laboratory at 16:30.

Urgent requests for blood for patients at UHH must be phoned to the Laboratory at UHH during

opening hours or to Blood Transfusion at UHNT outside of this so a taxi transfer can be arranged if necessary. 'Quick turnaround crossmatch' requests are not available at UHH.

Availability of Blood at UHNT

Uncrossmatched Group O red cells	5 minutes (from receipt of specimen)
Uncrossmatched Group compatible red cells	10-15 minutes (from receipt of specimen)
Fully crossmatched red cells	45 minutes (from receipt of specimen)
Fresh Frozen Plasma (FFP)	30 minutes (from receipt of specimen)
Cryoprecipitate	30 minutes (from receipt of specimen)
Platelets	1 – 2 hours (from receipt of specimen) – only if urgent – standard use require ordering in advance
Trauma Packs	5 minutes for uncrossmatched red cells, 30 minutes for FFP
Emergency Group O	Immediate from theatre fridge or Blood bank HaemoBank

Blood & Blood Product Collection

When blood or blood products are available to collect this is visible in ICE. Only staff who have had the appropriate Blood Collection Training can collect blood via the Blood Track Kiosks (located in the Blood Transfusion Issue Room and in Theatres). This training is provided on staff induction but drop in sessions for Blood Track Training are available between 11:00-12:00 Monday – Friday at the Blood Transfusion Laboratory at UHNT, training can be provided at UHH on request, if required contact the Transfusion co-ordinators.

Collection at UHNT: Red cells, FFP and Platelets can be collected from the Blood Issue Room through Blood Track. All other products must be manually signed out from the laboratory.

Collection at UHH: Only red cells and FFP can be collected through Blood Track, all other products must be manually signed out from the laboratory.

Emergency Group O and Platelets**.**

UHNT; Emergency packed red cells are available and accessible at all times from the following locations and can be removed through Blood Track:

4 units of emergency group O packed red cells in the HaemoBank in the Blood Issue Room; 2 group O RhD Positive (for males > 18 and females >50) and 2 group O RhD Negative (for males <18 and females <50)

2 units of emergency group O RhD Negative packed red cells are available in Theatre fridge.

1 emergency neonatal split pack of group O RhD Negative packed red cells in Theatre Fridge (a further spilt pack is available in the Laboratory).

There are no stock platelets at UHNT, emergency platelets will be made available on site within 1-2 hours.

UHH: Emergency packed red cells are available and accessible at all times from the following location and can be removed through Blood Track by the DCP out of hours.

4 units of emergency group O packed red cells in the HaemoBank within the laboratory; (2 group O RhD Positive (for males > 18 and females >50) and 2 group O RhD Negative (for males <18 and females <50). There are no platelets kept onsite at UHH.

Safety Information

Potentially Infective Specimens

All specimens should be treated as if potentially infective, but specimens suspected or known to have certain infectious diseases constitute a hazard. Specimens and request forms from patients known to be Hepatitis B Surface Antigen (HBsAg) carriers, cases of suspected acute hepatitis, patients with Tuberculosis (TB), patients known, or at risk, of being HIV positive, Hepatitis C

(HCV), Creutzfeldt-Jakob Disease (CJD) and variant CJD must be labelled with a "Danger of Infection" sticker.

Specimens Referred to External Laboratories

Specimens may be referred for testing to NHSBT if further investigations are required. When a specimen is referred to NHSBT this will be indicated on ICE. If more specimens are required, in order to facilitate further testing, the requesting clinician will be contacted.

Factors Affecting Specimen Processing and Results

- Any unlabelled, incorrectly labelled or specimens/forms with insufficient information will not be accepted
- Specimens need to be filled to the quantity required, however we may be able to accept a reduced amount in some cases, with prior approval of the Laboratory.
- Haemolysed specimens cannot be processed as prior haemolysis of the red blood cells may mask positive results. In exceptional circumstances, when a patient has a haemolysing condition e.g. Autoimmune Haemolytic Anaemia, it may not be possible to obtain a specimen that is not haemolysed. Please discuss these cases with the Laboratory before taking a specimen, as they may need to be processed within a certain time frame and may require referral to NHSBT.
- Clotted specimens cannot be accepted.
- Grossly lipaemic specimens cannot be accepted.

Consent

Pathology receives specimens from many sources and does not have access to the patient to demonstrate consent has been given. The referral of a specimen into Pathology is a 'request for a consultation' relating to the specimen and the indications for the request given on the form accompanying the specimen. As such, the Pathology service may amend the request if a different test would be more appropriate, add or delete tests as required. Clinical protocols relating to this practice must be available to the requesting clinician if required.

Complaints

Minor complaints can be telephoned to the Blood Transfusion Laboratory and we will attempt to immediately resolve the problem. If a report is required via Healthcare guardian, please telephone the laboratory to discuss the issue and to assign the correct investigating manager.

Serious complaints about the service delivered or other issues should be sent by letter or email to the Operational or Technical Lead Scientist and a formal response will be made. Serious complaints may also be sent directly to the Patient Effectiveness Team (PET) or to the Chief Executive for the Trust.

Confidentiality

All patient information is protected within the department and will not be issued to third parties outside the NT&H NHSfT, or requesting practitioner, except when required for referred tests or statutory notification.

Accreditation

All service areas participate in External Quality Assurance Schemes through UKNEQAS. The laboratory is accredited to UKAS ISO 15189:2022 standards. The Blood Transfusion Laboratory is also regulated by the MHRA.