NORTH EAST & YORKSHIRE REGIONAL TRANSFUSION COMMITTEE

NORTHERN REGIONAL PROCEDURE

PROCEDURE FOR THE TRANSFER OF BLOOD COMPONENTS BETWEEN HOSPITALS

Version	1.9
Ratified by	Newcastle Blood Centre User Group
Date ratified	February 2024
Name of authors	Peter Parker, Peter Armstrong, Sue Barnes, Richard Gray (Version 1.5 January 2010) Sue Barnes (Version 1.6 January 2014) Karen Ward (Version 1.7 March 2017) Karen Ward (Version 1.8 November 2020) Alison Muir & Chantal Morrell (Version 1.9 October 2023)
Reviewed: A.Muir & C.Morrell	February 2024
Approved	February 2024
Due for review	February 2027
Target audience	Transfusion Laboratory Staff

Statement of changes made from version 1.7

Version	Date	Description
1.8	2020	Local policy caveat added to pg 3. Additional detail added to point 3.4.9 Additional detail added on storage of defrosted FFP
1.9	2023	Addition of neonatal transfer of blood components. Addition of rapid replenishment service. Updated transportation container references. Updated references included.

AUTHORISED FOR USE BY:
NEWCASTLE BLOOD CENTRE USER GROUP

1.0 INTRODUCTION

The Blood Safety and Quality Regulations (BSQR) 2005 require protocols to be in place within all hospitals to trace unambiguously the fate of all units from donor to patient, or if not transfused the final fate of each unit.

This document seeks to standardise the procedures for the transfer of blood and components between hospitals in the North East Region. It is intended as a general guide to encompass practices for all users. Hospitals are encouraged to add local protocols to the policy where appropriate but not to detract from the practices outlined in this document.

It is accepted that transport of blood is optimally managed by transfer from one Blood Transfusion laboratory to another Blood Transfusion laboratory. However, in clinical practice this is not always possible. It should only be on rare occasions that transfer of blood with a patient is undertaken[1,2] When there is a high risk of the patient bleeding en route blood components may be transferred with the patient but only if staff accompanying the patient can prescribe and administer the components. In this clinical scenario the receiving hospital's Blood Transfusion laboratory must be given the accompanying paperwork and details of all units transfused as soon as possible.

2.0 PRINCIPLE

Blood components are sometimes transferred between hospitals either with a patient, or as an efficient use of blood stocks. It is essential for legal reasons (BSQR, 2005) to ensure the audit trail is maintained when blood components are transferred and to ensure patient transfusion records are updated accordingly (HSC 2007/001 Better Blood Transfusion *Safe and Appropriate Use of Blood)*. The BSQR require adequate systems to be in place to ensure traceability of blood components. As such it is essential for laboratories to ensure the cold chain and traceability audit trails are maintained and records updated accordingly when blood components are transferred between hospitals.

Blood components may be transferred for the following reasons:

- Blood components allocated to a specific patient may be needed urgently en route or on arrival at the receiving hospital.

- Routinely, blood component allocated to a specific patient may require transfer to a blood fridge located in a satellite hospital/unit of the dispatching hospital (although this may be covered by a separate local policy)

- Agreed transfer of blood component stock between hospital Blood Transfusion laboratories.

- Agreed rapid replenishment protocol for Great North Air Ambulance Service (GNAAS).

3.0 TRANSFER OF BLOOD COMPONENTS ACCOMPANYING PATIENTS

3.1 Procedure for the Transferring Hospital Transfusion Laboratory Staff

Prior to packaging the blood, ensure suitable transport arrangements are in place.

3.2 Blood Component Selection and Preliminary Documentation

3.2.1 Document the telephone call from the ward or unit requesting the transfer of the blood component.

3.2.2 Ensure the patient identification is obtained including the unique identification number, name, date of birth and NHS number if available.

3.2.3 Document the details of the receiving hospital and ward/department including the approximate time of departure.

3.2.4 Identify the component type and the number of units required for transfer. Confirm appropriately trained staff will be accompanying the patient on transfer.

3.3 Blood Component Packaging and Final Documentation

3.3.1 Complete the transfer document (Appendix 6.1) including a record of the unit donation numbers and make a copy of this document. Patient initials must be used rather than full name to maintain patient confidentiality. The unique identification number and DOB should still be recorded. Return the units to suitable storage conditions whilst preparing the transport box, packing materials and labels.

3.3.2 Platelets must be stored on a platelet agitator until ready for dispatch.

3.3.3 Immediately before dispatch package the blood components as detailed in local policy.

Do not pack different blood component types in the same transport box e.g. red cells and FFP. These should be packed in separate boxes with the correct phase change material that has been stored at the appropriate temperature for that component.

- Red cells 2-6^{o}C
- Defrosted FFP 2-6^{o}C but separate transport box unless had been stored refrigerated before transfer for a sufficient period time to have reached 2-6^{o}C
- Platelets 20-24^{o}C

3.3.4 Place all the appropriate documentation in or attached to the transport box, retaining a copy of the transfer document. Medical staff travelling with the patient/blood components should be given the information leaflet 'Advice for staff transferring blood with a patient' – see Appendix 6.2.

3.3.5 Replace the box lid, seal box with tie wrap/security tag and place completed dispatch label (Appendix 6.3) into the top pocket of the box.

3.3.6 If appropriate for the transferring Trust, document on the Laboratory Information System (LIS) the units marked as transferred and record the destination hospital. If Trusts have a shared LIS system this may not be indicated and the necessary history will be recorded on the Transfer Form.

3.4 Dispatch of Blood Components

3.4.1 On dispatch of the blood components, immediately contact the Transfusion laboratory of the receiving hospital and inform them of the dispatch (contact details are listed in Appendix 6.4).

NB. The Transfusion laboratory may not be on the same site as the receiving hospital.

Provide the following information:

- Dispatching Transfusion laboratory contact details
- Time of dispatch
- Mode of transport
- Estimated time of arrival
- Number and type of components
- Patient identification details
- Known antibodies or special requirements

- Ward or department

3.4.2 Email a copy of the transfer documentation to the receiving Transfusion laboratory.

3.4.3 The final fate of the transferring units will be recorded by the receiving hospital, including any units transfused en route. The exception to this is if the receiving hospital is unable to fate the components on their computer system in which case they will request the sending hospital fate the components and will provide the necessary information.

3.5 Procedure For The Receiving Hospital Transfusion Laboratory Staff

3.5.1 The receiving Transfusion laboratory will be informed by the dispatching laboratory of the expected delivery.

3.5.2 The staff of the receiving Transfusion laboratory should document the expected delivery and where applicable inform the ward or department receiving the patient that blood/components will be accompanying the patient.

3.5.3 Local policies should be in place to ensure received blood components are directed to the hospital Transfusion laboratory immediately on arrival and transferred to suitable storage facilities.

3.5.4 On arrival, the Transfusion laboratory staff should check the integrity of the box and complete and confirm the following acceptance checks:

- The transport box and its tamper proof seals have been examined and found to be in a satisfactory condition
- Packaging material is in a satisfactory condition
- The transport box has been received within its validated transfer times
- Documentation accompanying the components is satisfactory
- The component labelling and contents have been examined and are satisfactory

Any failures of the above checks must be documented and the units quarantined until a decision is made on the most appropriate fate of the components.

3.5.5 Complete the transfer document to verify the units are suitable for subsequent patient transfusion or acceptance into blood bank stock.

3.5.6 Any blood components received in the Transfusion laboratory, including any which will be disposed of due to poor storage conditions, must be entered into stock and have their fate recorded.

3.5.7 The receiving hospital must confirm receipt of any units by emailing back or returning a copy of the completed transfer document back to the originating hospital.

3.5.8 The final fate of the transferring units will be recorded by the receiving hospital, including any units transfused en route. The exception to this is if the receiving hospital is unable to fate the components on their computer system in which case they will request the sending hospital fate the components and will provide the necessary information.

3.5.9 Where blood components have been transfused en route the completed traceability documents (labels and forms) must be obtained by the receiving Transfusion laboratory so that the information can be shared with the sending hospital if required.

3.6 Neonate Transfers Requiring Blood Component Support

3.6.1 In rare circumstances it may be deemed necessary by the neonatal emergency transfer team (Northern Neonatal Network [NNeTS]) that blood component support may be needed urgently en route or on arrival at the receiving hospital.

3.6.2 When alerted that blood components are required to support neonatal transfer, prepare and dispatch the blood components following the steps outlined in section 3.2-3.4.

3.6.3 Depending on the neonate's critical care needs, the neonatal transfer team may make the decision to prepare the transfusion beforehand by pre-filling a syringe. The clinical team will take full responsibility for ensuring that traceability processes are maintained en route to the receiving Transfusion laboratory.

3.6.4 The receiving hospital will follow the 'Procedure for the receiving hospital Transfusion laboratory staff' as outlined in section 3.5. Any donations transferred to syringes should be disposed of by the clinical team, who will then notify the laboratory on arrival. Traceability maintained as outlined in section 3.5.

4.0 STOCK TRANSFER OF BLOOD COMPONENTS BETWEEN HOSPITAL TRANSFUSION LABORATORIES

This includes transfer of stock for a specific patient that is being transferred independently of the patient e.g. blood components with special requirements.

Procedure for the transferring hospital Transfusion laboratory staff

4.1 Blood Component Selection and Preliminary Documentation

4.1.1 Identify the component type and the number of units required for transfer.

4.2 Blood Component Packaging and Final Documentation

4.2.1 Complete the transfer document (Appendix 6.1) including a record of the unit donation numbers and make a copy of this document. If the stock being transferred is for a specific patient, patient details must be recorded on the transfer document. Return the units to suitable storage conditions whilst preparing the transport box, packing materials and labels.

4.2.2 Platelets must be stored on a platelet agitator until ready for dispatch.

4.2.3 Immediately before dispatch package the blood components as detailed in local policy.

- Do not pack different blood component types in the same transport box e.g. red cells and FFP. These should be packed in separate boxes with the correct phase change material that has been stored at the appropriate temperature for that component.
- Red cells 2-6^{o}C
- Defrosted FFP 2-6^{o}C but separate transport box unless had been stored refrigerated before transfer for a sufficient period time to have reached 2-6^{o}C
- Platelets 20-24^{o}C

4.2.4 Place all the appropriate documentation in or attached to the transport box, retaining a copy of the transfer document. Transport staff such as taxi drivers responsible for

transporting the blood components should be given the information leaflet ‘Golden rules for drivers’ if they are unfamiliar with their responsibilities - see Appendix 6.5.

4.2.5 Replace the box lid, seal box with tie wrap/security tag and place completed dispatch label (Appendix 6.3) into the top pocket of the box.

4.2.6 If appropriate for the transferring Trust, document on the Laboratory Information System (LIS) the units marked as transferred and record the destination hospital. If Trusts have a shared LIS system this may not be indicated and the necessary history will be recorded on the Transfer Form.

4.3 Dispatch of Blood Components

4.3.1 On dispatch of the blood components, immediately contact the Transfusion laboratory of the receiving hospital and inform them of the dispatch (contact details are listed in Appendix 6.3).

- Time of dispatch
- Mode of transport
- Estimated time of arrival
- Number and type of components

4.3.2 Email a copy of the transfer documentation to the receiving Transfusion laboratory.

4.3.3 The final fate of the transferring units will be recorded by the receiving hospital.

4.4 Procedure for the Receiving Hospital Transfusion Laboratory Staff

4.4.1 The receiving Transfusion laboratory will be informed by the dispatching laboratory of the expected delivery.

4.4.2 The laboratory staff of the receiving Transfusion laboratory should document the expected delivery.

4.4.3 Local policies should be in place to ensure received blood and components are directed to the hospital Transfusion laboratory immediately on arrival and transferred to suitable storage facilities.

4.4.4 On arrival, Transfusion laboratory staff should check the integrity of the box and complete and confirm the following acceptance checks:

- The transport box and its tamper proof seals have been examined and found to be in a satisfactory condition
- Packaging materials and gel packs are in a satisfactory condition
- The transport box has been received within its validated transfer times
- Documentation accompanying the components is satisfactory
- The component labelling and contents have been examined and are satisfactory

Any failures of the above checks must be documented and the units quarantined until a decision is made on the most appropriate fate of the components.

4.4.5 Complete the transfer document to verify the units are suitable for acceptance into blood bank stock. If stock has been transferred for a specific patient the receiving hospital needs to process this as per their routine process.

4.4.6 Any blood components received in the Transfusion laboratory, including any which will be disposed of due to poor storage conditions, must be entered into stock and have their fate recorded.

The receiving hospital must confirm receipt of any units by emailing back or returning a copy of the completed transfer document back to the originating hospital.

The final fate of the transferring units will be recorded by the receiving hospital including any that have been discarded as unacceptable. These must all be entered into stock and have their final fate recorded.

5.0 RAPID REPLENISHMENT PROCEDURE FOR GREAT NORTH AIR AMBULANCE SERVICE

GNAAS hold Blood on Board (BoB) blood components supplied by NuTH. In rare circumstances, when BoB stock has been transfused at scene or en route, additional products, where geographically possible, will support superior patient outcome. The Northern Region Transfusion Laboratories have agreed to supply GNAAS with the following:

- 2 group O RBC
- 2 group A HT neg FFP when 30 minutes notice is given

Procedure for the hospital Transfusion laboratory staff receiving rapid replenishment request

5.1 Blood Component Selection, Preliminary Documentation, Preparation and Packaging

5.1.1 Document the telephone call received from GNAAS. Request if the patient's gender and estimated age if known, and which Trauma Centre travelling to.

5.1.2 Check GNAAS staff know where the Transfusion laboratory is located (alternatively if staffing levels permit offer to meet the crew at AE entrance to handover).

5.1.2 Identify the component type and the number of units required for transfer (GNAAS agreement is 2 RBCs due to stock holding impact):

- Patient with child bearing potential and children – Issue group O D negative, K negative
- Male – Issue group O D positive
- Unknown – Issue group O D negative, K negative
- 2 group A HT neg FFP when 30 minutes notice is given

5.1.3 Use local protocol to issue and label components as 'Emergency Blood' / 'Emergency FFP'

5.1.4 Package and prepare documentation as outlined in section 3. 2

5.2 Dispatch of Blood Components

5.2.1 On dispatch of the blood components, immediately contact the Transfusion laboratory of the receiving Trauma Centre and inform them of the dispatch (contact details are listed in Appendix 6.4). Provide the following information:

- Time of dispatch
- Mode of transport
- Estimated time of arrival

- Number and type of components
- Patient identification details if known (or age/gender)

5.2.2 Email a copy of the transfer documentation to the receiving Transfusion laboratory.

5.2.3 GNAAS will use established BoB protocol to maintain traceability. The final fate of the transferring units will be recorded by the receiving Trauma Centre, including any units transfused en route. The exception to this is if the receiving hospital is unable to fate the components on their computer system in which case they will request the sending hospital fate the components and will provide the necessary information.

5.3 Receiving Trauma Centre

5.3.1 The receiving trauma centre Transfusion laboratory must confirm receipt of any units by emailing back or returning a copy of the completed transfer document back to the originating hospital.

6.0 APPENDICES

6.1 Transfer Documentation

BLOOD COMPONENT TRANSFER DOCUMENTATION

This form **must** accompany all blood components transferred between hospitals
NB Sender must also retain a copy of this document

Blood Component Despatched from:	Sent to:	Crossmatched	Stock
Email address : (for return of completed form)		Uncrossmatched	

COMPONENT **FATE**

R – Red cells	P – Platelets	F – Thawed FFP	D – Discarded	T – Transfused	$ – Returned to stock

ANY SPECIAL REQUIREMENTS																
Initials of Patient	ISBT Donation Number														Comp	Fate
Unique ID Number																
DOB																
Blood Group																

ANY SPECIAL REQUIREMENTS																
Initials of Patient	ISBT Donation Number														Comp	Fate
Unique ID Number																
DOB																
Blood Group																

I confirm the units of blood components have been packed in accordance with the Regional Transfer Policy prior to despatch

SENDING HOSPITAL Date Time

Print name

Signature

Provided box remains sealed contents valid until:

Once box seal broken transfusion of the contents must be completed within 4 hours of opening or the units will have to be discarded. NOTE: The receiving laboratory will make this decision

TRANSPORTED WITH: Date Time

Driver or Nursing/Medical staff details Print name

Signature

I confirm that these blood components arrived packaged appropriately

RECEIVING HOSPITAL Date Time

Box was received sealed Yes/No Print name

Box had been opened Yes/No Signature

BLOOD AND COMPONENTS MUST BE DELIVERED IMMEDIATELY TO BLOOD BANK

Blood Component Transfer Documentation – Version 6
Approved February 2024 Review February 2027

6.2 Blood Component Transfer Advice for Staff

Please ensure the following sheet is issued to the member of clinical staff responsible for the transfer box when blood components are being transferred with a patient.

Blood Component Transfer Advice for Staff

The blood and blood components have been packed in this transfer box following blood transfusion laboratory guidelines.

PLEASE ENSURE THE BOX REMAINS SEALED UNTIL IMMEDIATE TRANSFUSION OF THE PATIENT IS INDICATED

Before transferring the patient:

- Check to make sure the boxed component is for the patient you are accompanying
- **Blood components must only be transferred with a patient if accompanied by transfer staff who can prescribe and administer the component**
- Please ensure the patient has a wristband in situ stating the patient's hospital number (from the transferring hospital), date of birth and name (if known or temporary allocated name)
- If a decision is made NOT to transfer the blood components with the patient or to transfuse the patient onsite before transfer, contact the transfusion laboratory and return the transfer box immediately

During transfer:

- Blood components are suitable for transfusion until the time indicated on the transfer document provided the box remains sealed
- Once opened temperature control is lost so transfusion of all the units must be completed **within 4 hours of opening the box** or the units may have to be discarded - the receiving laboratory will make this decision
- If blood components are required during the patient's journey or on immediate arrival at the receiving hospital, please ensure they are checked and transfused in accordance with local policy. Traceability of the components is essential – ensure all labels and paperwork completed and passed to transfusion laboratory staff
- Please ensure the lid **REMAINS** on the box at all times. If blood components are removed for transfusion, please replace the lid **IMMEDIATELY!**

On arrival:

- When the patient arrives in the receiving clinical area, please ensure the blood transfer box is handed over to the **transfusion laboratory staff** immediately
- Please state how many blood components were transfused during the journey and any adverse events (if occurred)

Blood Transfer Advice for Staff Version 5
Approved February 2024 Review February 2027

6.3 Dispatch Label

BLOOD COMPONENTS
FOR URGENT ATTENTION

DELIVER TO:

FOR ATTENTION OF:

TIME PACKAGED ……

DATE ……

IMPORTANT – PLEASE READ
Any component contained in this box must be placed in an approved blood transfusion storage location by:

……..hrs on ...../...../…..

BLOOD COMPONENTS
FOR URGENT ATTENTION

DELIVER TO:

FOR ATTENTION OF:

TIME PACKAGED ……

DATE ……

IMPORTANT – PLEASE READ
Any component contained in this box must be placed in an approved blood transfusion storage location by:

……..hrs on ...../...../…..

BLOOD COMPONENTS
FOR URGENT ATTENTION

DELIVER TO:

FOR ATTENTION OF:

TIME PACKAGED ……

DATE ……

IMPORTANT – PLEASE READ
Any component contained in this box must be placed in an approved blood transfusion storage location by:

……..hrs on ...../...../…..

BLOOD COMPONENTS
FOR URGENT ATTENTION

DELIVER TO:

FOR ATTENTION OF:

TIME PACKAGED ……

DATE ……

IMPORTANT – PLEASE READ
Any component contained in this box must be placed in an approved blood transfusion storage location by:

……..hrs on ...../...../…..

6.4 Regional Hospital Contact Numbers

Hospital Name	Address 1	Address 2	Postcode	Switchboard	Email	Direct Dial Blood Bank
Cumberland Infirmary	Newtown Road	Carlisle	CA2 7HY	01228 523444	NHSBT@ncic.nhs.uk	01228 814 519
Darlington Memorial Hospital	Hollyhurst Road	Darlington	DL3 6HX	01325 380100	cddft.bloodtransfusion@nhs.net	01325 743 167
Freeman Hospital	Freeman Road	High Heaton Newcastle upon Tyne	NE7 7DN	0191 233 6161	nuth.labtransfusionteam@nhs.net	0191 213 7849
James Cook University Hospital	Marton Road	Middlesbrough	TS4 3BW	01642 850 850	jcuhbt@nhs.net	01642 282630
Newcastle Nuffield Hospital	Clayton Road	Jesmond Newcastle upon Tyne	NE2 1JP	0191 281 6131	nh.newcastle.pathology@nhs.net	0191 212 5236
Northumbria Specialist Emergency Care Hospital	Northumbria Way	Cramlington	NE23 6NZ	0344 811 8111	transfusionlab@nhct.nhs.uk	0191 6072242 01670 707129
Queen Elizabeth Hospital	Queen Elizabeth Avenue	Sheriff Hill Gateshead	NE9 6SX	0191 482 0000	ghnt.labtransfusion@nhs.net	0191 445 2281
Royal Victoria Infirmary	Queen Victoria Road	Newcastle Upon Tyne	NE1 4LP	0191 233 6161	nuth.labtransfusionteam@nhs.net	0191 282 4335
South Tyneside District Hospital	Harton Lane	South Shields	NE34 0PL	0191 404 1000 Extn 2309	ghnt.labtransfusion@nhs.net	0191 427 5066
Spire Hospital	Picktree Lane	Washington	NE38 9JZ	0191 4188669	spire.washingtonpathology@nhs.net	0191 4151182
Sunderland Royal Hospital	Kayll Road	Sunderland	SR4 7TP	0191 565 6256	ghnt.labtransfusion@nhs.net	0191 569 9077
University Hospital of North Durham	North Road	Durham	DH1 5TW	0191 333 2333	cddft.bloodtransfusion@nhs.net	0191 333 2443
University Hospital of North Tees	Hardwick	Stockton on Tees	TS19 8PE	01642 617617	nth-tr.bloodbank@nhs.net	01642 624444
West Cumberland Hospital	Hensingham	Whitehaven Cumbria	CA28 8JG	01946 693 181	NHSBT@ncic.nhs.uk	01946 523 432

6.5 Driver Documentation

Golden Rules for Drivers

- Blood components are strictly regulated by the Blood Safety and Quality Regulations 2005. The transport of blood components is covered by these regulations.
- You must always carry a valid ID badge and present this when requested so we know you are authorised to do the job.
- When you have been given your consignment you must ensure it is delivered directly to the correct location as identified on the transportation box. It is not acceptable to take it to a different department.
- You must always place the consignment in the boot/rear of your vehicle as temperature control is important.
- You must never open the box or tamper with the contents as this will affect the temperature control.
- You must not pick up any other fares, carry passengers or accept another delivery at the same time unless by prior agreement with the requesting organisation e.g. Trust drivers following pre-defined collection/delivery routes
- You must only hand over the consignment to an authorised person wearing a Trust ID badge
- You must ensure the person who accepts the consignment signs for the package and records the time of delivery
- You must ensure that all documentation is completed including the pick up and delivery times on the transfer documentation which will be retained for audit purposes
- You are expected to comply with all road traffic regulations and transport laws
- You must have the appropriate insurance
- If you break down or have an accident, you must tell your control ASAP so they can send a replacement vehicle and contact the laboratory with an estimated time of delivery.
- You must inform the dispatch hospital of any loss or damage to the consignment as soon as possible
- You must inform the receiving hospital of any untoward event that has occurred on the journey (such as an accident, dropped consignment, temporary loss of consignment)

  Blood Transfusion Lab contact Number .....

- Your assistance in complying with these regulations is important to us.

Golden Rules Version 6 *February 2024*

7.0 REFERENCES

7.1 National Blood Transfusion Committee (2021), Guidance for the Emergency Transfer of Blood and Components with Patients between Hospitals
Transfer of Blood Guidance. Final (nationalbloodtransfusion.co.uk) (last accessed 13.10.23)

7.2 The Association of Anaesthetists of Great Britain and Ireland (2009), AAGBI Safety Guideline - Interhospital Transfer *Interhospital transfer (anaesthetists.org)
(last accessed 13.10.23)