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| **Blood Transfusion Policy** |
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| Division/ Department responsible for Procedural Document | Specialist Services Division |
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| Date of original policy  | 2023 – combined policy across sites |
| Impact Assessment performed  | **Yes**/ No  |
| Ratifying body and date ratified  | Clinical Effectiveness Committee 19/06/23 |
| Review date  | January 2026  |
| Expiry date  | June 2026  |
| Date document becomes live | December 2023 |

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| Please *specify* standard/criterion numbers and tick **✓** other boxes as appropriate |
| **Monitoring Information** | **Strategic Directions – Key Milestones** |
| Patient Experience | **✓** | Maintain Operational Service Delivery |  |
| Assurance Framework | **✓** | Integrated Community Pathways |  |
| Monitor/Finance/Performance |  | Develop Acute Services | **✓** |
| CQC Fundamental Standards and Regulations No: |  | Delivery of Care Closer to Home |  |
| Infection Control | **✓** |
| Other *(please specify)*: |  |
| **Note:** This policy has been assessed for any equality, diversity or human rights implications |

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| **Full History**  |  **Status: Final**  |
| Version | Date | Author | Reason |
| 1 | March 2023 | Transfusion Laboratory Manager | Combined policy for eastern and northern sites |

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| **Associated Trust Policies:**  | Corporate and Local Induction Policy Consent for Examination or Treatment PolicyIdentification of Patients Policy Incident Reporting, Analysing, Investigating and Learning Policy and ProceduresInfection Prevention and Control Policy Injectable Medicines PolicyStandard Infection Control Precautions Health Records PolicyVenepuncture Guidelines Waste Management Policy Patients who Refuse Blood Components or Products Policy |
| **Key words** | Blood, transfusion, TACO, components, infusion, BloodTrack, EPIC |
| **In consultation with and date:** Hospital Transfusion Team April 2023Patient Blood Management Group April 2023 (Chairs action)ED, MIU, WIC cluster (eastern and northern) June 2023Renal cluster (eastern and northern) June 2023Gastro and Diabetes cluster (eastern and northern) June 2023Cardiology cluster (eastern and northern) June 2023AMU, Ambulatory and junior doctors cluster (eastern and northern) June 2023T&O cluster (eastern and northern June 2023 Acute surgery cluster (eastern and northern) June 2023Critical care cluster (eastern and northern) June 2023Cancer services cluster (eastern and northern) June 2023Obstetrics & Gynaecology cluster (eastern and northern) June 2023Paediatrics and NNU cluster (eastern and northern) June 2023Community hospitals cluster (eastern) June 2023 |
| **Review Date** *(Within 5 years)* | June 2026 |
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**KEY POINTS OF THIS POLICY:**

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**1.** **INTRODUCTION**

1.1 [Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee](https://www.transfusionguidelines.org/transfusion-handbook/4-safe-transfusion-right-blood-right-patient-right-time-and-right-place) requires all NHS Trusts to have policies and guidelines on the administration of blood and blood products.

1.2 The Royal Devon University Healthcare NHS Foundation Trust, hereafter referred to as the Trust, recognises that the administration of blood in any setting is a complex process and can be a significant clinical risk. This policy has been developed in order to reduce risk and improve quality of care to patients and is linked closely with training and competency assessment of all staff involved as per National Blood Transfusion Centre (NBTC) requirements for “Training and Assessment in Blood Transfusion” 2016.

# 2. PURPOSE

2.1 Patient Blood Management (PBM) is a multidisciplinary, evidence-based approach to optimising the care of patients who might need transfusion. PBM puts the patient at the heart of decisions made about blood transfusion to ensure they receive the best treatment and that avoidable, inappropriate use of blood and blood components is reduced.

2.2 PBM represents an international initiative in best practice of transfusion medicine and this policy has incorporated the key objectives of the PBM conference: ‘The Future of Blood Transfusion’, June 2012, hosted by the Department of Health (DH), the National Blood Transfusion Committee (NBTC) and the NHS Blood and Transplant (NHSBT) and National Institute for Health and Care Excellence (NICE) 2015.

2.3 Regulatory standards are set out in the Blood Safety and Quality Regulations, 2005. These are monitored by the Medical Healthcare Products Regulatory Agency (MHRA) and in order to comply with these standards it is vital that staff are trained and competency assessed.

2.4 The Blood Transfusion Policy is intended to assist and guide all staff members involved at any stage of the transfusion process and is based on National Guidelines. As it is an extensive policy this version includes Clinical Operational flowcharts for clarity.

2.5 Specific information on transfusion in children and neonates is contained in the British Committee for Standards in Haematology [Transfusion Guidelines for Neonates and older Children.](https://b-s-h.org.uk/guidelines/guidelines/transfusion-for-fetuses-neonates-and-older-children/)

2.6 The transfusion of blood components is a complex chain of events involving different healthcare professionals. Errors in this chain of events can lead to serious consequences; transfusion of ABO incompatible red cell units can lead to the death of a patient and is listed on the [NHS Never Events](https://improvement.nhs.uk/resources/never-events-policy-and-framework/). The purpose of this policy is to provide a standardised, safe and competent practice for all healthcare staff involved in clinical aspects of blood transfusion.

# 3. DEFINITIONS

3.1[Agreed Schedule Blood Ordering for Surgery](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/001) (ASBOS) - a list of request requirements (group and save or crossmatch) for patients undergoing planned surgical procedures, ratified by the Patient Blood Management Group.

3.2 **Batch/Blood Products** –refers to any product prepared from pooled human plasma, e.g. Human Albumin Solution, Immunoglobulin preparations, anti-D Ig, anti-tetanus, Prothrombin Complex Concentrate. (Clotting factors including those products which are not prepared from human plasma).

3.3 **Bedside** – for the purpose of this policy the bedside refers to the patient’s side, whether the patient is in a bed, on a trolley/operating table or sitting in a chair**.**

3.4 **Better Blood Transfusion** – produced in response to the Department of Health Circular HSC 2007/001 Better Blood Transfusion – Safe and Appropriate Use of Blood (DoH, 2007). Some of its aims are to improve safety, avoid unnecessary use of blood components. A part of this is an educational programme.

3.5 **Blood Champion** – is an identified member of staff in each ward or department who is responsible for conducting the transfusion observational competency assessments, liaising with the Hospital Transfusion Team (HTT) and acting as a support and resource for colleagues.

3.6 **Blood Components** – refers to red cells, platelets, fresh frozen plasma (FFP), granulocytes and cryoprecipitate.

3.7 **Blood fridge** – refers to a fridge which is designed for the storage of blood components (red cells and FFP) or blood products (albumin, anti-D Ig, IVIg etc) and is temperature controlled to run at 2-6 oC with temperature recorded twenty-four hours a day, and with an audible alarm and escalation to alert staff to deviations from this temperature range. Blood components must be stored only in blood fridges and must not be stored in any other fridges in the clinical areas.

3.8 **BloodTrack Courier** –electronic blood tracking system (kiosk) used for the collection of blood components and products from blood fridges.

3.9 **BloodTrack Tx** – ward-based system on clinical area workstations for the electronic sample taking, arrival and administration of blood components.

3.10 **BloodTrack** **Enquiry** – enquiry system on clinical area PCs used to search if blood components/products are available for a named patient.

3.11[Blood Safety and Quality Regulations (2005) Statutory Instrument 2005/50 (BSQR)](http://www.legislation.gov.uk/uksi/2005/50/contents/made) - these regulations set standards for quality and safety for the collection, testing, processing, storage and distribution of human blood and blood components and apply to UK blood services and Hospital Blood Banks. The BSQR enforces the need for all hospitals to be able to trace 100% of all blood components and maintain quality standards locally.

3.12 **Cold Chain** – blood components must be kept at the required temperature at all times to prevent them becoming infected; infected blood products can cause fatal reactions in patients; the cold chain is a mandatory requirement which starts from the delivery of the red blood cells from the blood centre to the time that the unit is transfused or is disposed of. An unbroken cold chain is an uninterrupted series of storage and distribution activities which maintain a given temperature range. All paperwork or electronic storage records regarding this are kept for 30 years by the Transfusion Department.

3.13 **Compatibility label** – this tag is attached to the blood component and contains the unique identification number of the unit and the patient core identifiers. It is used to ensure compliance with the [BSQR (2005)](http://www.legislation.gov.uk/uksi/2005/50/contents/made) that all components are traceable from donor to recipient and to allow visual identification of who the unit is compatible for.

3.14 **Competencies** – all staff involved in transfusion must undertake observational competency assessment for the requirements of their role. Records of these competencies are held on Learn+.

3.15 **Cool boxes** – transport boxes used for delivery of blood to the Community Hospitals and Renal Satellite units, the blood cool boxes contain cool packs and are suitable for the storage of red cell components for up to 4 hours.

3.16 **Electronic Staff Record (Learn+) –** is an integrated national workforce management system for the NHS with e-learning functionality, tracking of statuary and mandatory training requirements, appraisals, absence management and employee self service.

3.17 **EPIC** – Electronic Patient Record system.

3.18 **Medicines and Healthcare products Regulatory Agency (MHRA)** – the MHRA is a centre of the Medicines and Healthcare Products Regulatory Agency responsible for regulating blood establishments and hospital blood banks. The MHRA is responsible for monitoring compliance with [Blood Safety and Quality Regulations](http://www.legislation.gov.uk/uksi/2005/50/contents/made) 2005.

3.19 **Never Events** – [“Never Events”](https://improvement.nhs.uk/resources/never-events-policy-and-framework/) were updated in 2018 by the NHS as “serious, largely preventable patient safety incidents that should not occur if the available preventative measures have been implemented by healthcare providers”. This includes inadvertent ABO incompatible transfusions.

3.20 **Non-medical authorisers** - healthcare professionals who have completed additional training allowing them to authorise the administration of blood components in accordance with the [non-medical authorising of blood components policy](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/0126).

3.21 **Patient core identifiers** – inaccordance with the [Identification of PatientsPolicy](https://hub.exe.nhs.uk/_resources/assets/attachment/full/0/3741.pdf) available onthe Trust Intranet this must include:

* First Name.
* Surname.
* Date of Birth.
* Unique patient identification number (NHS and/or MRN number).

3.22 **Positive patient identification** – wherever possible this is achieved by asking the patient to **state** their full name and date of birth. This must match **exactly** the information on the patient’s identification bands attached to the patient and the key item being checked i.e. request form, prescription or at administration the blood component/product. For patients who are unable to identify themselves e.g. paediatric, unconscious or confused, or where there is a language barrier, verification of the patient identification should be obtained from a parent or carer (if present at patient’s bedside) and checked with the patient’s identification band(s).

3.23 **Registered Practitioner** – this refers to staff that are currently GMC (General Medical Council) registered, nursing staff and midwives currently NMC (Nursing and Midwifery Council) registered and approved and appropriately trained AHP staff including ODPs, Paramedics and Physiotherapists who are currently HCPC (Health and Care Professions Council) registered at Band 5 and above.

3.24 **Red cells** – a donation of red blood cells, also a blood component that requires cross matching.

3.25 **Remote Blood Fridge** – blood fridge which is situated in a location other than the Transfusion Department. Red cell and FFP components can only be stored in blood fridges and should never be stored in fridges used for other purposes.

3.26 **Serious Adverse Blood Reactions and Events (SABRE)/ Serious Hazards of Transfusion (SHOT)** – are haemovigilance systems which collect information from adverse events and transfusion reactions in order to monitor the safety of blood transfusions. SHOT produces an annual report based upon the data collected, producing recommendations.

3.27 **Special Requirements** – any special requirement (e.g. irradiated, CMV negative) which is a patient-specific clinical requirement (defined by the patient’s underlying clinical condition or treatment). Information regarding [special requirements](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0023) for specific patient groups can be accessed by clicking the link.

3.28 **Temperature loggers** – devices used to monitor the temperature of the blood cool boxes during transport and storage of blood.

3.29 **Traceability** – [BSQR (2005)](http://www.legislation.gov.uk/uksi/2005/50/contents/made) requires that all blood components are traceable from donor to recipient and records of the final fate are retained for a minimum of 30 years by the Transfusion Department.

3.30 **Unallocated red cells** – the BloodTrack systems allows for clinical staff to collect and label compatible red cell units at the blood fridges without laboratory involvement. This process is available to appropriately trained clinical staff, untrained staff can request the system via the laboratory staff at the blood fridge in the laboratory. The system is also referred to as remote allocation of red cells.

3.31 **Workstation on Wheels** – laptop on a trolley, with barcode printer and scanner with access to EPIC and BloodTrack Tx system. Also known as WOW.

# 4. DUTIES AND RESPONSIBILITIES OF STAFF

4.1 **Board of Directors**

The overall accountability for effective risk management in the Trust lies with the Board of Directors. At an operational level, the Trust has designated a number of committees to manage the risks relating to blood transfusion facing the Trust.

4.2 **Chief Executive Officer**

The Chief Executive Officer is responsible for ensuring that the Trust meets all legal requirements regarding blood transfusion.

4.3 **Chief Medical Officer**

The Chief Medical Officer has oversight of the implementation and governance of the policy. The chair of the PBMG will report directly to the Chief Medical Officer via the Clinical Effectiveness Committee (CEC).

4.4 **Patient Blood Management Group (PBMG)**

This group is responsible for ensuring the safe, secure and economic use of blood transfusions and blood component and compliance with legislation and best practice. This group includes clinical and medical representatives from key areas of the Trust involved in blood transfusion. The PBMG reports to the Clinical Effectiveness Committee.

4.5 **Hospital Transfusion Team (HTT)**

The Hospital Transfusion Teamoperates on behalf of, and reports to, the Patient Blood Management Group. This team is responsible for reviewing and monitoring the Trust’s compliance with PBM and associated policies and guidelines, reporting to MHRA and SHOT as appropriate. This group includes the Clinical Lead for Transfusion, the Transfusion Practitioner, Transfusion Manager, Community Hospital Transfusion Practitioner and Blood Transfusion Doctor.

4.6 **Chair of PBMG**

The Chair will ensure that the PBMG minutes are accurate, that actions are completed, and will report these to the Clinical Effectiveness Committee.

4.7 **Lead Consultant for Transfusion**

The Lead consultant for transfusion will advise the chair of the PBMG on technical aspects of blood transfusion.

4.8 **Matrons/ Ward Managers/Clinical Nurse Managers**

Matrons are responsible for working with Ward Managers/Clinical Nurse Managers to make it possible for all staff who administer blood transfusions and take blood samples to be trained and updated as per the requirements set out in this policy. There is also a responsibility to implement recommended actions arising from investigations of incidents and audits conducted to monitor compliance with this policy. In addition matrons are responsible for ensuring that written information is made available to patients about blood transfusion and potential alternatives, that staff have their training on BloodTrack Courier and BloodTrack Tx, that the patient is positively identified through verbal interrogation and by looking at the patient identity wristband prior to administering a blood component transfusion using BloodTrack Tx and that all transfusion related adverse incidents are reported through the Trust Adverse Incident Reporting procedure

4.9 **All staff involved in transfusion.**

* Comply with the requirements of this policy and associated documents.
* Complete transfusion training and undertake the transfusion competencies appropriate for their role and any other relevant training/competency assessment expected by the Trust.
* Act in accordance with the standards and training laid out in this policy and the responsibilities of each staff group in the transfusion process as defined in [Appendix 1](#_APPENDIX_1:_DUTIES).
* Report incidents on Datix via the Trust intranet and link to the [Incident Reporting, Analyzing, Investigating and Learning Policy and Procedures](https://hub.exe.nhs.uk/_resources/assets/attachment/full/0/3752.pdf).

4.10 **Medical Staff**

* Medical Staff are responsible for safely and appropriately requesting blood components/products in line with local and national guidance and fully completing the information required on the request forms/orders.
* They are responsible for consenting patients for transfusion and documenting this in the patient’s electronic records.
* They are responsible for prescribing blood in a safe and appropriate way in line with local and national guidance.
* They are responsible for responding appropriately to transfusion reactions.
* Only anaesthetists are trained in the administration of blood components.

4.11 **Site Management Team and Site Practitioners**

* The Site Practitioners are part of the Site Management Team offering a 24-hour operations support service.
* All practitioners are trained in the collection and administration of blood and are able in exceptional circumstances, when there are no trained and assessed staff in the clinical area, to collect and/or administer blood components.
* Site practitioners are responsible for ensuring that they maintain the relevant training and competency assessment to fulfil this role.

4.12 **Non-medical Authorisers of blood components**

* Healthcare professionals who have additional training and competency assessment to assess whether patients require blood components, request the components, consent patients for transfusion and prescribe blood components.

4.13 **Nursing, Midwifery, Theatre Practitioners Staff**

* Arranging for the collection of blood components or products and arranging urgent transportation if required.
* Carrying out pre-transfusion checks to ensure that the right component/product is transfused to the right patient.
* Safely administer blood components/products.
* Monitor the patient during transfusion.
* Involve medical staff in a suspected transfusion reaction.
* Report any transfusion reaction or incidents to the Transfusion Laboratory or Transfusion Practitioner via DATIX.
* Be responsible for maintaining traceability of blood components/ products in accordance with Trust policy.

4.14 **Phlebotomists and others taking blood samples are responsible for: -**

* Checking the identity of a patient before taking any blood samples.
* Checking patient identification information is correct on the request form/order.
* Using safe techniques for obtaining blood samples.
* Correct labelling of blood sample tubes in accordance with the BT policy.

4.15 **The Blood Transfusion laboratory is responsible for: -**

* Compatibility testing and issuing of blood components and products.
* Managing blood stocks and liaison with the National Health Service Blood and Transplant (NHSBT).
* Investigating adverse events and reporting them to the Serious Hazards of Transfusion scheme and the Medicines and Healthcare products Regulatory Authority where appropriate.

4.16 **Agency nurses**

* Agency staff are not permitted to collect or administer blood components unless they have completed the Trust training and competency assessment program.

# 5. TRAINING AND COMPETENCIES IN BLOOD TRANSFUSION

## 5.1 Training and competency for all staff

5.1.1 All staff involved in any aspect of the transfusion process covered by this policy require training and observational competency assessment. The responsibilities of each staff group in the transfusion process are defined in [Appendix 1](#Appendix).

5.1.2 These training requirements are mapped on Learn+ and staff will be automatically enrolled in the training relevant to their role.

5.1.3 If you have concerns over the training modules you have been enrolled in ask your line manager to investigate, or in the case of medical staff email the Hospital Transfusion Team rduh.htt@nhs.net (eastern) or rduh.ivnurses@nhs.net (northern).

## 5.2 Medical Staff

5.2.1 Medical Staff are mapped on Learn+ and enrolled in accordance with this mapping for:

*5.2.2* ***On- line training:***

* Blood Transfusion Safety e learning module for doctors, to be completed via Learn+ every 2 years

5.2.3 Medical staff are not trained to collect blood components/products from the fridges.

5.2.4 Anaesthetists are the only doctors who are trained to administer blood components.

5.2.5 If you are unsure of your blood transfusion training requirements please contact rduh.htt@nhs.net (eastern) or rduh.ivnurses@nhs.net (northern).

## 5.3 Non-medical staff trained in collection and administration of Blood Components/Products

5.3.1 Staff are mapped on Learn+ according to their role and will be enrolled on the relevant module of blood transfusion theory and also the one-off observed competencies they are required to do.

5.3.2 ***On-line Training:***

* Training and knowledge assessment by e-learning is completed via the e-learning system every two years with staff enrolled to modules appropriate to their role.
* Midwives and all registered staff who give Anti-D Ig must also complete the Anti-D training e-learning package via the Learn+ system every two years.

5.3.3 ***Observed one- off competency assessments***:

* Collection of blood/blood products
* Administration of blood components

5.3.4 These observed competencies are undertaken by blood champions who have completed training and subsequent updates with the Transfusion Practitioner.

5.3.5 It is the Blood Champion’s responsibility to electronically send the assessment form located on the Blood Champion’s page on the Trust Intranet, in order that the competencies can be recorded on Learn+.

## 5.4 Staff responsible for taking samples for transfusion testing

5.4.1 ***On-line Training:***

* Training and knowledge assessment by e-learning is completed via the e-learning system every two years with staff enrolled to modules appropriate to their role.

5.4.2 ***Observed one- off competency assessments***:

* Trust venepuncture course (non-medical staff)
* Medical staff are assessed as part of their medical student training

## 5.5 Non-medical authorisers

* Staff who have been identified as non-medical authorisers for blood components must complete the training and competency assessment as defined in the [Non-Medical Authorisation of Blood Components for Transfusion by Registered Practitioners Policy](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/0126)

# 6 DECISION TO TRANSFUSE

## 6.1 Making the decision

6.1.1 It is the responsibility of medical staff, or non-medical authorisers, who decide to transfuse blood components/products to ensure that they are following local and national guidelines for the appropriate use of blood components/products.

6.1.2 The decision to transfuse a patient should be made on an individual patient basis depending on symptoms and signs, the decision should be informed by [National Indication Codes for transfusion.](https://nationalbloodtransfusion.co.uk/recommendations)

6.1.3 Some patients, particularly those under the care of the haematology, renal, or oncology consultants have higher transfusion thresholds, be guided by local guidance from the relevant specialist, and by patient symptoms.

6.1.4 If the reason for anaemia is unknown, take blood samples to investigate pre-transfusion. If a treatable cause is identified, e.g. B12, folate or iron deficiency, treat the cause; this may avoid the need for transfusion.

6.1.5 Size Matters: In a patient weighing 70 kg, a 1-unit red cell transfusion will on average increase the haemoglobin by 10g/L. In a smaller person, for instance 50-60 kg, 1 unit may increase the haemoglobin by 15 to 20 g/L.

6.1.6 Single unit red cell transfusions should be used in stable non-bleeding adult patients, assessing need for further transfusion after each unit, wherever practical.

6.1.7 Advice regarding the decision to transfuse can be obtained by contacting the haematology consultant on call.

6.1.8 Hb levels obtained from point of care testing devices (HemoCue and blood gas analysers) may be used for decision making where these devices are configured, validated and quality controlled for this parameter.

## 6.2 Patients at risk of Transfusion Associated Circulatory Overload

6.2.1 The most common cause of death related to transfusion is Transfusion Associated Circulatory Overload (TACO). TACO is circulatory overload occurring within 24 hours of a transfusion. Patients aged over 70 years, those of low weight and those with concomitant medical conditions such as cardiac failure, renal impairment, hypoalbuminemia are at increased risk of TACO.

6.2.2 Further information and guidance on TACO risks and prevention can be found on the [SHOT resource](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT-TACO)

6.2.3 The decision to transfuse must be based on a thorough clinical assessment of the patient and their individual needs. This clinical assessment should include an evaluation of the patient’s age, body weight and concomitant medical conditions that predispose to TACO. These factors should be documented in the patients’ electronic records and should be considered when prescribing the volume and rate of the transfusion, and in deciding whether diuretics should be prescribed.

6.2.4 Single unit red cell transfusions are recommended where possible, especially in non-adult bleeding patients. Consider monitoring haemoglobin after each unit of blood to avoid over-transfusion; point of care devices may be available at certain locations to assist with this.

6.2.5 All suspected cases of TACO must be reported via the Trust incident reporting system (DATIX) and will then be reported to SHOT by the Hospital Transfusion Team.

## 6.3 Timing of provision of red cells

6.3.1 Provision of Blood: OPTIONS: Urgency versus Time to Issue\*

|  |  |  |
| --- | --- | --- |
| **Immediately\*** | **20 minutes** | **up to 90 minutes**\*\* |
| Emergency O D-negative/O D-positive red cells | ABO/D compatible but antibody screen not complete. | Fully Cross-matched |

\* Fully compatible blood may be provided within minutes if the Transfusion Department has a valid group and save and the patient is eligible for electronic issue or remote allocation (unallocated). Contact the Transfusion Department for advice or check on the BloodTrack Enquiry screen.

\*\* Provided the sample shows no evidence of atypical antibodies. If atypical antibodies are present the provision of fully compatible blood can be delayed. In these cases the Transfusion Department will make contact to discuss time delay.

6.3.2 In an emergency, if the patient is found to have developed red cell antibodies, and antigen negative blood is not immediately available, ABO/D Rh/K compatible blood **can** be given but only under consultant/senior clinician advice (for example the resuscitating anaesthetist or consultant haematologist) using concessionary release.

6.3.3 If blood is transfused in an emergency and is either known to, or subsequently found to contain antigens to which the patient is sensitised, the patient should be followed up for evidence of acute/delayed haemolysis – e.g. symptoms of anaemia or jaundice developing within 2 weeks of the transfusion. If there is evidence of acute or delayed transfusion this must be reported via DATIX.

## 6.4 Provision of urgent blood for patients with haemolytic anaemia

6.4.1 In patients with haemolytic anaemia, blood cannot be cross matched at RDUH and samples have to be sent to Bristol (NHSBT) for cross-matching; such cases can lead to a significant delay in the provision of blood. Clinicians should have a very low threshold for taking group and save samples, even if transfusion is not immediately necessary.

6.4.2 It may not be in the interests of the haemolysing patient to wait for blood to come from Bristol, for example:

* In the case of life-threatening haemorrhage (bleeding with grade III/IV shock)
* In cases of anaemia with decompensation e.g., the presence of heart failure/angina at rest/ECG changes
* In cases of severe anaemia (Hb < 60g/L) whether decompensation is present or not

6.4.3 In such cases the laboratory can, in consultation with the duty haematologist, issue ABO/D Rh/K matched blood under concessionary release; the risk of severe transfusion reactions due to a missed alloantibody are low, particularly in patients who have never been transfused and never been pregnant.

6.4.4 If blood is transfused in such circumstances, then the patient should be expressly monitored according to transfusion policy, with observations taken diligently; nursing staff should be advised to make sure the patient is in a visible area of the ward, and any change in observations should be promptly acted upon, with cessation of the transfusion, and immediate contact made with the consultant haematologist on call, with reference made to the guidance on managing transfusion reactions.

# 7. CONSENT FOR TRANSFUSION OF BLOOD COMPONENTS/PRODUCTS

## 7.1 Consenting patients

7.1.1 Staff must follow the Trust Consent to Examination or Treatment Policy (available on the intranet). In order to be able to consent, the patient must be competent and not acting under duress at the time of the decision.

7.1.2 The patient/guardian must be fully informed of the need for the transfusion. This includes the risks involved and any alternatives that may be available and all such discussions must be documented in the patient electronic records. Where possible the proposed treatment must be discussed with the patient/parent/guardian in advance.

7.1.3 Where adult patients lack the mental capacity (either temporarily or permanently) to give or withhold consent for themselves, no one else can give consent on their behalf. However, treatment may be given if it is in their best interests, as long as it has not been refused in advance in a valid and applicable Advanced Decision to Refuse Treatment.

7.1.4 Written consent is not required for transfusion; however verbal consent **must** be documented in the patient’s electronic records (EPIC) as part of the prepare blood order. It should also be documented if no discussion with the patient/guardian has taken place and the reasons for this. For further information on how to record consent in EPIC refer to the [EPIC- making an order for blood components](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/060) procedure.

7.1.5 Patients should be given the appropriate patient information leaflet prior to the transfusion commencing. These leaflets are available on the [NHSBT website](https://hospital.blood.co.uk/patient-services/patient-blood-management/patient-information-leaflets/) and on the [JPAC website](https://www.transfusionguidelines.org/transfusion-practice/consent-for-blood-transfusion/consent-information-for-patients) in accessible formats.

7.1.6 Following an emergency situation, where consent has not been possible prior to transfusion, the patient/guardian should be made aware that they have received a blood transfusion before their discharge. The information leaflet “Information for patients who have received an unexpected transfusion” should be used in this situation.

7.1.7 Any transfusion(s) given will be documented on the discharge summary on EPIC.

## 7.2 Patients who do not give consent for transfusion

7.2.1 Patients may not give consent for blood transfusion for a variety of reasons; some religious groups, including Jehovah’s witnesses, Rastafarians and Scientologists may not give consent, but patients may not give consent for non-religious reasons.

7.2.2 Any competent adult may refuse a transfusion of blood components and/or products. If this occurs, then details must be documented in the patient’s electronic records. Be aware that patients may change their minds as regards refusal of all or specific blood components/products; in such a case it is the patient’s most recent decision which must be upheld.

7.2.3 The refusal for transfusion must be recorded in EPIC. Firstly, by means of a ‘blood refusal flag’ on the patient’s EPIC record and also by using a blood refusal record found in the “Document List Activity”, select the Blood Component Refusal document and complete and sign it. Once recorded the refusal document will be visible in the ordering sidebar report in EPIC.

7.2.4 When a patient does not give consent for a transfusion of blood components or products, the patient’s consultant should be contacted. Alternatives to transfusion may be possible, and these should be discussed with the on-call consultant haematologist. [Guidance on the management of patients who do not give consent to transfusion](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/005) is accessible on the Trust Intranet.

# 8. ORDER AND PRESCRIPTION OF BLOOD COMPONENTS

8.1 Orders for blood components (prepare order) will normally be made by medical staff or non-medical authorisers, but it may be appropriate for non-medical staff to order blood in some circumstances, such as major haemorrhage or at assessment for surgery. However, only medical staff or non-medical authorisers must prescribe blood components (transfuse order). Access to prepare and transfuse order procedures are **not** controlled within EPIC, it is the responsibility of the healthcare professional to work within their sphere of practice.

8.2 Blood components must be ordered and prescribed on EPIC. Orders are made using the “prepare” function and prescription using the “transfuse” function. Care must be taken to ensure that the “transfuse” function is used only if the blood component is to be given. Use the “prepare” function only if the blood component is for standby and not necessarily to be administered.

8.3 For further information on how to make orders and prescribe in EPIC refer to the [EPIC- making an order for blood components](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/060) procedure.

8.4 The order and prescription must reflect the type of blood component to be administered. Volume for packed red cells must be in number of units in adults and in mL for paediatric/neonatal transfusions.

8.5 It is the responsibility of the authorising doctor or non-medical authorisers to ensure they have checked on the prepare order whether the patient requires any special blood requirements (e.g. irradiated, CMV neg, blood warmer) in accordance with [local guidelines](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0023). This will ensure that the special requirement is visible to the nursing staff when the transfuse order is released.

Note – requesting special requirements in the EPIC prepare blood component does not ensure that the requirement is logged on the transfusion computer system. To ensure that special requirements are logged in the laboratory computer system a separate order must be made by completing a “special requirements” notification in accordance with the [EPIC- requesting special requirements](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/061) procedure.

8.6 Any other instructions e.g. any medication required before, during or after the transfusion must be prescribed on EPIC to ensure that the person administering the transfusion is aware that medication is required (e.g. diuretics).

8.7 The duration of the transfusion must be stated (e.g.3 hourly/stat) within the transfuse order in EPIC. Transfusion of packed red cells must be completed within 4 hours of the unit of blood leaving the blood fridge. Therefore, to allow time for the unit to be delivered to the ward, blood should not be prescribed to be given any slower than over three and a half hours.

8.8 **Never** prescribe (use the transfuse order function in EPIC) blood components unless they are to be administered.

8.9 Documentation in patient electronic records in EPIC should also include.

* Any reported [transfusion adverse events/reactions and their management](#_21._MANAGEMENT_OF)
* Review following the transfusion including how much blood has been transfused and whether the anticipated outcome has been achieved.

8.10 In the event of an EPIC downtime requests for blood components can be made using a paper based system in accordance with the [Requesting blood components and sample taking in the event of electronic system downtime](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/062) procedure.

# 9. OVERNIGHT TRANSFUSIONS

9.1 Transfusions at night (between 20:00 and 08:00) must proceed only where there is a clear clinical indication and may be given as long as staffing is sufficient to permit transfusion according to the standards laid down in this policy.

9.2 Decisions to transfuse should not be made solely on the basis of the haemoglobin result but taking into account the full medical history, the patient’s current medical condition and the wishes of the patient.

9.3 The decision to transfuse at night should be confirmed with a senior clinician familiar with the patient’s case and overall management plan. The reason should be recorded in the patient’s electronic records in EPIC.

9.4 Transfusions should not be completed in Community Hospitals overnight.

# 10 TRANSFUSION SAMPLES

## 10.1 Two sample policy

10.1.1 To ensure patient safety and reduce the risk of an ABO incompatible transfusion, the Transfusion Department requires confirmation of the patient’s blood group from two separate samples.

10.1.2 Some patients may have an historical record of blood group held on the Transfusion Department’s computer database, so only one current sample is usually required.

 EPIC can be used to establish whether a patient has a historic group recorded.

10.1.3 Where patients have no historical blood group and a red cell order has been placed and sample taken, the Transfusion Department will notify by phone the requesting clinical area, wherever possible, that a second sample is required.

10.1.4 Where there is no historical blood group, two samples are required; these must not be taken concurrently by the same member of staff. The second sample must be taken either by another staff member or on a separate occasion by restarting the sampling from the beginning using a separate order/form. Group O red cells will be issued, in emergency situations, by the Transfusion Laboratory until two samples are received.

## 10.2 Sample timing and validity

10.2.1 Patients can make antibodies to red cell antigens after a blood transfusion or pregnancy. It is for this reason that transfusion samples have sample timing rules.

10.2.2 Samples for crossmatching of red cells must be less than 72 hours old at the beginning of the transfusion.

10.2.3 On rare occasions when a sample cannot be taken within the 72-hour period, a 7-day old sample may be used providing the patient has not been transfused or pregnant within the previous 3 months. This is generally only for chronically transfused patients with no history of atypical red cell antibodies. Requests for sample validity extension should be made via EPIC in accordance with the [EPIC- requesting special requirements procedure](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/061).

# 11. COLLECTING THE BLOOD SAMPLE

11.1.1 **This must only be carried out by a member of staff trained in venepuncture and in date with blood transfusion e-learning module. When using BloodTrack Tx only use your own barcode ID, DO NOT share barcode ID with other staff. If, at any point in the process, you get distracted, you must stop and start the process again.**

11.1.2 The BloodTrack Tx system should be used for labelling all samples for blood transfusion. The system can be launched from the banner at the top of the EPIC home screen if using a work station on wheels or other device enabled for sample taking.

11.1.3 Where BloodTrack Tx cannot be used for sample labelling (e.g. patient home, GP surgery, system not working) request forms can be printed from [EPIC](https://www.exeterlaboratory.com/blood-transfusion/epic-blood-transfusion/) and sent to the transfusion laboratory with a hand written sample. Where EPIC cannot be accessed or printing is not available a paper transfusion request form must be completed to accompany the hand-written sample.

## 11.2 Sample and labelling requirements

11.2.1 Sample tube requirements:

* Neonates to 5 years old - 1.3 or 2 mL EDTA sample tube.
* 5 years to adult - 6mL EDTA sample tube.

11.2.2Positive identification of the patient is essential and must be undertaken.

11.2.3 If any of the patient’s details (First name, surname, date of birth, MRN/NHS number) are missing or incorrect on the ID band, or request form, the sample must not be taken until this is rectified.

11.2.4 **Correct patient identification and labelling of the sample is a critical step in the transfusion process, errors at this stage can lead to ABO incompatible transfusion which can ultimately result in the death of the patient. Strict adherence to this policy is vital for patient safety. Blood tubes must not be pre-labelled, patient ID bands must not be held anywhere other than on the patient and excess BloodTrack Tx printed labels must not be saved for later use. In addition, the** [**two sample policy**](#_10.1_Two_sample) **must be followed correctly.**

## 11.3 Procedure for labelling transfusion samples

11.3.1 In settings where ID bands can be printed from EPIC, patients must wear the ID band, with the first name, surname, date of birth and MRN/NHS number.

11.3.2 For conscious patients in addition to the checking of the ID band, the patient must be positively identified using open questioning i.e. ask the patient their first name, surname and date of birth. Those answers must match exactly the details on the ID band before taking the sample.

11.3.3 For unconscious/paediatric patients the ID band on the patient may be the only ID check that can be undertaken. A family member may be able to confirm the patient’s (e.g., “can you confirm this patient’s name for me?” as opposed to “is this John Smith?”).

11.3.4 In settings where ID bands cannot be used, the patient must be positively identified and the details confirmed with those on the paper request form. The sample must be hand-written at the patient’s side.

11.3.5 Further instructions on the use of the BloodTrack system for the collection and labelling of transfusion samples can be found in the [BloodTrack Collect Samples](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/023) procedure.

11.3.6 The BloodTrack Tx generated label **must** be applied to the sample tube whilst remaining **at the patient’s side**.

11.3.7 In the event of a BloodTrack system failure, a sample with a handwritten label containing all four points of identification (surname, forename, DoB and MRN/NHS number) will be accepted accompanied by a handwritten request form. The sample **MUST** be labelled at the patient’s side. Further information on transfusion activities in computer downtime events can be found in the [Requesting blood components and sample taking in the event of electronic system downtime](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/062) procedure.

## 11.4 Request acceptance criteria

11.4.1 For safety reasons the laboratory has a zero-tolerance policy for mislabelled samples.

11.4.2 The patient identification on the EPIC order/paper request form and the sample (surname, forename, date of birth and MRN/NHS number) must match exactly. Any sample which does not conform to these criteria will not be processed by the Transfusion Department.

11.4.3 Samples with a printed label that has not been not generated via BloodTrack Tx will be rejected.

11.4.4 Two samples that appear to have been taken by the same person at the same time in BloodTrack or handwritten will also be rejected by the Transfusion Department.

11.4.5 If samples are received in the laboratory labelled with a BloodTrack Tx label but without an accompanying order on EPIC or paper request form will be rejected.

11.4.6 If a sample is rejected and blood is urgently required then group O blood will be issued pending a repeat sample.

11.4.7 Requests that are rejected due to failing the acceptance criteria above will be reported via the DATIX system and back to the clinical team via EPIC.

## 11.5 Transfer of sample labelling to another member of staff

11.5.1 In some very rare circumstances it may not be possible for the practitioner taking the sample to label the tube him/herself (e.g. operator called away on an emergency).

11.5.2 In this situation the sample may be handed to another practitioner to label using the BloodTrack system. The practitioner labelling the tube must have witnessed the sample collection process and must label the sample at the patient’s side using the positive patient identification process.

# 12. PRE-COLLECTION OF BLOOD COMPONENT CHECKS

**Must only be carried out by an in date trained and competency assessed registered member of staff.**

## 12.1 Pre-collection checks

12.1.1 Pre-collection checks are important to avoid the risk of wasting blood components if removed from the fridge before the patient is ready.

12.1.2 Transfusions must only be performed where there are facilities to recognise and treat transfusion reactions.

12.1.3 Transfusions should be given where members of the clinical staff can readily observe the patient as visual observation of the patient is often the best way of assessing patients during transfusion.

**Check**:

* The patient electronic records in EPIC for consent and reason for transfusion.

* There is a valid prescription (transfuse order) in EPIC.

* For any concomitant medications on once only section of MAR in EPIC.
* The patient’s identity is positively confirmed, **No ID band No Transfusion.**
* That the patient has a patent appropriate access i.e. cannula.
* Complete pre-transfusion vital signs and record on the blood flowsheet in EPIC. These checks may be carried out up to 60 minutes before the transfusion is commencedand must include: Respiratory Rate, Oxygen Saturation (whenever possible), Temperature, Heart Rate, Systolic and Diastolic Blood Pressure.
* Drip stand, appropriate infusion set and infusion pump are available.
* Check if blood component is available and where it is stored using [BloodTrack Enquiry](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/008)

12.1.4 Generating a pick-up slip

* Generate the pick-up slip from the BloodTrack enquiry screen.
* The pick-up slip should include the instruction to deliver the component to the location specified, if the component is to be delivered to a different location this must be handwritten on the pick-up slip.
* Porters may be requested to deliver blood components (with the exception of platelets and cryoprecipitate) from one blood fridge to another; this should be requested via the portering process on EPIC or by phone.
* If requested to collect components by phone, the Portering Dispatcher must be given the MRN/NHS number of the patient by the requestor and then use BloodTrack Enquiry to look for the available components and their location.
* The Portering Dispatcher will confirm with the requestor the:
	+ Patient’s first name and surname.
* Date of birth and MRN/NHS number.
* Area requesting and the name of the requestor.
* What component to collect and to which blood fridge this must be delivered.
* Urgency of request, the dispatcher will give the clinician an estimated time that the task will be completed.

12.1.5 The Portering Dispatcher will generate a pick-up slip from BloodTrack Enquiry and arrange for collection.

12.1.6 Any components collected prior to patient’s arrival/intended administration must consider the storage rules for that component. See [Appendix 6](#_APPENDIX_6:_ADDITIONAL)

# 13 COLLECTING THE BLOOD COMPONENTS/PRODUCTS FROM BLOOD FRIDGES: BLOOD TRACK COURIER

 (flow chart see [Appendix 3)](#_APPENDIX_3:_FLOW_1)

## 13.1 General Instructions

**13.1.1 This must only be carried out by a trained and competency assessed member of staff. When using BloodTrack Courier only use your own barcode ID, DO NOT share barcode ID with other staff.**

**Portering staff in the eastern site may transport blood components from one blood fridge to another blood fridge but are not permitted to transport blood components from a blood fridge to a clinical area. A trained and competency assessed member of staff from the clinical area must collect the blood component from the blood fridge for delivery to the clinical area.**

**Porters based in ED and MAU at the northern site receive additional training to deliver blood components to these locations.**

**Blood components (red cells and FFP) must be stored only in the designated blood fridges, not in other ward or drug fridges.**

13.1.2 **In order to use BloodTrack Courier, staff must be fully trained.** After training a barcode will be added to the staff member’s identification badge and activated to allow access to the blood fridge kiosks.

13.1.3 All blood fridges are controlled via BloodTrack Courier. Unauthorised staff cannot access the blood fridges. **Do not lend your badge** to any other member of staff and do not ask a member of staff to lend theirs to you. This goes against data protection and is a disciplinary offence.

13.1.4 Staff members must take an approved transport carrier,especially when transporting blood components in public areas. Approved carriers include either red blood boxes or specific red Blood Transfusion plastic carrier bags.

13.1.5 Blood component fridge locations

 Eastern:

* Issue Haemobank (Blood Transfusion, Room A204)
* Theatres Haemobank (Main Theatres, Room L205).
* Labour Ward Haemobank (Labour Ward, Centre for Child and Women’s health).
* PEOC Theatres Haemobank (Princess Elizabeth Orthopaedic Centre, Theatres)
* Yarty Haemobank (Yarty Ward).
* Sidmouth Community Hospital Haemobank
* Tiverton Community Hospital Haemobank
* SWAOC Haemobank

Northern:

* Issue fridge (Blood Transfusion level 1)
* Maternity (Ladywell unit – Labour Ward)
* Main theatres (level 3)
* Torrington Community Hospital
* South Molton Community Hospital
* Holsworthy Community Hospital
* Ilfracombe Community Hospital

## 13.2 Using the BloodTrack Courier system to collect blood components from the Haemobank fridges

* The HaemoBank is used to store blood units that have been crossmatched and labelled for named patients. Emergency group O red cells are also stored in the Haemobanks.
* Each blood fridge has a kiosk attached which controls access to the fridge.
* If there is a blue banner across the top of the screen, then the kiosk is in live mode and ready to be used; if there is a gold bar across the top, the kiosk is in training mode, tap on ‘disable training mode’ to return to live mode.
* Instructions for using BloodTrack kiosk can be found in the [Use of BloodTrack Kiosks](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/009) procedure.
* **ALL blood components must be scanned out of the fridge.**

* The system will alert you to any issues with the collection process of the blood component and will give any further instructions if required.
* Check that the unique donation/product number matches on the blood component and on the compatibility label.
* **Check** the blood component for the following:
* ***Expiry date***. (The expiry date/time refers to 23.59 hours on the date given, unless otherwise stated on the component). Expired components must not be taken from any fridge and the Transfusion Department mustbe informed.
* ***The blood group*** of the component is identical/compatible to that of the patient. *If the blood group of the component and the patient are not identical a round green sticker on the compatibility label will be attached to the unit by the laboratory staff.* If in doubt do not take the blood component, seek advice from the Transfusion Department staff.
	+ Staff must ensure that the fridge door is closed and they are logged out of BloodTrack Courier by tapping ‘logout’ on the screen before leaving the fridge area.
	+ Once a component has been collected for a patient, the pick-up slip must be disposed of immediately. These are strictly single use. If they are being used in a major haemorrhage situation, they must be kept at the patient’s bedside and in no situations must they ever be left at the blood fridges or in general ward areas.

* + Platelet, cryoprecipitate and granulocyte components must be collected from the Transfusion Department. Contact the laboratory staff by ringing the bell in the blood collection alcove or bleeping the BMS on duty out of hours (eastern bleep 277, northern bleep 045). These components MUST be scanned out using the BloodTrack Courier system to ensure a full audit trail is available and so they can be administered using the BloodTrack Tx system. The laboratory staff are able to use the clinical staff BloodTrack barcode to ensure correct audit trail of this function.
	+ If any discrepancies are found return the component to its appropriate storage and contact the Transfusion Department.

## 13.3 Remote allocation of red cells using the HaemoBank

* The Haemobank blood fridge is designed to be used as a remote allocation (unallocated) fridge. Unlabelled units of blood can be stored in the fridge which can be collected and labelled for a patient when required. This function can only be used for patients who are eligible for remote allocation and this is clearly indicated on the BloodTrack Enquiry screen, see the [Use of BloodTrack – remote allocation procedure for further information.](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/036)
* Only staff that have been specifically trained and competency assessed for remote allocation (unallocated) will have access to this function.
* Instructions for using the remote allocation function as detailed in the [Use of BloodTrack – remote allocation](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/036) procedure must be strictly adhered to.
* The kiosk will create an alert if any errors are detected at any stage in the process. Staff **must** adhere to all instructions shown on the kiosk screen.
* The HaemoBank will only open one drawer at a time for remote allocation, the unit must be removed, a label will be printed, this must be successfully attached to the unit and scanned before the unit can be taken back to the clinical area. Under no circumstances can unlabelled blood units be taken to the clinical area, any deviations from the remote allocation procedure must result in return of the unit to the fridge.
* It is vital that the on-screen instructions are followed to ensure that all the safety functions within the system have been passed. Failure to follow the instructions will put the patient at risk of a transfusion reaction and will generate an alert within the system which will be visible to the Transfusion Department staff.
* When using the remote allocation function patients with blood group AB may be allocated group A blood by the system, this is acceptable and compatible for the patient.
* Ensure that you log out of the system before leaving the blood fridge area

## 13.4 Returning unwanted components/products

13.4.1 Components/products should only be collected from a fridge if it is to be transfused; on occasions however, it can transpire that components/products are collected, only for them to no longer be required; never transfuse a blood component/product just because it has been collected. If the transfusion is no longer required, then red cells/FFP must be returned to one of the Haemobanks. As long as these components are returned to the blood fridge within 30 minutes they can be collected if required later, or returned to stock for re-use by the laboratory staff. If returned later than 30 minutes from collection the Haemobank will not allow re-collection of the unit and will alert the laboratory staff that the unit must be disposed.

13.4.2 The member of staff returning the units must scan their BloodTrack Courier barcode into the kiosk and select the ‘putting in’ option to gain access to the fridge. The blood component/product unique number must be scanned in before the fridge door will unlock.

13.4.3 The unit must be stored in the opened drawer in the Haemobank, a message will appear saying ‘store the unit’, the Haemobank will unlock and a selected tray will open to receive the unit. The tray and fridge door must be securely closed and the staff member logged out of the system.

13.4.4 Red blood cells, or other components, with a giving set attached **must not** be returned to any blood fridge. They must be returned directly to the transfusion laboratory for disposal by the laboratory staff.

13.4.5 Allother unwanted components/products must be promptly returned to the Transfusion Department staff. Unwanted/unused blood components **must not** be disposed of in the clinical area.

## 13.5 Actions to be taken in the event of BloodTrack Courier system failure

13.5.1 If the system on line network fails, the kiosks and all blood fridges will lock and no access will be allowed. The data will be stored and downloaded to the server once the fault is corrected.

13.5.2 The laboratory staff will collect all units and products from storage in the Haemobanks and batch fridges.

13.5.3 All blood components and products will be returned to the transfusion laboratory and can be collected from the laboratory staff during the period of downtime.

13.5.4 In the unlikely event of a prolonged loss of network, a paper system for collection of blood will be implemented and all the fridges will all be unlocked.

13.5.5 In this situation, staff collecting blood components/products must use the paper forms supplied to document the date and time of collection and print and sign their name.

13.5.6 A [Collection of Blood Components/Products form](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/007) is available for these situations. This form must be completed with the relevant patient and blood component/product information at the clinical area. The form must be completed with the name of the collector and the date and time that the blood components/products were collected. The form must be used to receipt the blood component/product in the clinical area and then returned to the Transfusion Department.

# 14. TRANSPORT OF BLOOD COMPONENTS WITH/OR RECEIPT WITH PATIENT TO/FROM ANOTHER TRUST

## 14.1 Sending blood components with the patient to another hospital

14.1.1 It is a legal requirement that all units of blood used within the Trust or sent from the Trust to another hospital can be traced.

14.1.2 If it is necessary to send blood components to another hospital the blood Transfusion Department must be contacted in advance.

14.1.3 The Transfusion Department must be advised of the patient details and the destination.

14.1.4 The Transfusion Department will prepare the blood component for transport and advise when ready for collection.

14.1.5 The transport time to the destination cannot exceed the time stated by the laboratory on the transport box and so if there is a delay the Transfusion Department must be informed to ensure appropriate action is taken.

14.1.6 If there is an intention to transfuse a patient during transfer to another hospital suitability trained and competency assessed member of staff mustaccompany the patient and continue to monitor and complete the observations/documentation during transfer.

## 14.2 Receipt of blood components with the patient from another hospital

14.2.1 If blood components are received with a patient from another hospital, the transport box and its contents must be taken to the Transfusion Department immediately to confirm that the components are safe for administration.

14.2.2 The Transfusion Department must be advised of any blood components transfused during transport of the patient and the compatibility label(s) returned to the Transfusion Department as soon as possible.

14.2.3 The Hospital Transfusion Team will take responsibility for recording these out of hospital transfusions on EPIC and the laboratory computer system for traceability purposes.

# 15. RECORDING ARRIVAL OF BLOOD COMPONENTS IN CLINICAL AREA: BLOODTRACK TX

**This must only be carried out by an in date trained and competency assessed registered member of staff. When using BloodTrack only use your own barcode ID, DO NOT share barcode ID with other staff.**

15.1 Blood components should be documented as having arrived at the clinical area where the transfusion is to take place, this must be completed if the person collecting the component is not the person who is going to administer the component. The rationale for receipting is to ensure that the right component has been collected for the right patient and provides a record that the person collecting the component has successfully delivered the component to the correct location.

15.2 Any discrepancies can be identified before arrival at the patient’s bedside and can be dealt with causing a minimum delay to patients.

15.3 Recording arrival of the component is not an alternative to carefully checking identity at the patient’s bedside (see section on [administration](#Administration)).

15.4 Receipt of the blood component must be documented using the “Arrivals” function on **BloodTrack Tx** on the workstation on wheels. Further instructions for using the BloodTrack Tx function can be found in the [Use of the BloodTrack Tx System](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/014) procedure.

# 16 ADMINISTRATION OF BLOOD COMPONENTS

**(For flow chart see** [**Appendix 4**](#_APPENDIX_4:_FLOW)**)**

**This must be carried out by an in date trained and competency assessed member of staff using the BloodTrack Tx system. When using BloodTrack only use your own barcode ID, DO NOT share barcode ID with other staff.**

## 16.1 Blood Infusion Sets and Electronic Infusion Devices

16.1.1 Blood components (red cells, platelets, fresh frozen plasma, granulocytes and cryoprecipitate) must be transfused using a blood administration infusion set. This has a different size filter compared with the usual 15-micron filters in standard infusion sets. Careful attention must be paid to the giving set selected for transfusion (see figure 1).

 On the Blood Administration sets:

* The outer packaging states ‘Transfusion’
* There is a double rather than the single chamber found on the standard giving set
* The filter is larger than the standard giving set
* The spike is clear, compared with the white spike of the standard set.

For further advice regarding the duration of the transfusion and appropriate use of intravenous administration sets, refer to [Appendix 6](#_APPENDIX_6_FLOW).

Figure 1: image shows the differences between a standard and a transfusion administration set

 

16.1.2 Blood components can be administered using the Trust electronic infusion device with a blood administration infusion set compatible with the infusion device.

16.1.3 Individuals using any type of infusion device should be able to demonstrate competency in their use. A second checker is not required as blood components are rated as low risk (2/8) when risk assessed under [the MEDUSA Injectable Medicines Administration Guidelines](https://royaldevonstaff.nhs.uk/search?term=the+MEDUSA+Injectable+Medicines+Administration+Guidelines&search=Search&searchType=all). Staff can choose to request a second check but this is not a Trust requirement.

16.1.4 The pre-administration checking procedure should include a check of the device and device settings.

16.1.5 Infusion devices should be regularly maintained in accordance with manufacturers’ and organisational guidelines.

## 16.2 Blood Warmers

16.2.1 Blood components must not be warmed by any method other than a blood warmer designed for this purpose and must have an audible temperature warning.

16.2.2 A blood warmer is indicated at flow rates of >50mL/kg-1 h-1 in adults, >15mL kg-1 h-1 in children and exchange transfusions in neonates.

16.2.3 It should also be used when transfusing patients with clinically significant cold agglutinins.

16.2.4 The use of blood warmer should be recorded as a special requirement on the EPIC prepare order. Blood warmers on the eastern site are available from the Haematology ward (Yarty) and the transfusion laboratory, advice can be sought from the Yarty ward staff for their use. Blood warmers on the northern are available from the equipment library level 1.

## 16.3 External pressure devices

16.3.1 These should only be used in emergency situation, with the use of gravity administration together with a large gauge venous access or other appropriate access.

16.3.2 Use only devices designed for the purpose.

16.3.3 A pressure gauge must be present and must not exceed 300mmHg

## 16.4 Administration of Blood Components

**BloodTrack Tx must be used to administer red cells, FFP, platelets, granulocytes and cryoprecipitate– In routine and emergency transfusions**

16.4.1 The BloodTrack Tx system is accessible on the workstations on wheels in the clinical area.

16.4.2 Further instructions for using the BloodTrack Tx function can be found in the [Use of the BloodTrack Tx System](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/014) procedure.

16.4.3 For patient safety reasons the instructions on BloodTrack Tx screen must be strictly adhered to. The BloodTrack Tx system is a second check to support the primary positive identification procedures (see section 16.6), **it is not intended to replace the primary patient identification check. If, at any point during patient identification you get distracted, you must stop and start the process again.**

16.4.4 If BloodTrack Tx is not used to record all units of blood components transfused an incident report will be raised to the ward sister/matron who is then responsible for the investigation and preventive action.

16.4.5 Do not add any medications or other substances to blood component under any circumstance.

16.4.6 It is good practice to avoid the co-administration of any intravenous fluid through the same line used for blood components, unless a SEPARATE lumen on a multi-lumen central catheter is used.

16.4.7 Syntocinon is safe to give with blood products or components via a peripheral cannula. Care must be taken to ensure that the drug does not backflow into the blood component/product.

16.4.8 The administration of red cells must be completed/stopped within 4 hours from the time of removal from temperature controlled storage.

16.4.9 The administration of all blood components must be stopped at the expiry date/time stated, even if this is before the entire product has been transfused.

16.4.10Universal precautions must be adopted when handling blood components. Refer to the Trust’s Infection Prevention and Control Policy and Standard Infection Control Precautions.

## 16.5 Pre-administration checks at the bedside

16.5.1 **The patient must be wearing an ID band containing a 2D barcode.**

If not, one **must** be generated using EPIC. It is **vitally** important that care is taken to ensure the correct ID band is attached to the right patient. Prior to attaching the ID band, confirm patient identification. Do not transfuse any blood component to a patient if the ID band is not physically attached to the patient.

16.5.2 The blood component must be checked to ensure transfusion will be completed by midnight of the expiry date.

16.5.3 Confirm that the donation number on the blood component matches that on the compatibility label.

16.5.4 All blood components must be checked for any signs of discolouration, turbidity, haemolysis, large clots and the integrity of the pack by checking for leaks at the ports and seams.

16.5.5 The prescription on EPIC must be checked against the blood component and the compatibility label:

* Patient details match on prescription
* The product/component is exactly as prescribed: Are any special requirements such as irradiated, CMV neg, blood warmer? If so check that the special requirements are met.

## 16.6 Final Bedside Check

16.6.1 **This is the final bedside pre-transfusion check and it is vital that you positively identify your patient (verbally whenever possible) and confirm that the details given match those on the patient ID band.**

16.6.2 Confirm that the patient details on the ID band match those on the compatibility label on the unit.

16.6.3 If any discrepancies/problems are found the blood component must not be transfused. The Transfusion Department must be informed and after discussion if necessary the unit returned to the Transfusion Department.

**The BloodTrack Tx system provides an additional electronic patient safety check**

16.6.4 Administration of blood components **must** be performed using BloodTrack Tx, all relevant staff will be trainedto use BloodTrack Tx. Only after training will the barcode on the staff member’s Trust identification badge be activated. Any unauthorised staff **must not** use the BloodTrack Tx system. **Do not lend your badge** to any other member of staff. This goes against data protection and is a disciplinary offence.

Instructions for using the BloodTrack Tx system for the administration of blood

component and products can be found in the [Use of the BloodTrack Tx System](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/014) procedure.

16.6.5 For patient safety reasons the instructions on BloodTrack Tx screen must be strictly adhered to.

16.6.6 The BloodTrack Tx system will generate alerts if the process is not followed properly,

if any mismatches in patient identification details between the compatibility tag and the ID band are detected and/or if the unit is not suitable for use. Staff must pay careful attention to the BloodTrack alerts and contact the transfusion department for advice on whether the unit can be administered.

# 17. DOCUMENTATION DURING ADMINISTRATION OF BLOOD COMPONENTS

17.1 The relevant prescription for the blood component must be released in EPIC ([see tip sheet for further information](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/073)). This will release the infusion group for this unit within the flow sheet.

17.2 All records relating to the transfusion of a blood component must be recorded in the blood flowsheet in EPIC, in accordance with the [Blood component administration](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/073)  procedure.

17.3 All observations, start and stop times of transfusion and the volume of the transfusion must be added manually to the flowsheet by the practitioner responsible for the transfusion.

17.4 In the event of an EPIC downtime, clinical areas will be supplied with paper prescriptions for documenting the transfusion. These must be completed and scanned into EPIC in accordance with the [Requesting blood components and sample taking in the event of electronic system downtime](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/062) procedure.

# 18. CARE OF PATIENT DURING TRANSFUSION: MONITORING AND OBSERVATIONS

18.1 All patients receiving transfusions must be monitored for signs of the potential complications and any suspected problems dealt with swiftly and efficiently.

18.2 The responsibility for monitoring the patient during a transfusion normally rests with the registered practitioner responsible for the patient’s care. This may be delegated to an appropriately trained member of staff who carries out this part of the process under the supervision of the member of staff responsible for that patient. It is the registered practitioner who retains absolute personal accountability for the delegated task.

18.3 Severe reactions are most likely to occur within the first 15 minutes of the start of each unit and patients should be closely observed during this period.

18.4 The monitoring process must be the same for those patients receiving donated blood (allogeneic) as those receiving cell salvage blood (autologous).

18.5 The patient should be informed of the importance of reporting any adverse effects of the transfusion including shivering, rashes, flushing, and shortness of breath, pain in the extremities or in the loins, or feeling generally unwell.

18.6 All vital signs must be measured and recorded on the clinical flowsheet record in EPIC before the start of each unit of blood component, within 15 minutes of commencing the transfusion and at the end of each transfusion episode: This is to include, Respiratory Rate, Oxygen Saturations (whenever possible), Temperature, Heart Rate, Systolic and Diastolic Blood Pressure.

18.7 If for any reason this is not completed the reasons must be documented in the patient’s electronic records in EPIC.

18.8 Further observations during the transfusion of each unit of blood or blood components are at the discretion of each clinical area and need only be taken should the patient becomes unwell or show signs of a transfusion reaction.

18.9 Observations should be taken and recorded more frequently in unconscious patients or patients who may not be able to summon assistance. Hypotension, tachycardia, fever, uncontrolled bleeding, haemoglobinuria (red or black urine) or oliguria (reduced/absent urine output) may be the first indications of an acute haemolytic transfusion reaction in these patients.

18.10 Patients who are transferred to other departments/wards within the hospital during transfusion of blood components or products must be accompanied by a suitability trained and assessed member of staff with all relevant paperwork.

# 19. END OF TRANSFUSION

## 19.1 Ending the transfusion

19.1.1 All vital signs at the end of the transfusion must be taken and recorded on the EPIC flowsheet, within 60 minutes of its completion. This is to include, Respiratory Rate, Oxygen Saturations (whenever possible), Temperature, Heart Rate, Systolic and Diastolic Blood Pressure.

19.1.2 The registered practitioner responsible for the patient’s transfusion mustensure that the end of transfusion time is recorded on the EPIC flowsheet.

19.2.3 The patient’s nursing record/care plan section of EPIC must be updated, to confirm the patient has been transfused and if any problems were encountered.

## 19.3 BloodTrack Tx failure

19.3.1 In the event that BloodTrack Tx system is not operational the Blood Transfusion Laboratory will alert users via the Trust Duty Manager. It may be necessary to revert to a paper system for traceability and double independent administration checking.

19.3.2 EPIC can continue to be used to record the transfusion, using a check sheet to record the identity of the practitioners involved in the double independent check (eastern only) and the donation number. Further instructions on how to use the check sheet can be found in the [Requesting blood components and sample taking in the event of electronic system downtime](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/062) procedure.

19.3.3 To maintain traceability in the event of BloodTrack Tx downtime the compatibility label contains a tear off portion with the patient and blood component information. This must be detached and returned to the Transfusion Department within 24 hours of the end of transfusion.

# 20. DISPOSAL OF TRANSFUSED BLOOD COMPONENT BAG

20.1 The component/product and administration set should be sealed to prevent leakage and disposed of into the 30-litre IV box. Where departments have yellow incineration bags these may be used for disposal.

20.2 If a number of different components have been transfused or transfusions were administered rapidly, the empty units may be retained in a clear plastic bag, with the patient’s addressograph label attached, until the end of that transfusion episode and then disposed of if no adverse reaction has occurred.

# 21. MANAGEMENT OF TRANSFUSION REACTIONS

## 21.1 Management of Acute Transfusion Reactions

**21.1.1 For all suspected reactions, the transfusion must be stopped or suspended immediately**

21.1.2 Acute transfusion reactions vary in severity; use the Transfusion Reaction Chart [Adverse Reactions to a Blood Transfusion flow chart](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/011) to assess each possible reaction.

21.1.3 A severe acute reaction will usually occur within the first 15 minutes of the commencement of blood components/products. A patient with a severe reaction can deteriorate very quickly with hypotension, respiratory distress, collapse and possible death.

21.1.4 Transfusion reactions must be recorded in the EPIC blood flowsheet and investigation orders must be placed using EPIC transfusion reaction order sets. The correct reaction type must be selected in EPIC to ensure the correct investigations and actions are performed.

## 21.2 Management of Delayed Transfusion Reactions

21.2.1 Delayed transfusion reactions occur more than 24 hours after transfusion in a patient who has been alloimmunised to a red cell antigen by previous blood transfusion or pregnancy.

21.2.2 Transfusion of antigen positive red cells leads to haemolysis of the transfused cells; haemolysis can become clinically apparent up to 14 days after transfusion.

21.2.3 Signs of a delayed transfusion reaction include a falling haemoglobin level or failure to achieve the expected increment, jaundice, fever and occasionally haemoglobinuria or acute renal failure. Delayed transfusion reactions are easily missed.

21.2.4 Clinical suspicion should be confirmed by laboratory investigations including full blood count, reticulocytes, examination of the blood film, bilirubin, renal function and lactate dehydrogenase. Serological investigation should include a repeat group and save sample and request for a direct antiglobulin test.

21.1.5 Treatment is usually supportive, sometimes further transfusion is required, very occasionally renal failure occurs.

# 22 USE OF EMERGENCY GROUP O BLOOD

**(for flow chart see** [**Appendix 5**](#_APPENDIX_5:_FLOW)**)**

## 22.1 Emergency uncrossmatched red cells

22.1.1 In the event of a massive haemorrhage it may be necessary to use uncrossmatched blood.

22.1.2 The decision to transfuse uncrossmatched red cells rests with the doctor attending the patient; patients may have made red cell antibodies in response to previous transfusions or pregnancy which could cause haemolytic transfusion reactions in recipients of uncrossmatched blood.

22.1.3 The safest and most appropriate blood for any patient, if it is available, is cross matched blood. Before using Emergency Group O blood, staff should if possible, check by phoning the laboratory or looking on BloodTrack enquiry to see whether crossmatched blood is available, or if the laboratory has a valid group and save that could be used for urgent crossmatching. If emergency group O blood is used when crossmatched blood is available this will be investigated and is SHOT reportable.

22.1.4 Uncrossmatched red cells must only be administered to a patient if staff have had clear instruction from the lead clinician that emergency O red cells are required.

22.1.5 Group O RhD negative blood can be given to any patient if required. To conserve the use of this scarce resource, uncrossmatched group O RhD positive units may be issued by the laboratory to patients who are known to be RhD positive.

22.1.6 The use of Emergency Group O red cells does not negate the need to correctly identify the patient or complete all appropriate documentation. Nor does it negate the legal obligation to trace the fate of all blood products; therefore, the component must be prescribed and BloodTrack Tx used for administration.

22.1.7 Provision of blood components/products during a major haemorrhage is detailed in the [Major Haemorrhage Protocol](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=NPSA/2010/RRR017) (eastern) and [Massive Blood Loss Management Policy](https://royaldevonstaff.nhs.uk/transfusion-policies-guidelines-northern-services) (northern)

22.1.8 Provision of blood components for trauma patients in the emergency department is detailed in the Trauma Code Red procedure in ED (eastern only).

## Collecting Emergency Group O red cells

22.2.1 Emergency group O red cells are available on the eastern site from the laboratory staff, the Issue Fridge in the transfusion laboratory, main theatres and labour ward, where there is also a unit of neonatal emergency blood stored. On the northern site emergency group O red cells are available from the Issue Fridge, transfusion Laboratory and Maternity Fridge.

* Portering staff may collect and transport emergency units to the clinical area if they are part of the team attending the patient and are instructed to do this by the clinical staff.
* Inform the Transfusion Department immediately the emergency blood is used. It is the responsibility of the clinical team who have used the blood to ensure that this is done.
* There is no need to generate a pick-up slip when collecting emergency red cells but only staff trained to use BloodTrack Courier can access the blood fridge.
* Instructions for collection and administration of emergency group O red cells can be found in the [Collection and Administration of Emergency group O red](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/040) cell procedure. The procedures must be strictly adhered to for patient safety and traceability reasons.

## 22.3 Administration of emergency uncrossmatched blood

22.3.1 Emergency group O blood must be administered using the BloodTrack Tx system in

accordance with the [Use of the BloodTrack Tx system](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=HTT/014) procedure.

22.3.2 In the event of BloodTrack Tx failure, the Compatibility label on the Emergency O red cell units must be dated, initialled and the patient’s identifiers all completed before returning the tag to the Transfusion Department.

22.3.3 Communicate with the Transfusion Department at an early stage if the need for a large volume of blood is envisaged and notify the Transfusion Department staff when an emergency situation has been resolved (refer to the [Management of Massive Blood Loss Guidelines)](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=NPSA/2010/RRR017) (eastern) and [Massive Blood Loss Management Policy](https://royaldevonstaff.nhs.uk/transfusion-policies-guidelines-northern-services) (northern)).

#  TRANSFUSION OF BLOOD/BATCH PRODUCTS

23.1. Batch products are defined as products derived from pooled plasma; however, for simplicity the term is widely applied to all products other than blood components supplied by the transfusion laboratory. It is acknowledged that some of the clotting products supplied are recombinant products not derived from plasma.

23.2. Batch products are medicines and are prescribed on EPIC on the Medicine Administration Record (MAR). The order must be telephoned through to the transfusion laboratory.

23.3. When the transfusion laboratory has issued the batch products, they will appear on BloodTrack enquiry as available for collection. The clinical areas will [print a pick-up](#_12._PRE-COLLECTION_OF) slip to enable collection.

23.4 Batch products are collected from the transfusion laboratory or the kiosk-controlled batch product fridge in main theatres. Anti-D Ig can be stored in and collected from the blood fridges in Labour Ward on both sites.

23.5 Batch products stored in batch/blood fridges can only be collected by healthcare staff with appropriate access via a [BloodTrack kiosk](#_13__COLLECTING).

23.6 Batch products can be collected by healthcare staff and occasionally by nominated parents of paediatric patients who do not have BloodTrack access. The name, role and time of collection will be recorded on a sign off form in the laboratory and then manually uploaded to SafeTrace Tx.

23. 7 Batch products must be taken directly to the clinical area. Once collected from the storage location the batch products are no longer tracked by BloodTrack and should be treated as a medicine.

23. 8 Batch products are administered via the MAR, using standard infusion sets and electronic infusion pumps in accordance with instructions in the Summary of Product Characteristics.

23. 9 The batch number and the name of the product must be recorded in EPIC by scanning the 2D (square) barcode on the product box as part of the administration process on the MAR. This provides evidence of traceability in the event of a manufacturer’s recall of product.

23.10 During administration the patient should be monitored for adverse events as per the Summary of Product Characteristics.

# TRANSFUSION OF BLOOD COMPONENTS/PRODUCTS IN REMOTE SITES

24.1. This policy applies to the transfusion of all blood components/products in the community hospitals (Sidmouth, Tiverton, Exmouth, Torrington, Holsworthy, South Molton, Ilfracombe), the Hospice and the renal satellite units (East, North and South Devon).

24. 2 Standard operating procedures are available for each of the remote sites:

* Community Hospitals = [TRLP0069](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0069)
* Hospice = [TRLP0070](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0070)
* Renal satellite units = [TRLP0085](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0085)
* SWAOC Hospital = [TRLP0093](https://qpulse-pathology.exe.nhs.uk/QPulseDocumentService/Documents.svc/documents/active/attachment?number=TRLP0093)
* Northern community hospitals = T-SOP-68

24. 3 These SOPs include instructions on the receipt of blood in transport boxes, transfusion of blood directly from the transport boxes for those sites without blood fridges and any other instructions that are specific for the remote site and are not covered within this policy.

# ARCHIVING ARRANGEMENTS

25.1 The original of this policy will remain with the author. An electronic copy will be

maintained on the Trust Intranet, P- Policies – B Blood Transfusion. Archived copies will be stored on the Trust's “archived policies” shared drive, and will be held for 10 years.

25.2 Previous versions of the transfusion policy are stored on the Transfusion Department electronic document control system, Q Pulse, as an obsolete version.

# 26 PROCESS FOR MONITORING COMPLIANCE WITH AND EFFECTIVENESS OF THE POLICY

To evidence compliance with this policy, the following elements will be monitored:

|  |  |  |
| --- | --- | --- |
| What areas need to be monitored? | How will this be evidenced? | Where will this be reported and by whom? |
| Process for the administration of blood components conforms to policy requirements, including patient identification. | BloodTrack Tx system | Patient Blood Management Group via the HTT report |
| All staff involved in transfusion process have up to date training and competency assessment. | BloodTrack Courier, Tx and ASK systems | Patient Blood Management Group via the HTT report |
| Transfusion related incidents will be monitored using DATIX reporting system. | Datix reports | Patient Blood Management Group via the HTT report |

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# APPENDIX 1: DUTIES OF STAFF GROUPS

|  |  |
| --- | --- |
| **Process step** | **May be undertaken by:-** |
| Assessment of patient and the clinical need for transfusion  | Doctor Non-medical authorisers for bloodMidwives (for Anti-D Ig only) |
| Completing the prescription chart and recording reason for transfusion in the electronic records. | Doctor Non-medical authorisers for bloodMidwives (for Anti-D Ig only) |
| Requesting the appropriate blood component or product  | DoctorNon-medical authorisers for bloodMidwives requesting Anti D Ig |
| Documenting and informing the patient regarding the reason for transfusion and alternatives.  | Doctor Non-medical authorisers for bloodMidwives (for Anti-D Ig only) |
| Completing the order, request form or telephoning a request. | Doctor Non-medical authorisers for bloodRegistered practitioner: Phone requests for components/products in emergency situation only Midwives requesting group and antibody screen.Midwives (for Anti-D Ig)Pre-operative assessment nurses using ASBOSRenal transplant nurses establishing the blood group. |
| Collecting the blood sample.  | Phlebotomists and all other non-medical staff who have successfully completed the venepuncture course.Medical Staff who have completed the transfusion e-learning. |
| Transport of samples to the Transfusion Department | Any staff |
| Sample receipt and requesting in Transfusion Department | Medical Laboratory Assistant (MLA), Medical Technical Officer (MTO), HCPC registered Biomedical Scientist. |
| Pre-transfusion selection, compatibility testing and issue of red cells. | HCPC registered Biomedical Scientist.  |
| Issue of other blood components and blood products  | HCPC registered Biomedical Scientist  |
| Collection of blood components from storage and their transportation  | Portering staff who have undertaken training and successfully completed the observational assessment for collection may transport blood components/products from one blood fridge to another blood fridgeClinical staff that have undertaken training and successfully completed the observational assessment for collection may transport blood components/products from a blood fridge to another blood fridge or to the clinical area. |
| Receipt (arrivals) in the clinical area  | Registered Practitioners only who have undertaken training and competency assessment. |
| **Process step** | **May be undertaken by:-** |
| Perform pre-transfusion check, the administration, positive identity checks and the completion of all transfusion documentation. | Registered Practitioners only who have been trained and who have undertaken training and competency assessment. |
| Perform and record base line observations  | Registered practitioners or Band 4, 3, or 2 and Students under the direction of the registered practitioner.  |
| Carry out observations/monitor the patient during the transfusion  | Registered practitioners or under the direction of the registered practitioner, Band 4,3, or 2 and Student’s  |
| Respond to adverse event/reaction | Medical staffRegistered practitioner or Band 4, 3, or 2 under the direction of the registered practitioner. |
| Investigate adverse event/reaction | Registered practitioner, hospital transfusion team.  |
| Document the completion of the transfusion in electronic records, fluid chart, and prescription. | Registered practitioner |
| Return completed compatibility label to Transfusion Department | Registered practitioners or Band 4,3 or 2  |
| Record outcome of transfusion in patient’s electronic records  | Registered practitioner, student entries may be countersigned by registered practitioner. |
| Disposal of blood bags | Registered practitioner or Band 4, 3 or 2 staff  |

# APPENDIX 2: FLOW CHART FOR THE COLLECTION AND ADMINISTRATION OF BLOOD COMPONENTS



Abbreviations:

PC = personal computer WOW = workstation on wheels ID = identification

## **APPENDIX 3: FLOW CHART FOR THE COLLECTION OF BLOOD COMPONENTS**



## **APPENDIX 4: FLOW CHART FOR THE ADMINISTRATION OF BLOOD COMPONENTS**

Abbreviations:

PC = personal computer WOW = workstation on wheels ID = identification



# APPENDIX 5: FLOW CHART FOR THE USE OF EMERGENCY BLOOD

Abbreviations:

2 D= 2-dimensional PC = personal computer WOW = workstation on wheels

ID = identification



# APPENDIX 6 FLOW CHART FOR THE COLLECTION AND ADMINISTRATION OF BATCH PRODUCTS



# APPENDIX 7: ADDITIONAL INFORMATION ON BLOOD COMPONENT/PRODUCT ADMINISTRATION

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **When transfusion should commence** | **Total time for infusion** | **Administration set to use** | **Other comments** |
| **Red Blood Cells \*** | Only organise and collect units when ready to administer.Commence transfusion within 30 minutes of removal from blood fridge.  | Each unit must be transfused within 4 hours of removal from blood fridge. | Blood administration set. | Can be returned to temperature-controlled storage within 30 minutes if the unit has remained intact.Change administration set at least every 3rd unit, if giving blood of a different group and on completion of the transfusion. |
| **Platelets \*** | To be collected and used immediately. | Usually over 30 minutes or less, must be stopped after 60 minutes. | Blood administration set.Cannot be transfused through administration sets that have already been used for other blood components/products. | Mainly collected by apheresis from a single donor or pooled from four donors.Patients below age of 16 years should receive apheresis units Never place in blood fridge. |
| **Fresh Frozen Plasma (FFP)** **\*** | Once thawed is collected from blood fridge.Once collected commence ASAP.  | Usually administered over 30 minutes.  | Blood administration set. | Transfusion must be completed within 4 hours of removal from a blood fridge. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Cryoprecipitate \*** | Once thawed should be kept at room temperature and transfused ASAP. | Usually administered over 30 minutes. | Blood administration set. | Transfusion must be completed within 4 hours of being thawed. |
| **Granulocytes** | Once collected must be transfused within 4 hours. | Usually administered over 1-2 hours. | Blood administration set. | Pooled from buffy coat collections.24-hour shelf life. |
| **Human Albumin Solution \*** | Return any bottles not used to the transfusion laboratory without delay. | Usually administered over 30 minutes. | 15-micron integral filter (most standard intravenous fluid sets have 15-micron filter). HAS needs to get to room temperature before administration. | Bottles prior to use must continue to be stored in their box, or out of natural light. |
| **I/V Immunoglobulin (IVIg) \*** | Commence ASAP Return any IVIg not used to the transfusion laboratory without delay if issued by the laboratory. | Guidance available from [www.ivig.nhs.uk](http://www.ivig.nhs.uk) | 15-micron integral filter (most standard intravenous fluid sets have 15-micron filter). | May only be requested by a registrar or consultant.  |
| **Anti-D immunoglobulin \*** | Return any anti-D Ig not used to the transfusion laboratory without delay. | n/a | Intramuscular injection into the deltoid muscle. | Issued on a named-patient basis.Retain patient for 20 minutes after administration in case of reaction. |
| **Prothrombin Complex Concentrate \*** | Commence without delay. | Specific [guidance and SOP](https://hub.exe.nhs.uk/a-z/blood-transfusion/blood-transfusion-documents/?opentab=3) available on Trust’s Intranet. | Syringe driver administration set. | Reconstituted in accordance with the manufacturer’s instructions. |

\* **Never store any of these components/products in a clinical drug fridge.**

# APPENDIX 8: COMMUNICATION PLAN

**COMMUNICATION PLAN**

The following action plan will be enacted once the document has gone live.

|  |  |
| --- | --- |
| **Staff groups that need to have knowledge of the strategy/policy** | Board of DirectorsChief Executive Chief Medical Officer Patient Blood Management GroupHospital Transfusion Team Matrons/Clinical Nurse Managers and Ward Managers All staff involved in Transfusion Medical Staff Site Management Team and Site Practitioners Non-Medical authorisersNursing, Midwifery, Theatre Practitioners Phlebotomists and others taking blood samplesBlood Transfusion Laboratory Staff |
| **The key changes if a revised policy/strategy** | Reference to actions to be taken in EPIC throughout the policy.Removal of detailed instructions on using the BloodTrack system, instead references have been made to other procedures containing the detailed instructions  |
| **The key objectives** | Patient Blood Management (PBM) is a multidisciplinary, evidence-based approach to optimising the care of patients who might need transfusion. PBM puts the patient at the heart of decisions made about blood transfusion to ensure they receive the best treatment and that avoidable, inappropriate use of blood and blood components is reduced. |
| **How new staff will be made aware of the policy and manager action** | Cascade by email from managerInduction processRaising policy at team meetings and comms cells  |
| **Specific Issues to be raised with staff** | All staff should be made aware of the policy/strategy.  |
| **Training available to staff** | Support available from Hospital Transfusion Team and also from the Laboratory Websitehttps://www.exeterlaboratory.com/blood-transfusion/ |
| **Any other requirements** | None  |
| **Issues following Equality Impact Assessment (if any)** | No negative impacts2 positive impacts for Age and Religion |
| **Location of hard / electronic copy of the document etc.** | Appendix of the policy/ procedural document on the Trust intranetThe original of this policy will remain with the author. An electronic copy will be maintained on the Trust Intranet, P- Policies – B Blood Transfusion. Archived copies will be stored on the Trust's “archived policies” shared drive, and will be held for 10 years.  |

# APPENDIX 9: EQUALITY IMPACT ASSESSMENT TOOL

|  |  |
| --- | --- |
| **Name of document** | Blood Transfusion Policy |
| **Division/Directorate and service area** | Specialist Services, Blood Sciences |
| **Name, job title and contact details of person completing the assessment** | Jennifer Davies, Transfusion Quality Manager |
| **Date completed:** | 10/04/2020 |

|  |
| --- |
| **The purpose of this tool is to:*** **identify** the equality issues related to a policy, procedure or strategy
* **summarise the work done** during the development of the document to reduce negative impacts or to maximise benefit
* **highlight unresolved issues** with the policy/procedure/strategy which cannot be removed but which will be monitored, and set out how this will be done.
 |

**1. What is the main purpose of this document?**

The Transfusion Policy acknowledges that when clinical staff assess the patients’ risk factors for potential Transfusion Associated Circulatory Overload (TACO) prior to transfusion that all the potential risk factors are considered one of which is age but age is not a risk itself or stands alone.

When consenting patients the “prescribing staff” need to take into consideration that there are some patients who could decline a transfusion of components/products based upon their religious beliefs.

**2. Who does it mainly affect?** *(Please insert an “x” as appropriate:)*

Carers ☐ Staff ☒ Patients ☒ Other (please specify)

1. **Who might the policy have a ‘differential’ effect on, considering the “protected characteristics” below?** (By *differential* we mean, for example that a policy may have a noticeably more positive or negative impact on a particular group e.g. it may be more beneficial for women than for men)

***Please insert an “x” in the appropriate box*** *(x)*

|  |  |  |
| --- | --- | --- |
| **Protected characteristic** | **Relevant** | **Not relevant** |
| Age | ☒ | ☐ |
| Disability | ☐ | ☒ |
| Sex - *including: Transgender,* *and Pregnancy / Maternity* | ☐ | ☒ |
| Race | ☐ | ☒ |
| Religion / belief | ☒ | ☐ |
| Sexual orientation *– including:**Marriage / Civil Partnership* | ☐ | ☒ |

1. **Apart from those with protected characteristics, which other groups in society might this document be particularly relevant to…** (e.g. those affected by homelessness, bariatric patients, end of life patients, those with carers etc.)?

|  |
| --- |
| *N/A* |

1. **Do you think the document meets our human rights obligations?**  ☒

*Feel free to expand on any human rights considerations in question 6 below.*

|  |
| --- |
| ***A quick guide to human rights:*** |
| * ***Fairness –*** *how have you made sure it treat everyone justly?*
* ***Respect –*** *how have you made sure it respects everyone as a person?*
* ***Equality –*** *how does it give everyone an equal chance to get whatever it is offering?*
* ***Dignity –*** *have you made sure it treats everyone with dignity?*
* ***Autonomy –*** *Does it enable people to make decisions for themselves?*
 |

**6. Looking back at questions 3, 4 and 5, can you summarise what has been done during the production of this document and your consultation process to support our equality / human rights / inclusion commitments?**

|  |
| --- |
|  *Age -* Policy should be clear that it is discussing risk factors that commonly come with age rather than age itself being the risk factor.*Religion-* Policy should be clear that in some religions may have an in principle objection to transfusion, so care needs to be taken in ensuring patient consent particularly before transfusing and patients who object need to be managed in line with detailed Trust guidelines.Alternatives to transfusion may be acceptable to those patients/parents.Staff must abide by decisions made. |

**7. If you have noted any ‘missed opportunities’, or perhaps noted that there remains some concern about a potentially negative impact** please note this below and how this will be monitored/addressed.

|  |  |
| --- | --- |
| **“Protected characteristic”:**  | *N/A* |
| **Issue:** |  |
| **How is this going to be monitored/ addressed in the future:** |  |
| **Group that will be responsible for ensuring this carried out:** |  |