Blood Transfusion Policy

V6

February 2019
**Summary.**

- **Red Cells needed immediately**
  - Check for valid G&S, send one if required.
  - Use emergency O Rh D negs from nearest blood fridge if not e-matchable immediately.
  - CONTACT TRANSFUSION LAB IF EMERGENCY O Rh D NEG IS USED SO IT CAN BE REPLACED. Take sample BEFORE administering O Rh D neg.

- **Red Cells needed in 15 minutes**
  - Send a G&S sample – DO NOT USE POD
  - Contact transfusion lab
  - ABO and Rh D group specific; red cells available in 15 minutes from sample receipt.

- **Red Cells needed in 60+ minutes**
  - Check transfusion is appropriate
  - Send a G&S sample
  - ABO, RhD group, antibody screen and crossmatch will be performed.

- **Platelets**
  - Completed transfusion request form (if blood group known, no sample required) for named patient
  - Little stock held, delays in delivery possible
  - Platelet transfusion

- **FFP**
  - Completed transfusion request form (if blood group known, no sample required)
  - 25 – 30 minutes required to thaw after request received
  - FFP transfusion

- **Cryoprecipitate**
  - Can be ordered via Transfusion
  - Lab if fibrinogen is less than 1.5g/L in a bleeding patient
  - 1 adult dose is 2 pools of cryoprecipitate

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**MASSIVE HAEMORRHAGE**

Contact transfusion lab and inform them of patient details and clinical status. The appropriate massive haemorrhage pack will be prepared (see page 10). Issued components should be given as a pack initially (1:1:1 ratio RBC:FFP:PLT alternating between component type) until coagulation tests guide appropriate component use.

**CODE RED TRAUMA**

Cascaded from ED, via switchboard (see page 10), allowing red cells and FFP to be made available in anticipation of bleeding trauma patient arrival in resus. Patients must be booked as UNKNOWN. GOOD COMMUNICATION WITH LAB IS CRITICAL IN ALL MASSIVE HAEMORRHAGE.

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**SAMPLE TAKING** – staff performing this aspect must have a valid transfusion competency assessment in place.

Llama must be used for all transfusion specimens if available. If samples are handwritten there need to be 2 blood group results on the lab IT system to allow issue of crossmatched blood.

ANY alterations/obliterations/incorrect information will result in the sample being rejected.

UNKNOWN patient samples must be booked in and allocated a hospital number by the Emergency Department and have gender and approximate age. If the patient is subsequently identified the UNKNOWN ID band must remain on the patient’s wrist for at least 24 hrs.

**COLLECTION** - staff performing this aspect must have a valid transfusion competency assessment in place.

All blood components need to be collected from a blood fridge via Bloodhound and only stored in a designated blood fridge. 30 minutes is the maximum time blood can be out of the fridge.

**ADMINISTRATION** - staff performing this aspect must have a valid transfusion competency assessment in place.

RBC – usually prescribed over 90 minutes, this may be longer if patient has risk factors for circulatory overload (maximum of 3.5 hrs)

FFP, PLTs, CRYO – Prescribed over 30 minutes

**OBSERVATIONS** - staff performing this aspect must have a valid transfusion competency assessment in place.

To be performed at a minimum of baseline, 15 minutes into the transfusion and the end of unit for ALL COMPONENTS.
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1. Introduction
   1.1. Transfusions are a routine part of patient treatment but carry a significant risk if not performed to national guidelines.

   - The purpose of this policy is to ensure staff have access to the most up to date guidance regarding transfusion procedure, ensuring receiving blood and blood products is as safe as possible for patients.

   - This Policy is based on NICE Guideline 24: Blood Transfusion http://www.nice.org.uk/guidance/ng24

   1.2. This version supersedes any previous versions of this document.

   1.3. For Paediatric and Neonatal transfusion see Blood Transfusion Policy For Infants And Neonates


   Transfusion documentation is collected and stored according to Blood Safety and Quality Regulations 2005.

2. Purpose of this Policy/Procedure
   This policy has been produced to state standards, manage risk and improve the quality of care to patients in relation to transfusion of blood and blood products.

3. Scope
   This policy is ratified as the ONLY Transfusion Policy used by all RCHT, CPFT and private healthcare sites supplied by RCHT blood transfusion department. All are required to abide by all aspects of this policy unless specifically excepted in their local versions ratified by RCHT HTC. All aspects must be followed by all staff taking part in the transfusion process.

4. Definitions / Glossary
   HTT – Hospital Transfusion Team

   HTC – Hospital Transfusion Committee

   TP - Transfusion Practitioner

   CPFT – Cornwall Partnership NHS Foundation Trust

   BSQR – Blood Safety and Quality Regulations

   MHRA – Medicines and Healthcare Products Regulatory Agency

   SHOT – Serious Hazards of Transfusion
5. **Ownership and Responsibilities**

5.1. The policy has been produced and will be managed by the Hospital Transfusion Team (HTT), including the Consultant in charge of Transfusion, the Transfusion Laboratory Manager and the Transfusion Practitioners. Updates and amendments will be sanctioned through HTT in the first instance but also through the Hospital Transfusion Committee (HTC) including wider ratification.

5.2. Responsibility for Transfusion Practice lies with the Head of Transfusion, one of the Consultant Haematologists. He / she is answerable to the Medical Director(s) of the Trust.

5.3. **Role of the Hospital Transfusion Committee**
[Click here for link to Terms of Reference](#)

5.4. **Role of the Hospital Transfusion Team**
[Click here for link to Terms of Reference](#)

5.5. **Role of the Managers**
Line managers are responsible for:

- Ensuring all staff are aware of this policy
• Ensuring all relevant staff attend mandatory training and appropriate assessment in Transfusion –80% of ward staff should have a valid competency for safe practice.

5.6. Role of Individual Staff
All staff members are responsible for:

• Ensuring they adhere at all times to the Transfusion Policy.

• Highlight to TP or laboratory staff any errors or omissions from the policy and report on Datix where appropriate.

• Ensuring they only practice if their mandatory training and relevant assessment are up to date.

5.7. Transfusion Education and Competency

5.7.1. All Staff must complete mandatory training (or induction for new starters) every 2 years.

5.7.2. All staff must pass an assessment in the aspect of transfusion they take part in at least once. This may be repeated if deemed necessary (e.g. if involved in an incident and investigation and root cause suggest re-assessment is necessary).

5.7.3. Medical staff should complete the transfusion training found on Drs.net if mandatory training is missed.

5.7.4. Once an assessment has been completed once, updates are via an assessed piece of work as part of face to face mandatory training completed every 2 years. Dates are stored by the transfusion department and on eRoster. ESR does not reflect transfusion competency and should not be used.

5.7.5. Bloodhound training is completed once via an e-learning module on the Trust e-learning site. http://elearning.cornwall.nhs.uk

If the system is accessed the staff member is deemed competent for a further year from date of access. If the staff member does not access the system within a 12 month period the e-learning must be repeated.

5.7.6. Training on Llama is cascaded throughout the ward by ward staff following initial on the job training from the transfusion team. It is incorporated in the Clinical Policy for Venepuncture.

5.7.7. Assessments are completed by a ward based transfusion link nurse and the Transfusion team must be informed when these are completed.
6. Standards and Practice

6.1. Patient Blood Management

6.1.1. Patient Blood Management (PBM) is a multidisciplinary, evidence-based approach to optimising the care of patients who might need blood transfusion.

6.1.2. Patient Blood Management puts the patient at the heart of decisions made about blood transfusion to ensure they receive the best treatment and avoidable, inappropriate use of blood and blood components is reduced.

6.1.3. National, regional and local audits in England consistently show inappropriate use of all blood components; 15-20% of red cells and 20-30% of platelets/plasma. Evidence shows that the implementation of Patient Blood Management improves patient outcomes by focusing on measures for the avoidance of transfusion and reducing the inappropriate use of blood.

6.1.4. Blood transfusion is potentially hazardous and should only be undertaken when the benefits to the patient outweigh the risks. Transfusion should only be given when there is no alternative.

6.1.5. Alternatives include

- Iron supplements
- IV iron
- EPO
- Cell salvage
- Tranexamic acid

6.2. Consent

Provide verbal and written information to patients who may have or have had a transfusion, explaining

- The reason for transfusion
- risks
- benefits
- alternatives and how they may reduce their need for a transfusion
- that they are no longer eligible to donate blood

‘Will I need a Blood Transfusion’ leaflets are available in all ward areas or from the Transfusion Laboratory and should be given to each patient and a Following your Blood Transfusion Leaflet is available to give to any patient leaving the Trust shortly after their transfusion.

- Consent must be documented by the prescriber in the patient’s notes, and then signed for on the yellow transfusion form by the person administering the blood.
If a patient declines a transfusion, refer to The Blood and Blood Products Refusal Policy.

6.3. Code Red Trauma Calls

6.3.1. Resuscitation in trauma has an improved outcome when blood components are accessed promptly and used on a 1:1 basis for red cells and FFP.
6.3.2. For use in ED only. Click here for code red pathway

6.4. Massive Haemorrhage and Transfusion

6.4.1. All other massive haemorrhage should follow the massive haemorrhage protocol.
6.4.2. Urgent requests must be phoned to the laboratory on 2500 Click here for massive haemorrhage pathway
6.4.3. Massive haemorrhage can be defined as any of the following:

- The loss of more than 1 blood volume within 24 hours (around 70 ml/kg, or more than 5 litres in a 70 kg adult).
- A loss of 50% of total blood volume in under 3 hours.
- Bleeding in excess of 150 ml/minute in adults.
- As a practical clinical definition, bleeding which leads to:
  - a systolic blood pressure of less than 90 mm/Hg or
  - a heart rate of more than 110 beats per minute in adults

6.5. Unknown Patients
(or where patient ID is not available – including LIMS downtime):

- The Emergency Dept will register the patient as Unknown Unknown with a Cr number (this should be non-sequential if there are multiple casualties) and attach an ID band with these details to the patient. Llama should be used to label these samples. See the RCHT Positive patient identification policy and procedures
The patient’s gender and approximate age must be added to the request form.

- The sample must be signed if handwritten.

- Samples must be taken BEFORE any emergency O RhD negative is given.

- Deliver samples to laboratory by hand – do not use the pod system.

- Wristband with unknown information must be left in place for at least 24 hours after patient is identified. This ensures continuity for results and blood component administration.
6.6. **Emergency O RhD Negative Red Cells**

6.6.1. Emergency O RhD negative blood is available immediately from the blood fridges in:

- Transfusion Laboratory Issue Fridge (Link Corridor)
- Delivery Suite (PAW) – both adult and paediatric blood packs
- Main Theatre (3rd floor, Tower Block)
- Trauma Theatre (Trelawney Wing)
- West Cornwall Hospital
- St Michaels Hospital (Hayle)
- Duchy Hospital

6.6.2. The Transfusion Department Staff **must** be informed immediately when these units are used.

6.6.3. **The blue forms MUST be filled in with patient details and returned to the Blood Transfusion Dept. as soon as possible.**

6.6.4. Before using emergency O Rh D negative blood ensure that:

- A blood transfusion sample has been taken and delivered to the lab
- There is no valid sample in the laboratory
- There are no cross matched units available for the patient
- There is no ABO specific blood available for the patient

6.7. **Group Specific Red Cells (unmatched)**

These are available from the Transfusion Department within 15 minutes of receipt of correctly labelled specimen. This is preferable to the continued use of O RhD negative blood, pending the availability of fully cross-matched blood.

6.8. **Fully Compatible Crossmatching**

6.8.1. In urgent cases, fully compatible manual crossmatch will take 45 minutes

6.8.2. If a patient has no antibodies and no grouping anomalies they should be suitable for electronic issue. If the transfusion laboratory has a valid sample (see 6.2.4) that has completed testing, blood can be issued on request within 5 minutes.

6.8.3. If a patient has antibodies or anomalous grouping results blood must be crossmatched manually. In complicated cases this may necessitate referral to the nearest NHSBT reference laboratory and can lead to delays in the issue
of blood. This is to ensure the most appropriate component is available for the patient.

6.9. When to Transfuse Red Cells - Initial Investigation and Management of Anaemia

6.9.1. Click here for management of anaemia pathway

6.9.2. Key Points:
- Always consider alternative treatment – transfusion should only be given when there is no alternative.
- Treat the cause of anaemia.

6.10. When to Transfuse – Acute Upper GI Bleeds

6.10.1. See NICE guidelines on Acute Upper Gastrointestinal Bleeding https://www.nice.org.uk/guidance/CG141/chapter/1-Guidance

6.11. When to Transfuse Red Cells- Transfusion of Medical Patients with Anaemia
Click here for Blood Transfusion Policy Guideline Summary Investigation & Management Of Anaemia Pathway

6.11.1. Key Points:
- Always review the patient following each unit. An FBC can be taken a minimum of 30 minutes following a unit to establish Hb increment.
- Consider the patient size, weight and co-morbidities to avoid Transfusion Associated Circulatory Overload (TACO). Report any suspected case of TACO to the Transfusion Laboratory.

6.12. Maximum Surgical Blood Ordering Schedule (MSBOS)

6.13. When to Transfuse Red Cells - Guideline for Peri-Operative Blood Transfusion in Adults

6.13.1. Key Points:
- Contact the Transfusion Practitioners on Ext 3093 / 07990 644572 for advice around appropriate transfusion.
- In a patient with iron deficiency IV Iron can increase Hb 10g/l within a few days of an acute bleed.
- Contact the Patient Blood Management Team on Ext 8079 for IV iron advice

6.14. The Transfusion Pathway for Routine Transfusion of Red Cells
Click here for routine transfusion of red cells pathway
6.15. **FPF and Octoplas**

*Click here for FFP pathway*

6.15.1. **Key Points**
- Takes 20 minutes to defrost and issue
- An approximate weight of the patient is essential for accurate dosage
- Should be transfused using a blood giving set
- Should be transfused over 30 minutes

6.16. **Platelets**

*Click here for therapeutic/prophylactic dosage pathway*

6.16.1. **Key Points:**
- The cause of thrombocytopenia should be sought before giving platelet replacement.
- Consider the use in emergency surgery where timescale means anti-platelet drugs have not been stopped early enough
- Platelets are supplied as a single adult therapeutic dose.
- They must be stored at 22°C (+/-2°C) and must never be put in a blood fridge.
- Platelets should be transfused over a maximum of 30 minutes using a blood or platelet giving set.

6.16.2. **Platelet transfusions are contra-indicated in:**
- Haemolytic uraemic syndrome (HUS)
- Thrombotic thrombocytopenic purpurae (TTP)
- Heparin induced thrombocytopenia (HIT).

6.17. **Cryoprecipitate (cryo)**

6.17.1. **Key Points**
- Administer if fibrinogen level drops below 1.5g/l in a bleeding patient
- One therapeutic dose is two pooled units
- Transfuse over a maximum of 30 minutes using a blood giving set

6.18. **Granulocytes**

- Only ordered by Consultant Haematologist
- Transfuse using standard blood giving set over 1-2 hrs

6.19. **Special Requirements**

6.19.1. **Irradiation**

6.19.1.1. **To be requested on the Transfusion Request Form with appropriate clinical indication**
6.19.1.2. Irradiated blood and platelets are required when there is a significant risk of the recipient developing Transfusion-Associated Graft-Versus-Host Disease (TA-GVHD):

- Hodgkin's Disease patients.

- Patients ever treated with purine analogues: (Fludarabine, Cladribine, deoxycoformycin, Bendamustine, Clofarabine), monoclonal antibody therapies (Campath), Anti-Thymocyte Globulin or alemtuzumab (anti-CD52).

- All allogeneic Bone Marrow Transplant (BMT) / Peripheral Blood Stem Cell Transplant (PBSCT) recipients from conditioning for 1 year, or longer if continuing on GVHD prophylaxis or treatment.

- All autologous BMT / PBSCT recipients from conditioning for 6 months, if received Total Body Irradiation, or 3 months if received chemotherapy-only conditioning.

- Any cellular transfusion during the 10 day period prior to a PBSCT collection.

- Neonatal and some immunosuppressed paediatric patients: please refer to guidelines for infants and neonates.

- A patient information leaflet available from the Transfusion Department must be given to all patients requiring irradiated blood. This contains a card for the patient to carry, and an alert sticker which should be put in the patient notes.

6.20. CMV
Current SaBTO guidance states that CMV negative blood components are now only required for intrauterine transfusions and the transfusion of neonates and pregnant women.

6.21. Hepatitis E
NHSBT now tests all donations for Hepatitis E; all units are Hepatitis E negative.

6.22. Sample Taking (including LlamaSafe)

6.22.1. All staff must have completed at least one face to face assessment in sample taking. This competence must be maintained. Please refer to Appendix 11. Blood Transfusion Competencies Pack.

6.22.2. Specimen Acceptance Policy

6.22.3. Sample acceptance times table

<table>
<thead>
<tr>
<th>Sample to be taken within</th>
<th>Patient transfused or pregnant within</th>
</tr>
</thead>
<tbody>
<tr>
<td>72 h of planned completion of the</td>
<td>72 h of planned completion of the</td>
</tr>
<tr>
<td>the preceding 3 months</td>
<td>transfusion</td>
</tr>
<tr>
<td>----------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Over 3 months since pregnancy or transfusion, or not previously transfused</td>
<td>For any blood to be dispensed there must be a valid (&lt;7 day old) G+S specimen available in the laboratory</td>
</tr>
</tbody>
</table>

### 6.22.4. Llama Safe

Llama is an app for use with an iPod and portable printer, designed to label samples for transfusion in a safe manner. It must be used at the patient’s side using the 2D barcode on the patient’s ID band when the ID band is attached to the patient. It has been risk assessed by the HTC and has been deemed to be a suitable alternative to taking 2 samples for patients with no historic blood group. All RCHT inpatient and a number of outpatient areas have Llama available for use.

If using Llama, the only handwritten information that can appear on the tube is the date, time and signature. Any amendments or alterations to the printed label will lead to sample rejection. All patient information must be present on the label and the printed data on the label must be legible.

### 6.22.5. Two Sample Rule

Guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories 2012 states that “Unless secure electronic patient identification systems are in place a second sample should be requested for confirmation of the ABO group of a first time patient prior to transfusion, where this does not impede the delivery of urgent red cells or other components”.

If a patient does not have an existing (historic) blood group and the sample is handwritten a second sample will be requested to confirm ABO group before blood can be issued.

The two samples must be taken by different members of staff or time separated (ideally no less than 30 minutes) if taken by the same member of staff. This ensures the patient has been identified on two occasions prior to blood issue.

### 6.22.6. Key Points:
- Always complete the request form before taking the sample.
- Never pre-label the sample tube.
- Ensure positive patient identification.
- Always label next to the patient with reference to their identity.
- Always complete one sample from one patient before bleeding the next patient.
- Use Llama if available – handwrite tubes if not (note two sample rule).
- Avoid distractions when labelling samples.
- Requests must be made by a doctor unless agreed otherwise by the HTT, and authorised nurses must be working to an agreed algorithm.
6.23. Collection and transport of components (including BloodHound)

6.23.1. Key Points
- All blood components MUST be scanned through Bloodhound.
- Red cells and FFP cannot be returned to the blood fridge after 30 minutes from the time of removal.
- Blood components must never be stored in a ward, pharmacy or domestic fridge.

6.24. Administration of Blood components

6.24.1. Key points

6.24.1.1. All patients receiving a transfusion should be in a clinical area with resuscitation facilities available

6.24.1.2. The patient must be wearing a wristband

6.24.1.3. Positive identification of the patient must take place and the unit details must be checked at the bedside with reference to the patient identity using a single checking process

6.24.1.4. Rationale for transfusion should be appropriate and documented in the patient’s notes

6.24.1.5. All transfusions must be completed within 4 hours of unit leaving temperature control

6.25. Observations and Reactions

6.25.1. Observations must be performed routinely throughout the transfusion and include as a minimum:

- Baseline, within 30 minutes of the start of transfusion
- 15 minutes after the start
- At the end of transfusion

6.25.2. Where a reaction is suspected follow the Clinical Guideline for The Investigation and Management of a Severe Transfusion Reaction

6.26. Anti-D

6.26.1. Follow the Anti-D Clinical Guideline

6.26.2. 3rd Year Student Midwives may administer anti-D under the direct supervision of a qualified midwife. The qualified midwife takes responsibility for this. Both need to countersign the documentation to ensure traceability.

6.27. Other non-NHSBT Blood Products

See the Electronic Medicines Compendium
6.28. **Community Transfusion**

6.28.1. Due to the risk of TACO there should be no more than two units per transfusion episode for both in-patients and out-patients.

6.28.2. Transport boxes should contain units for a single patient only

7. **Dissemination and Implementation**

7.1. Dissemination will be through HTT, HTC and mandatory training for clinical staff. Policy will sit on the Document Library and in Q-Pulse. Guideline flowcharts will be on the Trust Clinical Guidelines website.

7.2. Transfusion training is mandatory as described in 5.7.

8. **Monitoring compliance and effectiveness**

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>All parts of the process will be audited on a rotational basis.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Hospital Transfusion Team</td>
</tr>
<tr>
<td>Tool</td>
<td>Aspects are audited as part of the National Comparative Audit in Transfusion.</td>
</tr>
<tr>
<td>Frequency</td>
<td>These are arranged nationally and timescales set each year.</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>Report to HTT, HTC and through the Trust Governance Structure as required.</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>HTT, HTC</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Lead Transfusion Practitioner, Consultant lead in transfusion</td>
</tr>
<tr>
<td></td>
<td>Changes in practice will be cascaded through mandatory training and Trust Governance structure.</td>
</tr>
</tbody>
</table>

9. **Updating and Review**

The policy will be reviewed every 2 years

10. **Equality and Diversity**

10.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the 'Equality, Diversity & Human Rights Policy' or the Equality and Diversity website.

10.2. **Equality Impact Assessment**

10.3. The Initial Equality Impact Assessment Screening Form is at Appendix 2.
Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Blood Transfusion Policy V6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>July 2018</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>February 2019</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>February 2022</td>
</tr>
</tbody>
</table>
| Directorate / Department responsible (author/owner): | Dr Richard Noble, Consultant Haematologist  
|                      | Lead for Transfusion  
|                      | Nicki Jannaway, Lead Transfusion Practitioner                    |
| Contact details:     | 01872 253093                                                     |
| Brief summary of contents | The policy covers all aspects of Positive Patient Identification throughout sample taking for blood transfusion, collection of blood products and administration. Practical guidance on all aspects of blood product transfusion is included. |
| Suggested Keywords: | Transfusion blood bleed haemorrhage llama bloodhound hound sample group screen code red crossmatch haematology |
| Target Audience      | RCHT  
|                      | CFT  
|                      | KCCG |
| Executive Director responsible for Policy: | Medical Director |
| Date revised:        | July 2018                                                        |
| This document replaces (exact title of previous version): | V5 This is a mobile guideline of the Blood Transfusion Policy. |
| Approval route (names of committees)/consultation: | Hospital Transfusion Team / Committee |
| Divisional Manager confirming approval processes: | Karen Jarvill, Associate Director CSSC |
| Name and Post Title of additional signatories: | Not Required |
| Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings | {Original Copy Signed}  
|                      | Name: Kevin Wright, Governance Lead CSSC                         |
| Signature of Executive Director giving approval: | {Original Copy Signed}  

Publication Location (refer to Policy on Policies – Approvals and Ratification):

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<th>Internet &amp; Intranet</th>
<th>✓</th>
<th>Intranet Only</th>
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Document Library Folder/Sub Folder

| Clinical / Blood Transfusion |

Links to key external standards

- BBT3, BSQR, CQC, NICE guideline 24,
- National Directives and Health Service Circulars which underpin this policy:
  - Better Blood Transfusion 3 - Appropriate Use of Blood.
  - Health Service Circular 2007/001 Department of Health
  - NHS Litigation Authority Inspection Standards
  - UK Blood Transfusion and Tissue Transplant Guidelines

Other Guidelines

Blue Book Transfusion Guidelines
- SIGN guideline 105 – Management of acute upper and lower GI bleeding

Related Documents:

- Other blood transfusion related policies to be found on the Document Library:
  - Blood Transfusion Policy for Infants and Neonates
  - Maximum Blood Ordering Schedule
  - Intraoperative Cell Salvage and Administration of Autologous Blood
  - Prophylactic and Postnatal anti-D including flowchart
  - Guidelines for Transfusion of Blood Products in the Community
  - Blood and Blood Product Refusal
  - Intrapartum Care of Women Declining Blood Products

Training Need Identified?

Yes – Mandatory training done 2 yearly, minor changes only in this version

Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
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<tbody>
<tr>
<td>Apr 05</td>
<td>V 1.0</td>
<td>Re written</td>
<td>Deb Thomas – Transfusion</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Date</th>
<th>Version</th>
<th>Change Description</th>
<th>Author</th>
</tr>
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<tbody>
<tr>
<td>Jun 07</td>
<td>V 1.1</td>
<td>Update following audit outcome of overnight transfusion</td>
<td>Deb Thomas – Transfusion Practitioner</td>
</tr>
<tr>
<td>Jun 09</td>
<td>V 2.0</td>
<td>Full review</td>
<td>Nicki Jannaway – Transfusion Practitioner</td>
</tr>
<tr>
<td>Nov 09</td>
<td>V 3.0</td>
<td>Correcting some spelling mistakes, addition of use of pump in paediatric transfusions, formatting changes</td>
<td>Nicki Jannaway – Transfusion Practitioner</td>
</tr>
<tr>
<td>Nov 10</td>
<td>V 4.0</td>
<td>Addition of paragraph to clarify use of giving sets in Theatres Update to include new computer system paperwork. Revise sample validity table. Training requirements for all staff added, Changes to Haemostatic pack – name change to Massive Haemorrhage Pack (and format of pack) rVial amendment</td>
<td>Nicki Jannaway – Transfusion Practitioner, Stephen Bassey – Transfusion Manager</td>
</tr>
<tr>
<td>Nov 10</td>
<td>V 4.0</td>
<td>NPSA competency assessment every 2 years in line with mandatory training Add peel out strip from compatibility label to prescription.</td>
<td>Deb Thomas – Transfusion Practitioner</td>
</tr>
<tr>
<td>Nov 10</td>
<td>V 4.0</td>
<td>Addition to clarify transfusion in transit between hospitals</td>
<td>Nicki Jannaway – Transfusion Practitioner</td>
</tr>
<tr>
<td>Nov 10</td>
<td>V 4.0</td>
<td>Dissemination and Implementation</td>
<td>Dr Richard Noble – Transfusion Consultant</td>
</tr>
<tr>
<td>Jun 11</td>
<td>V 4.1</td>
<td>Transfer into new policy format</td>
<td>Deb Thomas – Lead Transfusion Practitioner</td>
</tr>
<tr>
<td>Dec 11</td>
<td>V 4.2</td>
<td>Throughout policy changed PCT to PCH and NBS to NHSBT. Addition of No Wristband, No transfusion TACO recommendations from SHOT Retrospective consent in line with SaBTO recommendations FFP volumes changed from 12-15ml to 10-15ml per Kg.</td>
<td>Deb Thomas – Lead Transfusion Practitioner</td>
</tr>
<tr>
<td>Sep 12</td>
<td>V 4.3</td>
<td>Into new policy format TACO information (pg 9) Additional info re consent and overnight tx Added Competency Pack as App Added Blood Product Overview as App</td>
<td>Deb Thomas – Lead Transfusion Practitioner</td>
</tr>
</tbody>
</table>
Addition of further appendices for document library. Some wording updated for clarity throughout document. P6.8.6 change sample validity times according to guidance. Remove need for an audit form to be sent with each major haemorrhage pack.

Feb 16 V5 New format. Addition of pathway flowcharts as mobile guidelines. Addition of ‘Code Red’ trauma. PCH changed to CFT

Feb 2018 V6 Minor amendments throughout. Removal of learnbloodtransfusion through ESR as a valid method of training in the Trust. Addition to clarify the administration of Anti-D by student midwives.

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.
This document is only valid on the day of printing

Controlled Document
This document has been created following the Royal Cornwall Hospitals NHS Trust Policy for the Development and Management of Knowledge, Procedural and Web Documents (The Policy on Policies). It should not be altered in any way without the express permission of the author or their Line Manager.
Appendix 2. Initial Equality Impact Assessment Form

| Name of the strategy / policy / proposal / service function to be assessed |
|--------------------|------------------|
| Blood Transfusion Policy V6 |

<table>
<thead>
<tr>
<th>Directorate and service area:</th>
<th>Is this a new or existing Policy?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSCS, Blood Transfusion</td>
<td>Existing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of individual completing assessment:</th>
<th>Telephone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicki Jannaway</td>
<td>01872 253093</td>
</tr>
</tbody>
</table>

1. **Policy Aim***

*Who is the strategy / policy / proposal / service function aimed at?*

To ensure adherence to national guidelines and best practice on all issues affecting safe appropriate blood transfusion.

2. **Policy Objectives***

To provide accurate advice on all relevant aspects of the transfusion of blood and blood products within both Acute and Community setting.

3. **Policy – intended Outcomes***

Positive Patient Identification – in all aspects of process from sample taking to administration. Staff Education programme signposted. Haemovigilance

4. **How will you measure the outcome?***

See more thorough section in policy relating to audit, competency assessment and incident reporting and trending.

5. **Who is intended to benefit from the policy?***

Any patient requiring treatment that may lead to transfusion of blood or blood products. Staff directly involved in the care of this patient group

6a **Who did you consult with***

<table>
<thead>
<tr>
<th>Workforce</th>
<th>Patients</th>
<th>Local groups</th>
<th>External organisations</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>

b). Please identify the groups who have been consulted about this procedure.

Please record specific names of groups

Jehovahs Witness Liaison Committee – Namely Barry Gardiner for advice around blood refusal.

**What was the outcome of the consultation?***

Blood Refusal Policy in Place
7. The Impact

Please complete the following table. If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers Adults – separate Policy for the Transfusion of Children and Neonates</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all. For none English speakers requiring transfusion information the RCHT Interpreting and translation services policy should be followed</td>
</tr>
<tr>
<td>Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all. Information leaflets are available in large font and braille on request from NHSBT.</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
<td>X</td>
<td></td>
<td></td>
<td>Blood Refusal Policy is in place following consultation</td>
</tr>
<tr>
<td>Marriage and Civil partnership</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td>X</td>
<td></td>
<td></td>
<td>Policy covers all</td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:

- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation- this excludes any policies which have been identified as not requiring consultation. or
- Major this relates to service redesign or development

8. Please indicate if a full equality analysis is recommended.  

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>√</td>
</tr>
</tbody>
</table>

9. If you are not recommending a Full Impact assessment please explain why.

Full statement of commitment to policy of equal opportunities is included in the policy.
Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead
c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa,
Truro, Cornwall, TR1 3HD

This EIA will not be uploaded to the Trust website without the signature of the
Human Rights, Equality & Inclusion Lead.

A summary of the results will be published on the Trust’s web site.

Signed ___ Nicki Jannaway

Date ____ July 2018
Appendix 3. Code Red Trauma Protocol

FOR TRAUMA USE ONLY - For any other bleed call lab directly and initiate Massive Haemorrhage Pack.

Code Red cascade to switchboard – 2222 -automatically calls the following Consultants: Anaesthetic, Critical Care, Vascular Surgeon, General Surgeon, Orthopaedic Surgeon, plus Transfusion lab and Transfusion Practitioners

Activation criteria:
Request by pre-Hospital critical care clinician
Evidence of shock: consider shock index >0.9
ED clinicians: consider severe mechanism
Likelihood of massive transfusion or damage control surgery

Call Switchboard: on 2222 and initiate CODE RED trauma cascade

Collect a pre-registered unknown patient pack from reception in ED

ED runner (often ED porter) collects Code Red blood box from laboratory containing 2 units of emergency O neg red cells. Do not open seal until patient is assessed

Prime rapid infuser with saline. Note time of blood box expiry

Patient Arrival:
Attach ‘unknown’ identity band to patient. Take 2 crossmatch samples and label immediately using Llama. ED runner takes sample to lab and confirms sample is acceptable– DO NOT POD SAMPLE.
Trauma Team Lead decides if blood and tranexamic acid is indicated.

Blood indicated?

YES
Nominate one member of team to contact lab and inform them that more blood is required
Open sealed box and give emergency O negative. No clear fluid other than that used to prime rapid infuser should be used
ED runner: collects Code Red box of emergency FFP and further emergency blood component units as required

NO
If blood is not required: return sealed boxes of red cells and FFP to laboratory within 3 hours of removal from lab. Call lab to stand down from Massive Haemorrhage Procedure.

YES
Lab prepares pack A of massive haemorrhage pack – ABO specific if valid sample available, if no valid sample continuing to provide emergency O neg RBC / A pos FFP

FOR PAEDIATRICS – adult code red boxes will be issued. Manage shock proactively with boluses of 5ml/kg of warmed packed red cells and warmed FFP using rapid infuser. Add 3 way tap and syringe to measure volume. Aim for equal volumes of infused packed red cells and FFP. Consider 5ml/kg cryo and platelets after 20ml/kg red cells

Lab continue to follow massive haemorrhage protocol until stood down. Test coagulation samples regularly and move to guided blood product issue if possible

Actions in Emergency Department

Actions in Laboratory

Upon receipt of Code Red trauma bleep telephone resus for update
Hand ED staff code red box – expiry 3 hours
Immediately defrost 2 units of FFP and prepare further emergency O neg red cells

FOR TRAUMA USE ONLY - For any other bleed call lab directly and initiate Massive Haemorrhage Pack.

Code Red cascade to switchboard – 2222 -automatically calls the following Consultants: Anaesthetic, Critical Care, Vascular Surgeon, General Surgeon, Orthopaedic Surgeon, plus Transfusion lab and Transfusion Practitioners
Appendix 4. Transfusion in Massive Haemorrhage (Adult)

Click here for the full Blood Transfusion Policy

Systolic BP <90 and suspected active Haemorrhage and poor response to initial fluid resuscitation

Team Leader to declare a massive haemorrhage and nominate a member of the team to liaise with Transfusion lab. Notify lab to activate massive transfusion protocol and check if lab has a valid sample. GOOD COMMUNICATION IS CRITICAL.

Take samples and ensure delivery to lab – DO NOT USE POD.
2 x Llama labelled crossmatch (request massive haemorrhage pack), clotting and Claus fibrinogen, FBC, U&Es.

If blood is needed urgently and no valid sample available send a Bloodhound trained member of staff to fetch emergency O negative units from nearest blood fridge.

Lab will supply Pack A:
- 4 units RBC
- 4 units FFP (not obstetrics)

For best clinical efficacy transfuse pack as a whole, do not use discrete components. Take coag and FBC sample and send to lab.

Once pack A has been removed from lab blood fridge, lab will issue Pack B:
- 4 units RBC
- 4 units FFP
- 1 unit Platelets

And then Pack C recurrently:
- 4 units RBC
- 4 units FFP
- 1 unit Platelets
- 2 pools cryoprecipitate

Regular coagulation samples will then guide component specific transfusion

Bleeding continues?

NO

- Stand lab down
- Review patient
- Repeat bloods

Contacts:
Transfusion Lab:
09:00 – 17:00: Ext 2500
OOH Bleep: 3220
Transfusion Practitioners:
Ext 3093
Bleep: 3046

Additional Aims:
Control Bleeding
- Normothermia (or >35°C)
- Ionised Ca++ > 1mmol/l
- Ph > 7.2
- Lactate < 1mmol/l

If not previously given consider:
- 1g IV tranexamic acid plus 1g over 8 hours
- Beriplex if patient on warfarin
- For novel anticoagulants see the Anti-coagulation related bleeding Guideline summary

Once Lab results available continue transfusion to achieve:
- Platelet count >75x10⁹/l
- Fibrinogen >1.5g/l
- TAKE COAG, FBC and U&E SAMPLES AFTER EACH MHP TRANSFUSED USING TUBES AND REQUEST FORM PROVIDED
Appendix 5. Initial Investigation and Management of Anaemia

Click here for the full Blood Transfusion Policy

Not for use for surgical pre-operative patients

Assess Haemoglobin and gender

- Female Hb<120g/l
- Male Hb<135g/l

Gynae and Obstetric history

History and Exam to include Diet, GI, Medication and Comorbidities

Consider ACD, Renal impairment, U&E, ferritin, CRP

- Normal
- High
- Low

MCV

Ferritin<30

- No
- Yes

Ferritin<100 and CRP raised

H最有意义的

- ethnicity, diet, GI, CRP, ferritin

H最有意义的

- causes of Anaemia of Chronic Disease, ethnicity
- Consider Hb electrophoresis

Seek advice as appropriate

Give oral iron

Check response at 4 weeks FBC, retics

Response?

- Yes
- No

Continue oral iron

- Ensure blood losing malignancy effectively excluded

Check tolerability and compliance

Refer to IV iron guideline and to PBM team at RCHT

Request blood film. Seek Haematology advice

Yes

Cause identified

No

History: pregnancy, ethanol, medication, Retics, LFT, TFT, B12, folate

Treat

Blood Transfusion Policy V6
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Appendix 6. Pathway for transfusion of medical patients with anaemia

Click here for the full Blood Transfusion Policy

Is the patient cardiovascularly unstable or in shock?

Yes

Give immediate fluid resuscitation

No

Are they symptomatic?

- Breathlessness
- Tachycardia
- Chest pain
- Palpitations

Yes

Is patient iron deficient?

- Ferritin < 30 or Ferritin >100 with raised CRP, Low MCH

Yes

Review patient: Are they stable?

Yes

Unresponsive

Urgent Transfusion

Aim for Hb just over 70 g/l (80 g/l if elderly/ cardiac)

In chronic anaemia lower Hb may relieve symptoms

- Consider one unit
- Can give Overnight

No

No transfusion required. Monitor and review. Identify and treat cause of anaemia.

Responsive

IV iron

Transfuse one unit only if very severe symptoms

No

Transfuse one unit only if very severe symptoms

Do not transfuse overnight

Transfuse to maintain Hb 80-100 g/l
Give one unit and reassess
Do not transfuse overnight

Does patient have IHD or MI?

Yes

Transfuse to maintain Hb 70-80 g/l
Give one unit and reassess

No

Identify and treat anaemia, use Anaemia Management and Investigation Flowchart

Blood Transfusion Policy V6
Page 26 of 42

DOCUMENT:
- Rationale
- Gain informed consent and document
- Leaflet given
- Discuss risk/benefit

Give a single unit and review, take a FBC between each unit of red cells

Beware Transfusion Associated Circulatory Overload (TACO) particularly in elderly and cardiac patients. Consider patient weight and risk assess before transfusion.
Appendix 7. Transfusion Care Pathway Summary

Click here for the full Blood Transfusion Policy

STAFF UNDERTAKING THIS PROCESS MUST HAVE AN UP TO DATE COMPETENCY ASSESSMENT

Is the reason for transfusion documented in notes? Yes No
Is the rationale appropriate? Yes No
Gain consent and note overleaf

Will the transfusion be completed by 21:00? Yes No
Ensure prescription is written up, signed and dated
Cannula should be patent prior to collecting blood
Baseline obs performed up to 30 minutes before start of transfusion
Collect unit
All patient ID checked and matches – verbally, ID band, unit and unit label
Has unit been set up within 30 minutes of withdrawal? Yes No
Set up & start transfusion
Print name, date and time on this form, prescription & nursing notes
Are 15 minute & end of unit obs in line with baseline? Yes No
Take unit down within 4 hours of withdrawal from fridge
Print name, date and time on this form & prescription chart
Dispose of unit appropriately
Return this form to lab
Take post transfusion FBC
Document clinical outcome in notes

Establish rationale and documentation in notes – For appropriate rationale see Transfusion Policy on document library
Consider alternatives – consider the risk to the patient involved in transfusion. Discuss with Transfusion Practitioners bleep 3046 or lab staff on ext. 2500 if necessary
DON’T GIVE WITHOUT REVIEW

Does the patient still require blood? Yes No
Return unit to lab
DO NOT PUT IN FRIDGE

Temp increase with additional symptoms? Yes No
Temp increase >2°C from baseline Yes No
Stop transfusion and investigate
Send unit and giving set to lab
Request a transfusion reaction form from lab and proceed as directed
Report reaction on Datix

Only transfuse overnight in a clinically urgent situation: Active bleeding or haemolysis. Low Hb (<70 g/L) AND symptoms

In the event that a unit is still running >4hrs after withdrawal from fridge this incident MUST be reported to the lab and Transfusion Practitioners

Blood Transfusion Policy V6
Page 27 of 42
Appendix 8. Use of Fresh Frozen Plasma (FFP)

Click here for the full Blood Transfusion Policy

---

**Flowchart for Use of Fresh Frozen Plasma (FFP):**

1. **INR > 1.5?**
   - Yes: *Consider PCC (Beriplex) and vitamin K*
   - No: Continue to next step.

2. **Is patient on Warfarin?**
   - Yes: *Give Methylene Blue Treated FFP – dose 15ml per kg*
   - No: *Give FFP – dose 15ml/kg or 4 units if part of MHP*

3. **Is the patient having a massive haemorrhage?**
   - Yes: *Consider Vitamin K*
   - No: *FFP not indicated*

4. **Born after 01/01/1996?**
   - Yes: *Give FFP – dose 15ml/kg or 4 units if part of MHP*
   - No: *Give Methylene Blue Treated FFP – dose 15ml per kg*

---

*For patients on novel anticoagulants see Anticoagulation Related Bleeding - Guideline Summary*
Appendix 9. Use of Platelets

Click here for the full Blood Transfusion Policy

Is there severe or life threatening bleeding or is bleeding in a critical site?

Yes

Follow massive haemorrhage protocol. Give platelets when count drops below 100x10^9/L in multiple trauma, traumatic brain injury or intercerebral haemorrhage, or below 50 x 10^9/L for other sites of bleed

No

Does patient have chronic marrow failure, ITP, HIT or TTP?*

Yes

DO NOT TRANSFUSE PLATELETS

No

Is patient having invasive surgery?

Yes

Give prophylactic platelets if count drops below 10x10^9/L

No

Is surgery in a critical site e.g. CNS, eyes?

Yes

Consider prophylactic platelets to raise the count above 100x10^9/L

No

Does patient have a high risk of bleeding?**

Yes

Consider a threshold of 50 - 75x10^9/L

No

Consider prophylactic platelets to raise the count above 50x10^9/L

*ITP – Autoimmune thrombocytopenia
HIT – Heparin induced thrombocytopenia
TTP – Thrombotic thrombocytopenic purpura

** High risk of bleeding due to
- The specific procedure they are having
- The cause of their thrombocytopenia
- A falling platelet count
- Co-existing abnormal haemostasis
Appendix 10. Acute Transfusion reaction form

NHS number:  
Name:  
Address:  
Date of Birth:  
CR number:  

Unit Details:  
Volume transfused:  
Datix Number:  
Patient diagnosis:  

Date and time of reaction:  
Component type:  
Name, role and ward of staff member:  
Reason for transfusion:  

Management:  
Stop transfusion immediately • ABC • Oxygen • Get medical help urgently • Recheck pack and patient identifiers

All patients who have a blood component are at risk of an ATR
• Check ‘Right patient, right blood,’ Confirm patient identity with patient, check patient ID band, check unit compatibility label

INSPECT: Examine unit for clumps, particles or discolouration. CHECK cannula site for infection
MONITOR: Perform observations before, during and after transfusion
INFORM: Ask patient to report any new signs or symptoms during and for 24 hours after transfusion

Acute Transfusion Reactions (ATR)
Safe transfusion practice: Be careful; be vigilant
Only transfuse when appropriate

Record

<table>
<thead>
<tr>
<th>What are the signs and symptoms? Please tick</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheeze □</td>
</tr>
<tr>
<td>Swelling □</td>
</tr>
<tr>
<td>Pain □</td>
</tr>
<tr>
<td>Hypotension □</td>
</tr>
<tr>
<td>Collapse □</td>
</tr>
<tr>
<td>Fever □</td>
</tr>
<tr>
<td>Rigors □</td>
</tr>
<tr>
<td>Tachycardia □</td>
</tr>
<tr>
<td>Hypotension □</td>
</tr>
<tr>
<td>Anxiety □</td>
</tr>
<tr>
<td>Pain □</td>
</tr>
<tr>
<td>Breathlessness □</td>
</tr>
</tbody>
</table>

Suspect

| Anaphylaxis □ |
| Severe allergy □ |
| ABO incompatible □ |
| Sepsis □ |
| TACO □ |
| TRALI □ |

Treat

<table>
<thead>
<tr>
<th>Anaphylaxis pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Give IM adrenaline</td>
</tr>
<tr>
<td>Consider</td>
</tr>
<tr>
<td>Chlorphenamine</td>
</tr>
<tr>
<td>Hydrocortisone</td>
</tr>
<tr>
<td>Salbutamol</td>
</tr>
</tbody>
</table>

| IV saline |
| Sepsis pathway (if sepsis) |
| IV broad spectrum antibiotics (if sepsis) |

| Furosemide (if TACO) |

Baseline Obs Time:  
Reaction Obs Time:  
Time of return to baseline Obs:

Initial Investigations
- FBC, U&E, LFT, coagulation screen
- Repeat group and screen
- First urine sample (haemoglobin)
- IgA level (yellow top biochemistry tube)
- Blood cultures (if sepsis suspected)
- If breathless a CXR may be required
- Serial mast cell tryptase - immediate, 3hrs, 24hrs post reaction (if severe allergy/anaphylaxis suspected)

Please report all moderate or severe reactions to the laboratory
- Return blood component and giving set to laboratory
- Complete this form and return to laboratory
- DATIX reaction
- Transfusion Lab: Ext 2500
- Transfusion Practitioners: Ext 3093 Bleep 3046
- Bleep on-call Haematology Consultant through switchboard if life threatening or severe
Is my patient having a transfusion reaction? Features may include:
Fever, chills, rigors, tachycardia, hypo-/hyper-tension, collapse, flushing, urticarial, pain (bone, muscle, chest, loin, abdominal), respiratory distress, nausea, general malaise

STOP THE TRANSFUSION – Assess (rapid clinical assessment); Check (patient ID /blood compatibility label); Inspect (look for turbidity, clots, discoloration)

Evidence of life threatening airway, breathing or circulatory problems? Evidence of wrong blood given and/or evidence of contaminated unit?

Severe or life threatening
- Call for urgent medical help
- Initiate resuscitation – ABC
- Maintain venous access
- Monitor patient, e.g. TPR, BP, urinary output, O₂ sats
- Fluid resuscitation (normal 0.9% saline) as appropriate guided by BP, pulse, urine output (catheterise if necessary)
- Perform appropriate investigations as overleaf

Moderate
- Temperature > 39°C or rise of > 2°C and/or
- Other symptoms (not pruritis/rash only)

- Review patient's underlying condition and transfusion history
- Monitor more frequently completing full set of obs

Consistent with condition or history
Consider bacterial contamination and undertake appropriate investigations
Consider continuation of transfusion at a slower rate and appropriate symptomatic treatment

Discontinue Transfusion

Mild
- Isolated temp 38-39°C or rise 1-2°C
- Pruritis/rash only

- Consider symptomatic treatment
- Monitor more frequently
- If worsens manage as moderate/severe

Continue transfusing at a slower rate

Consistent with condition or history
Consider continuation of transfusion at a slower rate and appropriate symptomatic treatment

If transfusion is discontinued DO NOT discard unit but return to lab with giving set attached
Appendix 11. Blood Transfusion Competencies Pack

Name …………………………………… Ward area ………………………………………

Mandatory training or induction attended: Date …………. Sign …………………

Bloodhound e-learning- http://elearning.cornwall.nhs.uk/ Date …………………

<table>
<thead>
<tr>
<th>Competency</th>
<th>Method of assessment</th>
<th>Date</th>
<th>Assessor Signature &amp; name</th>
<th>Candidate Signature</th>
<th>Added to HealthRoster or sent to TP office (date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample taking (if venepuncture competent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collection of blood components</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Bloodhound elearning completed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration (IV drugs pack passed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

By signing the above, the assessor confirms that the candidate is competent in the relevant area.

ALL assessments must be logged on the Maps erostering system as soon as possible.

THIS PAGE IS THE SUMMARY OF THE PACK. IT MUST BE COPIED FROM THE CANDIDATE PACK AND GIVEN TO WARD MANAGERS.

This assessment is valid and does not need repeating as long as the following criteria are met:
- A two year mandatory clinical session with Blood Transfusion is attended and recorded onto Health Roster.
- The staff member is not involved in a serious incident.

Ward managers and assessors may complete the assessments whenever deemed necessary.

IN THE EVENT OF A MEMBER OF STAFF FAILING OR UNSAFE PRACTICE WITNESSED DURING ASSESSMENT THE FOLLOWING ADVICE MUST BE FOLLOWED

FAILURE TO ACHIEVE COMPETENCE –
- Inform Clinical Manager of outcome of assessment
- Devise an action plan and agree a timescale and date for follow up assessment
- In agreement with candidate and Clinical Manager, devise an action plan and agree a timescale and date for follow up assessment
- This cannot be the same day
When the candidate undertakes their next assessment, please complete a new competency assessment document. If a third attempt at competency is made it **must** be assessed by a **Trust Transfusion Practitioner**.

If the candidate fails to achieve competency on three separate occasions, following further training and support, the Clinical Manager must be informed. The candidate **must not** undertake the procedure(s) in which they have not demonstrated competence.

**Note:** this should be undertaken with due regard for confidentiality of the candidate. Colleagues of the candidate should only be informed on a “need to know” basis and in agreement with the candidate.

**OBSERVING UNSAFE PRACTICE DURING ASSESSMENT**

- During the assessment, should the assessor observe “unsafe” practice i.e. any practice which could put the patient or staff member at risk, the assessor must intervene and take over/stop the procedure.
- This should be carried out in a professional manner and without causing concern to the patient.
- The unsafe practice should not be discussed in the presence of the patient, but with the candidate in a private and confidential manner.
- The candidate must be informed of the reason for halting the assessment and the unsafe practice observed.
- Reference should be made to the correct procedure using the Blood Transfusion Policy.
- The Clinical Manager must be informed of the incident and the candidate should be supervised undertaking the procedure until deemed competent by a follow up assessment.

1. Nicki Jannaway – Lead Transfusion Practitioner RCHT. Bleep 3046 or ext 3093
2. Abigail Parsons – Transfusion Practitioner RCHT. As above
3. Karen Godfrey – Associate Transfusion Practitioner RCHT. As above
4. Alison Rundle – Transfusion Practitioner CPFT Mobile number: 07825 93324
**ASSESSMENT CRITERIA FOR PRE TRANSFUSION SAMPLING**

<table>
<thead>
<tr>
<th>What discussions need to take place between the prescriber/sample taker and patient before the sample is taken? How is this documented?</th>
<th>Consent for transfusion should be discussed with the patient by the prescriber and this should be written into the patient's notes. Consent for the sample is the sample takers responsibility.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why does the request form need to be completed before the sample can be taken?</td>
<td>To ensure a complete check between request, wristband and name stated by patient and Llama. Infection control would not prevent you taking form into room.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What information must the request form contain?</th>
<th>Observed and discussed. All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name</td>
<td>If sticky labels are used the FULL name must be printed – this often does not happen with double barrelled names</td>
</tr>
<tr>
<td>DOB</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Unique Identifier</td>
<td>CR or NHS number</td>
</tr>
<tr>
<td>Signature of requesting person and contact details</td>
<td></td>
</tr>
<tr>
<td>Clinical details</td>
<td>Should be relevant to request</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How do you identify a conscious patient prior to sampling?</th>
<th>Observed and discussed. All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name stated by patient and checked against request form</td>
<td>If using Llama these details must be checked against the screen during the process</td>
</tr>
<tr>
<td>DoB stated by patient and checked against form</td>
<td>If using Llama these details must be checked against the screen during the process</td>
</tr>
<tr>
<td>Wristband check (also check unique identifier) – when would this be appropriate?</td>
<td>Some outpatients will not be wearing a wristband.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How do you identify an unconscious patient or patient who is unable to identify themselves?</th>
<th>Observed and discussed. All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wristband check - essential</td>
<td>What will they do if it is missing?? The only right answer here is to get it put back on before taking the sample.</td>
</tr>
<tr>
<td>Carer/other staff member/notes</td>
<td>To state patient’s name and date of birth.</td>
</tr>
<tr>
<td>If we have an unidentifiable patient how do we ensure the sample and patient are linked to allow blood to reach the right patient?</td>
<td>They are allocated a CR number upon arrival at ED. Sample must be labelled with CR number, gender and approximate age. Sample must be signed and dated as usual.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Make staff aware of this practice even if they don’t work in an area that receives unknown patients.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When would it be appropriate to use Llama for labelling samples?</th>
<th>All inpatient samples must use Llama Safe if it is available. It is also available in some outpatient areas.</th>
</tr>
</thead>
<tbody>
<tr>
<td>What would you do if Llama didn’t work or wasn’t available?</td>
<td>If another Llama set is not available (sample taker must not leave the bedside if samples have been taken) then tubes would then need to be handwritten by the bedside. Llama can only be used if the patient is wearing a wristband. The square barcode must be fully printed and the wristband should be replaced if faded.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Where Llama is not used – Handwrite the sample to include the minimum dataset (a sample must be labelled by the assessee at this point)</th>
<th>Observed and discussed All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name</td>
<td></td>
</tr>
<tr>
<td>Date of Birth</td>
<td></td>
</tr>
<tr>
<td>Unique Identifier</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Signature</td>
<td></td>
</tr>
<tr>
<td>Date and time of sample</td>
<td></td>
</tr>
<tr>
<td>This is done at the bedside</td>
<td>Stress that the labelling must be completed at bedside by EVERYONE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Candidate must demonstrate knowledge of:</th>
<th>Observed and discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples of reasons for sample rejections</td>
<td>Llama samples are only rejected if the form is wrong or the label misprinted. Spelling errors, illegible samples, incorrect information, obliterated information, addressograph labels</td>
</tr>
<tr>
<td>The risks associated with pre-labelling tubes</td>
<td>Increased risk of bleeding the wrong patient.</td>
</tr>
<tr>
<td>The risks of labelling specimens taken by someone else</td>
<td>Not possible if Llama used correctly. You cannot be sure they have followed the policy, and if your signature is on the tube you are responsible for it.</td>
</tr>
</tbody>
</table>
**ASSESSMENT CRITERIA FOR COLLECTION AND DELIVERY OF BLOOD AND BLOOD**

| What information is taken to blood fridge to remove units? | Observed and discussed  
| All items below must be covered |
| --- | --- |
| Prescription chart, patient label or collection slip must be checked against the wristband of all patients, asking them to state their name and DOB where possible **before leaving to collect unit** | To ensure you have the right patient. To ensure patient information is correct and matches information held by laboratory. It is best practice to take the prescription chart so that you can check which component has been prescribed. If no information is taken to the lab Bloodhound will not allow removal. IPods used for e-obs are not acceptable as they have multiple patient names stored on them |

| Full name, DoB and Unique Identifier | Must include all |
| Who can collect blood components? | Staff must be competency assessed in collection and Bloodhound trained |

| What actions are taken at the blood fridge BEFORE removing blood component? | Observed and discussed  
| All items below must be covered |
| --- | --- |
| Log on to Bloodhound Kiosk  
*RCH, WCH, SMH only* | Scan ID badge then enter password which is the same as ICT password (Case Specific) |
| Press Take blood out, Enter patients unique identifier, confirm patient, select unit  
*RCH only* | Must bring patient details with them and cross – check these with Bloodhound |
| Identify which fridge the blood is in, remove unit, where relevant, click amber padlock. Scan the unit(s) of blood through the kiosk so that it moves to in hand. Log off. | Scan unit no. barcode and product barcode in one scan.  
ALL units must be scanned |

| What visual checks are performed for collecting blood component in relation to the yellow paperwork? | Observed and discussed  
<p>| All items below must be covered |
| --- | --- |
| Check full name | On Blood unit against prescription chart. |
| Date of Birth | On Blood unit against prescription chart. |
| Hospital No. / NHS No. | On Blood unit against prescription chart. |
| Unit number on BOTH labels of pack | Ensure staff member checks unit numbers on compatibility label, pack and paperwork. |
| Expiry date, use by date and ABO compatibility | On both pack labels – ensure that staff are aware of the difference between the expiry date of the blood pack and the use by date which relates to the time when the transfusion must be completed by |
| PRINT your name, date and time of removal of yellow form. | This ensures full traceability and cold chain |</p>
<table>
<thead>
<tr>
<th>Collecting in emergencies or multiple units</th>
<th>Observed and discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many units can be collected for a single patient?</td>
<td>One in normal circumstances, multiple if taking to a satellite fridge or in an emergency where units are to be given immediately</td>
</tr>
<tr>
<td>How long can the components be out of their specific temperature control?</td>
<td>30 minutes. Bloodhound will not allow units to be returned to a fridge after 30 minutes.</td>
</tr>
<tr>
<td>In urgent situations do all checks still need to take place?</td>
<td>Yes – definitely. It only takes 30 seconds to accurately check a unit.</td>
</tr>
<tr>
<td>Explain the procedure for emergency O neg and describe where the nearest units are for your clinical area</td>
<td>Location of nearest O Neg units – Log onto Bloodhound, press emergency O Neg function, this will open fridge, remove required units and scan out. Take only the minimum required. Lab staff must be informed if units are removed from fridge. Paperwork must be filled in with patient information and returned to lab as this is the only evidence of which patient has received blood.</td>
</tr>
<tr>
<td>Can components for more than one patient be collected together?</td>
<td>No. Only one patient per trip.</td>
</tr>
<tr>
<td>What are the components available to collect and what are the specific storage conditions of:</td>
<td>Observed and discussed</td>
</tr>
<tr>
<td>Red cells</td>
<td>In blood fridges at 4°C</td>
</tr>
<tr>
<td>Platelets</td>
<td>Will be on agitator in lab and will need to be requested. Stored at 22°C</td>
</tr>
<tr>
<td>FFP</td>
<td>Defrosted then in blood fridge for 24 hours</td>
</tr>
<tr>
<td>Cryo</td>
<td>Defrosted then at room temp for 4 hours</td>
</tr>
<tr>
<td>Do all components need to be scanned out using the Bloodhound kiosk?</td>
<td>YES</td>
</tr>
<tr>
<td>What actions would you take if the kiosk was inactive or an alarm was sounding?</td>
<td>Call the lab to seek advice (01872 252500) Call the TPs on 3093 Call Site Coordinators for RCH through switch</td>
</tr>
<tr>
<td>Discuss the transfer of components and use of satellite blood fridges:</td>
<td>Observed and discussed</td>
</tr>
<tr>
<td>Components must be taken directly to clinical area for immediate use</td>
<td>No interruptions! Units must not be left and need to go directly to staff member administering blood.</td>
</tr>
<tr>
<td>The components must be scanned into any other satellite fridge</td>
<td>If not required immediately units must be scanned into a satellite blood fridge using Bloodhound. All checks done as above when removing blood from fridge.</td>
</tr>
</tbody>
</table>
### REMOVING UNITS FROM A COOLBOX

The following section to be completed only if necessary (staff who are not based at Treliske) where coolboxes are in use:

<table>
<thead>
<tr>
<th>Removal of blood from a blood transport box into a remote fridge</th>
<th>Discussed and observed All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times of arrival are documented on Transport Delivery Record</td>
<td>This is mandatory</td>
</tr>
<tr>
<td>Ensure box is correctly sealed and within expiry time</td>
<td>With a luggage tag stating expiry time</td>
</tr>
<tr>
<td>Units are checked against paperwork and compatibility label: Full name, DoB and Hospital N(^2) / NHS N(^2)</td>
<td></td>
</tr>
<tr>
<td>Log into Bloodhound and open fridge, <strong>NOT</strong> applicable to CPFT staff.</td>
<td>Currently the Bloodhound system only controls the door locking at WCH and SMH.</td>
</tr>
<tr>
<td>Units are placed in fridge immediately noting time on delivery record</td>
<td>For complete ‘cold chain’ record</td>
</tr>
<tr>
<td>Delivery record returned to Transfusion Department RCH</td>
<td>This will be checked upon arrival at RCH.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Removal of blood from a blood transport box with no remote fridge</th>
<th>Discussed and observed All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Times of arrival are documented on Transport Delivery Record</td>
<td>This is mandatory</td>
</tr>
<tr>
<td>Ensure box is correctly sealed and within expiry time</td>
<td>With a luggage tag stating expiry time</td>
</tr>
<tr>
<td>Take to the patient’s bedside before opening</td>
<td></td>
</tr>
<tr>
<td>Ensure blood for 1 patient only is in box, maximum of 2 units</td>
<td>For transfusions of more than 2 units additional transport is required</td>
</tr>
<tr>
<td>Units are checked against paperwork and compatibility label: Full name, DoB and Hospital N(^2) / NHS N(^2) with reference to patient</td>
<td></td>
</tr>
<tr>
<td>Box lid and cool packs are replaced to ensure second unit is temperature controlled</td>
<td></td>
</tr>
<tr>
<td>Box remains at patient’s bedside throughout transfusion</td>
<td></td>
</tr>
<tr>
<td>What is the maximum time allowed for</td>
<td>For cool boxes: 7 hours total. 3 for box expiry, 4 from</td>
</tr>
</tbody>
</table>
transfusion of both units from box packing?  
expired box to expiry of units.  
For Credo boxes 28 hours total. 24 for box expiry, 4 from expired box to expiry of units

<table>
<thead>
<tr>
<th>RETURNING A COOLBOX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Returning units that are still within dereservation date</td>
</tr>
<tr>
<td>Log on to Bloodhound Kiosk <em>SMH and WCH only</em></td>
</tr>
<tr>
<td>Remove units from blood fridge</td>
</tr>
<tr>
<td>Pack coolbox with cool packs and units</td>
</tr>
<tr>
<td>Complete Transport and Delivery record in returns kit</td>
</tr>
<tr>
<td>Seal Box with Yellow tag, completing luggage label</td>
</tr>
</tbody>
</table>
### ASSESSMENT CRITERIA FOR THE ADMINISTRATION OF BLOOD AND BLOOD COMPONENTS

<table>
<thead>
<tr>
<th>What identification must the patient have, and what is the minimum data this must contain?</th>
<th>Observed and discussed</th>
<th>All items below must be covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full name</td>
<td>On Wristband</td>
<td></td>
</tr>
<tr>
<td>Date of Birth</td>
<td>On Wristband</td>
<td></td>
</tr>
<tr>
<td>Unique Identifier</td>
<td>On Wristband</td>
<td></td>
</tr>
</tbody>
</table>

| What action must be taken if wristband not present? | The wristband MUST be replaced BEFORE transfusion takes place |

<table>
<thead>
<tr>
<th>Checks prior to administration 1</th>
<th>Observed and discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the patient need to give verbal or signed consent? Where is this documented?</td>
<td>There should be a record of verbal consent in the notes. This consent should be gained by the prescriber but the member of staff administering the component will also check consent and document on yellow form. Can also give the patient information leaflet ‘Will I need a Blood Transfusion’</td>
</tr>
<tr>
<td>Where should the rationale for transfusion be documented? What would you do if you felt it wasn’t reasonable?</td>
<td>This must be documented in the notes. If staff member feels request is not reasonable they should discuss transfusion with requestor and refer to lab if necessary.</td>
</tr>
<tr>
<td>When is it appropriate to transfuse overnight?</td>
<td>Only when documented in the notes that the clinical requirement is urgent. Overnight is classed as during a night shift. If you are unsure for your area contact the Transfusion Practitioners for advice.</td>
</tr>
<tr>
<td>What access does the patient need, and when would this be checked?</td>
<td>A patent cannula. It is best practice to check this prior to collecting unit from blood fridge.</td>
</tr>
<tr>
<td>How should the prescription be completed?</td>
<td>One unit per line which allows space to put unit number sticker on prescription(on the grey bar). Special requirements include irradiated blood, CMV negative blood, antigen negative blood, paediatric pack. If you are not sure if any of these apply (most commonly required by haematology/oncology patients) contact the transfusion lab.</td>
</tr>
<tr>
<td>How would you know if the patient needed any special requirements and what does this include? (if candidate does not know this, discuss and establish they would gain advice)</td>
<td></td>
</tr>
<tr>
<td>Where do all the checks take place and why?</td>
<td>By the bedside. Less interruption, no chance of administering to wrong person after checking wristband against compatibility label.</td>
</tr>
<tr>
<td>How many staff are required to administer blood components?</td>
<td>One – single checking only (With exception of child health).</td>
</tr>
<tr>
<td>How would you check the quality of the unit and what would you be looking out for?</td>
<td>Unit must not have any discolouration, clumping, tears in pack and must be within expiry date</td>
</tr>
<tr>
<td>Discuss how you would ensure the right patient receives the right blood? Point out which checks you would complete at the bedside.</td>
<td>Observed and discussed All items below must be covered</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Verbal confirmation with patient stating their name and DoB, checked against wristband</strong></td>
<td></td>
</tr>
<tr>
<td><strong>When unconscious or unable to communicate what identity checks should take place?</strong></td>
<td><strong>Check with relative or carer, or another member of staff, checking wristband and notes carefully</strong></td>
</tr>
<tr>
<td><strong>Comparing wristband and unit label - Full name, Date of Birth, Unique identifier.</strong></td>
<td><strong>Compatibility label must be checked against wristband.</strong></td>
</tr>
<tr>
<td><strong>Unit number (very long number starting G0) on labels and paperwork, ABO compatibility, expiry date</strong></td>
<td><strong>Unit number should be checked 3 times – black and white label on front of pack (above large barcode), dangling label with patient ID on and compatibility sheet.</strong></td>
</tr>
<tr>
<td><strong>How would you record which unit the patient has received in the notes?</strong></td>
<td><strong>Apply unit number sticker from compatibility label to prescription chart to ensure record of unit in patient’s notes.</strong></td>
</tr>
<tr>
<td><strong>Where and how would you document that you administered the unit?</strong></td>
<td><strong>Sign date and time start of unit on transfusion form and in prescription chart for full traceability, which is a legal requirement</strong></td>
</tr>
</tbody>
</table>

### Actions at end of unit

| What is the maximum time a transfusion can take? | 4 hours from when unit left the fridge the unit must be disconnected from the cannula. |
| What do you document at end of unit and where? | Sign, date and time the paperwork when the unit is taken down - traceability must be maintained at 100% for MHRA compliance |
| What happens to the transfusion form at the end of the transfusion? | Returned to transfusion lab. Traceability must be maintained at 100% of units for MHRA compliance |
ASSESSMENT CRITERIA FOR OBSERVATIONS PERFORMED FOR TRANSFUSION OF BLOOD AND BLOOD PRODUCTS

What are the required observations for blood transfusion?

<table>
<thead>
<tr>
<th>Record patient observations for the unit being transfused (red cells, platelets, FFP or cryoprecipitate) to include:</th>
<th>Observed and discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-transfusion</td>
<td>temperature, pulse, blood pressure and respiration rate</td>
</tr>
<tr>
<td>15 mins into transfusion</td>
<td>temperature, pulse, blood pressure and respiration rate</td>
</tr>
<tr>
<td>End of transfusion</td>
<td>temperature, pulse, blood pressure and respiration rate</td>
</tr>
<tr>
<td>Might further observations be required?</td>
<td>Yes, if there are any changes in Obs, signs of a reaction or patient is unconscious.</td>
</tr>
<tr>
<td>Would you still do obs after 15 mins for platelet transfusions?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Name 3 signs of a transfusion reaction and explain any action you would take-

<table>
<thead>
<tr>
<th>Loin/chest pain</th>
<th>Collapse</th>
<th>Anuria/oliguria</th>
<th>Rigours</th>
<th>Anaphylaxis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flushing</td>
<td>Urticaria</td>
<td>Dyspnoea</td>
<td>Impending sense of doom</td>
<td>Haemoglobinuria</td>
</tr>
</tbody>
</table>
| Tachycardia | Raised temperature (more than 2°C sustained for >15 mins) | Fever | Hypotension/Hypertension | In the case of circulatory overload or if transfusion is too rapid:  
• Left ventricular failure  
• Tachypnoea  
• Tachycardia  
• Hypertension |

- Transfusion should be stopped immediately - nursing and medical help requested urgently.
- Re-check compatibility of pack to ensure patient is receiving the correct blood
- Venous access must be maintained.
- Patients can suffer delayed haemolytic transfusion reactions usually from 1-14 days post transfusion.
- In the case of mild allergic reactions transfusion can be continued with antihistamine cover and paracetamol.
- The Transfusion Laboratory and/or the Transfusion Practitioners must be notified as the blood component and further patient’s samples will need to be tested to confirm transfusion reaction.
- A transfusion reaction form must be filled in. Part of this form is a flow chart detailing actions to be taken dependant on type and severity of reaction. The form is available from the Transfusion Laboratory or from the document library.