Policy Number: CP26

Title of Policy: Blood Transfusion Policy

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1.0 Policy Statement

1.1 The Royal Wolverhampton NHS Trust will ensure the highest standards and a consistent approach for the safe collection of samples for blood grouping and cross matching and other samples tested within the transfusion laboratory. This is in addition to the safe collection, storage and administration of blood components and blood derivatives within the Trust. The policy and its procedures will be monitored - see section 9.

1.2 This policy is largely based upon:

- British Standards in Haematology "*Guidelines for the administration of blood and blood components and the management of transfused patients*",
- The Handbook of Transfusion Medicine (5th Edition),
- Better Blood Transfusion (HSC 1998/224 & HSC 2002/009),
- National Patient Safety Practice Notice No.14,
- The Blood Safety and Quality Regulations 2005 (Statutory Instrument No.50),
- NICE standards, and
- NBTC standards for competency.

All aspects of this document regarding potential Conflicts of Interest should refer first to the Conflicts of Interest Policy (OP109). In adhering to this policy, all applicable aspects of the Conflict-of-Interest Policy must be considered and addressed. In the case of any inconsistency, the Conflict-of-Interest Policy is to be considered as the primary and overriding policy.

All new and /-revised Trust policy and Procedural Documents must be reviewed by the Counter Fraud lead for the Trust and considerations made by the author against the Counter Fraud checklist.

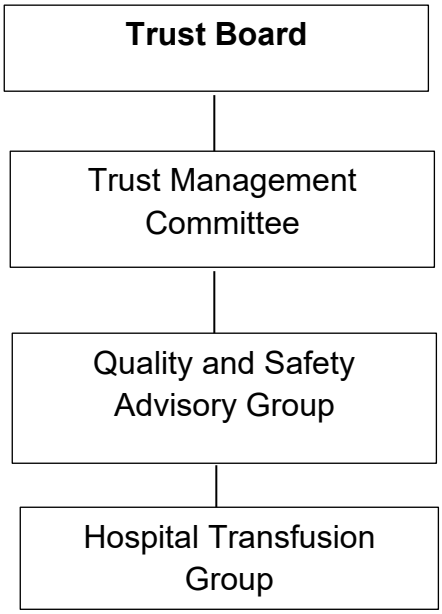
2.0 Definitions

ATP	Associate Transfusion Practitioner
BBTS	Better Blood Transfusion Health Service Circular
Blood Bank Refrigerator	Blood issue refrigerator
Blood Component	A therapeutic constituent of human blood i.e., red cells, platelets, fresh frozen plasma, and cryoprecipitate.
Blood Derivative	Any therapeutic product derived from human whole blood or plasma donations.
Blood Pack Tag	This tag is applied to the component and lists the patient's details and donation information, of which the lower portion needs to be returned to blood bank for traceability.

BMS	Biomedical Scientist.
BSH	British Society for Haematology.
Cold Chain Officer	Higher Medical Laboratory assistant responsible for maintenance of blood storage devices and product handling of blood components,
Compatibility Testing	Cross matching units of blood with patient's sample.
Concessionary form	Authorisation by a member of the Hospital Transfusion Team or Consultant Haematologist to act contrary to a standard operating procedure which may be necessary in an urgent situation in the best interest of the patient.
EI	Electronic Issue.
GDP	Good Distribution Practice.
GMP	Good Manufacturing Practice.
HTG	Hospital Transfusion Group.
HTT	Hospital Transfusion Team.
IMTG	Induction and Mandatory Training Group.
LIMS	Laboratory Information Management System.
MHP	Massive Haemorrhage Protocol.
MHRA	Medicines and Healthcare Products and Regulatory Agency.
NBTC	National Blood Transfusion Committee.
NHSBT	National Health Service Blood and Transplant.
NICE	National Institute for Health and Care Excellence.
NPSA	National Patient Safety Agency.
PBM	Patient Blood Management.
QSAG	Quality and Safety Advisory Group.
SABRE	Serious Adverse Blood Reactions & Events.
SHOT	Serious Hazards of Transfusion.
TACO	Transfusion Associated Circulatory Overload.
TLM	Transfusion Laboratory Manager.

3.0 Accountabilities

The following flowchart sets out the reporting structure/ accountability.



The Hospital Transfusion Group has a responsibility to ensure that best practice which reflects national guidelines for all aspects of blood transfusion is embedded within the organisation.

The Hospital Transfusion Team consists of:

- Lead Consultant for Transfusion,
- Transfusion Practitioner,
- Transfusion Laboratory Manager/ Representative,
- BCPS Quality Manager, and
- BCPS Clinical Lead.

The remit of the team is to actively promote the implementation of the National PBM (Patient Blood Management) initiatives through training and clinical and laboratory audit, to provide advice and support to clinical teams on the safe and appropriate use of blood, and to ensure effective hemovigilance systems are implemented.

4.0 Policy Details

4.1 Sampling of patient's blood for grouping and compatibility testing must be performed correctly to avoid mis-sampling and potentially fatal errors (SABRE and SHOT) (Attachment 1 and Attachment 10).

4.2 Blood and blood products must be handled, stored, checked, and administered in a safe and consistent manner to reduce the risk of a serious adverse advent or reaction (SABRE and SHOT) (Attachment 10).

4.3 Documentation and record keeping must allow a full audit trail of the transfusion process in line with statutory regulations (MHRA) (Attachment 10).

4.4 All staff must receive training and competency assessments within existing resources wherever possible as defined in national guidelines and recommendations (Attachment 9).

4.5 All suspected transfusion related adverse events and reactions must be investigated, managed, and reported in accordance with Trust timescales (SABRE and SHOT) (Attachment 8).

4.6 The mandatory procedure for the accurate labelling of blood transfusion samples following venepuncture as detailed in the Policy must be followed (Attachment 1).

4.7 The procedure for the storage and safe collection of blood components from New Cross Hospital blood bank storage devices is in Attachment 2.

4.8 The procedure for the storage, safe collection, and transfer of blood components from the main hospital blood bank refrigerator to satellite fridges and remote sites is in Attachment 4.

4.9 The procedure for the storage and safe collection of blood components from the main blood bank refrigerator at Cannock Chase Hospital is in Attachment 3.

4.10 Clinicians who prescribe transfusions of blood or blood derivatives must ensure that patients are informed of the risks, benefits, and alternatives (**N. B., there may not be an alternative)** to the proposed transfusion, that they have been given the opportunity to ask questions and have provided valid informed consent, which must be documented in the patient clinical record.
For patients who have received a blood transfusion but were not able to give valid consent prior to the transfusion, information must be given retrospectively.
(Procedure for obtaining consent for blood and/or blood products transfusion.)

Jehovah's Witnesses have traditionally been bound by their church's official policy to refuse blood transfusion, and other religious groups may also have issues with blood transfusions. These groups of patients must be counselled, consented, and managed in accordance with the Trust procedures. (Procedure for treatment of patients who refuse consent for the use of blood and blood products.)

Guidance can also be taken from "A guide to religious and cultural observances" which gives more detail on the Jehovah Witness viewpoint as well as those of other religions.

4.11 The procedure for the receipt, bedside checking and administration of blood components and blood derivatives is in Attachment 5 and Attachment 6.

4.12 The procedure for monitoring the patient during transfusion is in Attachment 7.

4.13 It is the responsibility of the clinician who initiates the decision to transfuse to ensure that the transfusion laboratory is notified of any special requirements.
This can be done initially via telephone call or the request form but must be followed by an e-mail to the Hospital Transfusion Team (rwh-tr.TransfusionTeam@nhs.net) detailing the reason for these requirements being met.

5.0 Financial Risk Assessment

The screening checklist has been completed and no additional financial resources have been identified.

1.	Does the implementation of this policy require any additional Capital resources?	No
2.	Does the implementation of this policy require additional revenue resources?	No
3.	Does the implementation of this policy require additional manpower?	No
4.	Does the implementation of this policy release any manpower costs through a change in practice?	No
5.	Are there additional staff training costs associated with implementing this policy which cannot be delivered through current training programmes or allocated training times for staff.	No
	Other comments.	

6.0 Equality and Diversity Risk Assessment

Equality Impact Assessment proforma completed. This has identified impact on particular religious groups.

7.0 Maintenance

The policy will be reviewed and updated by the Trust Hospital Transfusion Group every three years or sooner if legislation changes.

8.0 Communication and Training

8.1 Refer to the above flowchart in section 3.0 for communication route of policy.

8.2 The NPSA, in collaboration with other key stakeholders, developed National blood transfusion competencies in 2006. These have since been reviewed by the NBTC, are supported by NHS England and are relevant to **all** clinical staff groups involved in the transfusion process. The competencies to be completed are "*Obtaining a venous sample for transfusion*", "*Blood Collection*" and "*Blood Preparation and Administration*", if relevant to the member of staff's role (see Attachment 9 and Appendix 9).

9.0 Audit Process

Audit of this policy's effectiveness will be performed via the following mechanisms.

Criterion	Lead	Monitoring	Frequency	Committee/ Group
• Duties	HTP	Review of policy	3 yearly	HTG
• Process for the request of blood samples for pre-transfusion compatibility testing.	TLM	Audit of compliance to process via specimen rejection rates and monitoring of adverse incidents and trends.	Triannual	HTG
• Process for the administration of blood and blood derivatives including patient identification.	HTP	Review of incidents and trends including MHRA/SHOT reportable incidents.	Triannual	HTG and QSAG if appropriate. Non-compliance to be escalated to relevant Senior Manager(s).
• Care of patient(s) receiving transfusion.	HTP	Retrospective monthly audit of a percentage of transfusion episodes across the Trust. Review of incidents and trends including MHRA/SHOT reportable incidents.	Triannual	HTG and QSAG if appropriate. Non-compliance to be escalated to relevant Senior Manager(s).
• Training requirements of all staff, as identified in the training needs analysis.	HTP	Audit of compliance to process.	Triannual	HTG and IMTG if appropriate.
• Requirements for the competency assessment of all staff involved in the blood transfusion process.	HTP	Audit of compliance to process	Triannual	HTG and IMTG if appropriate.

9.1 RWT participates in the NHSBT external audits, e.g. The National Comparative Audit and the West Midlands Regional Transfusion Committee audits. Key Performance Indicators (KPI) are reviewed against local and National levels.

9.2 Local audits with the assistance of the audit department as directed by the Hospital Transfusion Group.

9.3 MHRA compliance statement with statutory regulations every 12 months.

10.0 References

Better Blood Transfusion Health Service Circulars. Available on: nbtc_bbt_hsc_98.pdf

British Society for Haematology (BSH), Guidelines for the administration of Transfusion Medicine (2017). Available on: https://b-s-h.org.uk/guidelines

British Committee for Standards in Haematology (BCSH) Guidelines on the investigation and management of acute transfusion reactions (2012) Available on: https://b-s-h.org.uk/guidelines

British Committee for Standards in Haematology (BCSH) Guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories (2012) Available on: https://b-s-h.org.uk/guidelines

Guidelines for the Blood Transfusion Services in the UK, 8th Edition Available on: www.transfusionguidelines.org.uk/index.asp?Publication=RB

Handbook of Transfusion Medicine, 5th edition, HMSO. Available on: www.transfusionguidelines.org.uk

Rules and Guidelines for Pharmaceutical Manufacturers and Distributors 2007 Serious Adverse Blood Reactions and Events Available on: Blood: authorisation and safety reporting – GOV.UK

Statutory Instrument 2005 No.50 the Blood Safety and Quality Regulations 2005. Available on: http://www.opsi.gov.uk/si/si2005/20050050.htm

Part A -Document Control

Reference Number and Policy name: **CP26 – Blood Transfusion Policy**	**Version:** **December 2021 v 9**		**Status: Final**	**Author: Hospital Transfusion Team** **Director Sponsor:** **Chief Medical Officer**
Version / Amendment History	Version	Date	Author	Reason
	1	February 2003	Hospital Transfusion Team	Original
	2	February 2005	Hospital Transfusion Team	To comply with NHSLA standards
	3	March 2006	Hospital Transfusion Team	To comply with Blood Safety and Quality Regulations
	4	July 2007	Hospital Transfusion Team	To comply with National Patient Safety Standards
	5	November 2008	Hospital Transfusion Team	Review of policy and process
	6	July 2011 Aug 12	Hospital Transfusion Team	Review of policy and process *Minor amendments*
	7	Jan 2015	Hospital Transfusion Team	Review of policy and process
	8	Nov 2018	Hospital Transfusion Team	Review of policy and process
	8.1	Nov 2020	Hospital Transfusion Team	Minor amendment to Attachment 8
	8.2	Feb 2021	Hospital Transfusion Team	Updates to Appendices 10a, 10b and 10c
	8.3	Nov 2021	Hospital Transfusion Team	Extension applied until February 2022
	9	Dec 2021	Hospital Transfusion Team	Review of policy and process

Intended Recipients: All Trust staff involved in blood transfusion process	
Consultation Group / Role Titles and Date: Hospital Transfusion Group (HTG) November 2021	
Name and date of Trust level committee where reviewed	Trust Policy Group March 2022
Name and date of final approval committee	Trust Management Committee – March 2022
Date of Policy issue	April 2022
Review Date and Frequency	3 Yearly (March 2025)
Training and Dissemination: Policy will be available on the Trust intranet. Staff made aware of changes at Trust induction and through mandatory blood transfusion training/assessment.	
Publishing Requirements: Can this document be published on the trust's public page: Yes	
To be read in conjunction with: CP06 (Attachment 4a) Procedure for treatment of patients who refuse consent for the use of blood and blood products. CP06 (Attachment 4b) Procedure for obtaining consent for blood and/or blood products transfusion. OP41 Induction and mandatory training policy.	
Initial Equality Impact Assessment [all policies]: Completed Yes **Full Equality Impact assessment [as required]: Completed No** If you require this document in an alternative format e.g., larger print please contact Policy Administrator Ext.88904.	
Contact for Review	Hospital Transfusion Practitioner
Implementation plan / arrangements [Name implementation lead]	Chair of Hospital Transfusion Group
Monitoring arrangements and Committee	Hospital Transfusion Group Quality and Safety Group

Document summary/ Key issues covered:

Sampling for blood transfusion

Procedures for the safe storage, transfer, and collection of blood products from blood bank fridges and satellite fridges at RWT.

Procedure for receipt, bedside checking and administration of blood components and derivatives.

Monitoring of the patient

Management and reporting of adverse transfusion reactions.

Training and education of staff

Blood Safety and Quality Regulations

Massive Haemorrhage Protocols

VALIDITY STATEMENT

This document is due for review on the latest date shown above. After this date, policy and process documents may become invalid. The electronic copy of this document is the only version that is maintained. Printed copies must not be relied upon to contain the latest updates and amendments.

Part B **Ratification Assurance Statement**

Name of document: CP26 Blood Transfusion

Name of author: Mary Blanton Job Title: Transfusion Practitoner

I, Mary Blanton the above named author confirm that:

- The Policy presented for ratification meet all legislative, best practice and other guidance issued and known to me at the time of development of the said document.
- I am not aware of any omissions to the said document, and I will bring to the attention of the Executive Director any information which may affect the validity of the document presented as soon as this becomes known.
- The document meets the requirements as outlined in the document entitled Governance of Trust- wide Strategy/Policy/Procedure/Guidelines and Local Procedure and Guidelines (OP01).
- The document meets the requirements of the NHSLA Risk Management Standards to achieve as a minimum level 2 compliance, where applicable.
- I have undertaken appropriate and thorough consultation on this document and I have detailed the names of those individuals who responded as part of the consultation within the document. I have also fed back to responders to the consultation on the changes made to the document following consultation.
- I will send the document and signed ratification checklist to the Policy Administrator for publication at my earliest opportunity following ratification.
- I will keep this document under review and ensure that it is reviewed prior to the review date.

Signature of Author: 

Date:25th January 2022

Name of Person Ratifying this document (Chief Medical Officer or Nominee):

Job Title:

Signature:

- I, the named Chief Medical Officer (or their nominee) am responsible for the overall good governance and management of this document including its timely review and updates and confirming a new author should the current post-holder/author change.

To the person approving this document:

Please ensure this page has been completed correctly, then print, sign and email this page only to: The Policy Administrator

IMPLEMENTATION PLAN

To be completed when submitted to the appropriate committee for consideration/approval

Policy number and policy version	**Policy Title: CP26 Blood Transfusion**	
Reviewing Group	Hospital Transfusion Group	**Date reviewed:28/01/2024**
Implementation lead: Blood Bank Manager		
Implementation Issue to be considered (add additional issues where necessary)	**Action Summary**	**Action lead / s (Timescale for completion)**
Strategy; **Consider** (if appropriate) 1. Development of a pocket guide of strategy aims for staff 2. Include responsibilities of staff in relation to strategy in pocket guide.	N/A	
Training; Consider 1. Mandatory training approval process 2. Completion of mandatory training form	Current signposting to My academy	
Development of Forms, leaflets etc; Consider 1. Any forms developed for use and retention within the clinical record **MUST** be approved by Health Records Group prior to roll out. 2. Type, quantity required, where they will be kept / accessed/stored when completed		
Strategy / Policy / Procedure communication; Consider 1. Key communication messages from the policy / procedure, who to and how?	Key personnel and cascade identified in policy document	
Financial cost implementation Consider Business case development	N/A	
Other specific Policy issues / actions as required **e.g. Risks of failure to implement, gaps or barriers to implementation**		

Attachment 1

Procedure for the safe collection of samples for blood grouping and cross matching and provision of red cells.

1.0 A strict procedure for taking blood samples for blood transfusion from patients must be followed. This is to avoid mislabelling samples with incorrect patient information, which can lead to incompatible blood being issued and given to a particular patient, which can prove fatal.

2.0 All such incidents are reportable to SHOT (Serious Hazards of Transfusion) and the MHRA. Significant errors made at this stage may not be detected further on in the transfusion process.

3.0 Patient Identification Procedure (Inpatients)

Confirm the identity of the patient: do not prompt the patient at any time; always ask the patient to state the following:

- First name and surname, and
- Date of birth.

Check the details on the patient's identification wristband, which must fully match the details on the request form.

4.0 Patient Identification Procedure (Outpatients)

Patients attending outpatients will not have a wristband. Ask the patient to confirm the details as above and they must also be asked to confirm their address. If in doubt, ask the patient (or parent or carer in case of young children) to confirm their details by showing you their appointment card or letter.

5.0 For unconscious patients, young children, and adults who lack capacity:

- Inpatients – Ask the nurse who is responsible for the patient to identify the patient and confirm that the details on the wristband are correct. Record the name of the nurse identifying the patient. For young children, ask the next of kin (usually a parent) if present.
- Outpatient – Patient identification must be confirmed by a responsible adult (e.g., parent, carer or relative). If no responsible adult is with the patient, the details must be confirmed with photo patient identification (e.g., driving license or passport).

6.0 Patients not fluent in English

Communication must be with an interpreter, ideally a professional interpreter face to face or by telephone interpreting services, or by using a family member as a last resort.

7.0 Unknown patients

In extreme cases it may be necessary to transfuse without knowing the patient's identity. In these cases, the minimum data set is sex and unique number e.g., unknown male, A/E0001.

8.0 Specimen details

The blood transfusion specimen bottle MUST be written clearly in block capitals clearly using a ballpoint pen. Samples deemed by the laboratory to be illegible will be rejected.

The following minimum details required on the sample tube are:

- First name and surname,
- Hospital Registration number (A&E number or NHS number),
- Date of birth,
- Date of sampling, and
- Signature of person taking the blood sample.

(The hospital number is often not known by the patient and must be copied from the request form, after checking that this matches the wristband, or, in outpatients, with hospital appointment correspondence).

- Never pre-label blood bottles before collecting the blood OR use pre-printed labels on sample bottles.
- The use of an ICE printed e-request form is the safest mechanism to prevent transcription errors and must be used wherever possible.
- If ICE requests are not available, **full** addressograph labels can be used on manual request forms if they are printed clearly and are checked to be free of errors. Only have documentation for the particular patient in view and always check that information is correct for the patient.
- Label the sample bottle by asking the patient again the details above.
- On the rare occasion where the patient may only have one name and an incomplete or inaccurate date of birth, a concessionary form must be completed by the laboratory staff and authorised by a senior BMS or Consultant.

9.0 In **all** circumstances, only **one** patient must be bled at a time and the sample must be labelled **immediately**, next to the patient, by the person taking the sample.

10.0 Group and antibody screen

- To determine ABO and Rh (D) type, and whether red cell antibodies are present.
- The samples are routinely “batch tested”. Results are usually available the same working day.
- Group and antibody screen samples are stored and avaliable for 7 days.
- If the patient was transfused within the last 90 days or is pregnant, then the time from when the sample being taken to the end of the transfusion episode must not exceed 72 hours.
- A formal deviation from the 72-hour rule may be considered for chronically transfused patients with no allo-antibodies, following multiple repeated transfusion episodes, allowing samples to remain acceptable up to 7 days. For these patients there must be a formal assessment of the risks and benefits for each patient, and this must be discussed with a senior BMS in the transfusion laboratory as part of their management plan; this must be recorded on the LIMS and documented in the patients record. This principle may be extended to pregnant women with no clinically significant allo-antibodies who, for example, require blood standing by for potential obstetric emergencies, e.g., placenta praevia. Again, patients must be assessed on a case per case basis and discussed with the transfusion laboratory.

10.1 Sampling for elective transfusion

To comply with current national guidance and MHRA Blood Safety and Quality Regulations statement 2010 for electronic issue (EI), the patient must have a blood group and no evidence of allo-antibodies i.e., there must be history of 2 transfusion samples, one of which is current. In the event a patient has no transfusion history, a second sample is required for EI. **The 2 samples must be taken at separate times with a minimum interval of 30 minutes between each sample being taken and sent on separate request forms.**

In the event that the transfusion is urgent and only one sample is available, the laboratory will commence compatibility testing immediately and will request a second sample at the earliest opportunity.

N.B In the event of a patient possessing red cell allo-antibodies, refer to section 11.0.

10.3 Management of Massive Blood Loss

The protocol for transfusion management of massive haemorrhage for neonates is Appendix 10a.

The protocol for transfusion management of massive haemorrhage for paediatrics is Appendix 10b.

The protocol for transfusion management of massive haemorrhage for adults at New Cross Hospital is Appendix 10c.

The protocol for unexpected haemorrhage at Cannock Chase Hospital is Appendix 10d.

It may be necessary to use group O uncrossmatched red cells if the blood group is unknown or unconfirmed in an emergency.

O Rh (D) negative blood if female under 50 years old or if unknown;
O Rh (D) negative of either sex under 18 years old.

O Rh (D) positive blood if female and over 50 years of age or a male over 18 years of age.

Group specific red cells must be given at the earliest opportunity following a confirmed blood group.

11.0 Finding that the patient has antibodies

If during antibody screening, a patient is found to have antibodies present, the antibody identification process will be carried out. Further samples may be required.
Results will be reported on the electronic results reporting system.

11.1 Antibodies and the provision of blood products

- Antigen negative blood will be provided for the patients with clinically significant antibodies.
- Additional time may be required to meet the request, though most can be met within 24 hours.
- If the request is urgent, the person requesting it will be contacted and the situation discussed further.
- If a patient needs a transfusion urgently before compatible blood is available, the senior clinician responsible for the patient must contact the Consultant Haematologist who can advise on the severity of risk and decide on the issue of least incompatible units. The risk must be balanced with the risk of delaying transfusion and a concessionary form completed at the earliest opportunity.

11.2 Antibodies in patients going to theatre for elective surgery

The blood bank must be made aware of patients with known antibodies who are going to theatre.
The blood bank staff will advise on the availability and time required to provide blood if it is needed.

11.3 Antibodies in pregnancy

Advice on management of these patients will be in two categories.

1. Those which are clinically significant to the foetus: advice on management will be given by the NHSBT.
2. Those which are clinically significant for the provision of blood components: it is important the blood bank is made aware of patients with antibodies when they go into labour as blood may not be readily available in an emergency situation.

Attachment 2

Procedure for the storage and safe collection of blood components from the main hospital blood bank storage devices at New Cross Hospital.

1.0 Access to the blood bank issue fridge and platelet agitator/incubator is controlled by a software management programme and is situated in a secure room – access is only available to trained staff.

2.0 Access to the device management software is via an ID badge (with barcode) and PIN number. Follow instructions on the kiosk to remove the unit from the storage device. If the electronic management software is unavailable, contact the laboratory.

3.0 Blood components must only be collected ten (10) minutes before they are required. The patient's notes, prescription chart or full documentation label must be taken to the blood bank refrigerator for checking when collecting each unit.

4.0 **Red cells and Fresh Frozen Plasma (FFP) – blood bank issue fridge**
Components are stored in individual compartmentalised drawers. Once you have located the correct component, remove the unit from the refrigerator.

5.0 **Platelets – blood bank platelet agitator/incubator:**
Components are stored on drawers within the device. Once you have located the correct component remove the unit from the incubator/agitator.

6.0 **Check** all the **patient** identification details with the documentation bought to the blood bank against all the patient identifiers on the compatibility tag attached to the blood component(s) (Appendix 1).

7.0 **Check** the 14-character bar code donor unit number on the bag against the corresponding number on the tag. These details **must match exactly.**

8.0 Any discrepancies must be reported **immediately** to the blood bank staff.

9.0 Under normal circumstances only **one unit of blood** for the patient must be collected at one time.

- Single units of red cells must be transported to the clinical area in a **red** transit bag (Appendix 2).
- Platelets must be transported to the clinical area in a **blue** transit bag (Appendix 3).
- Fresh frozen plasma must be transported to the clinical are in a **yellow** transit bag (Appendix 4).

- If you are collecting blood derivatives given to you by laboratory staff e.g., albumin, Anti-D, they must be transported to the clinical area in a **white** transit bag. (Appendix 5).

10.0 If blood components are collected but then not required for transfusion, they must be returned to the blood bank laboratory immediately. The unit must be given directly to blood bank staff and must not be replaced in the blood bank storage device.

11.0 If more than one unit of red cells or FFP is required for a patient, the blood bank staff must be contacted on Ext. 88242. The blood units will then be packed and sealed in the appropriate validated containers in accordance with GMP. Blood can be stored in these cool boxes for a maximum of 4 hours whilst sealed. Once the box is opened, then immediately resealed this reduces the validity period to 1 hour.

12.0 Red cells will be returned to stock as unused at 7am a maximum of 2 calendar days from the date required. If red cells are required for a longer period, then seek advice from a member of the laboratory staff.

Attachment 3

Procedure for the storage, safe collection, and transfer of blood components from the main hospital blood bank refrigerator to satellite fridges and other remote sites.

1.0 It is the responsibility of the clinical area requesting blood components to provide staff to transport them from the laboratory to the satellite fridges within the hospital.

2.0 When blood is transferred from the main laboratory blood fridge, it must be transported in accordance with GMP and GDP. A record must be available at all stages of the process e.g., when transferred to or removed from a satellite fridge using the electronic fridge management system.

3.0 When blood is to be transported to a remote site e.g., Maurice Jackson Renal Dialysis Unit or West Park Hospital, the blood units will then be packed and sealed in the appropriate validated containers in accordance with GMP/GDP.
(Blood can be stored in these validated cool boxes as per laboratory Standard Operating Procedure BT/SOP/022 “TRANSFER OF BLOOD TO OTHER SITES”). All transfer processes must be recorded, and this evidence returned to the Blood Bank. The approved containers must be returned to the Blood Bank as soon as possible.

4.0 The appropriate transfer document (Appendix 6a and 6b) must be completed for these blood components by the laboratory staff.

Attachment 4

Procedure for the storage and safe collection of blood components from the main hospital blood bank refrigerator at Cannock Chase Hospital.

1.0 Access to the blood issue room is controlled by a digital lock – access is only available to trained staff.

2.0 Blood components must only be collected immediately before they are required. The patient's notes, prescription chart or a **full** documentation label must be taken to the blood bank refrigerator for checking when collecting each unit.

3.0 Access to the fridge management software is via an ID badge (with barcode) and PIN number; follow instructions on the kiosk to remove the unit from the fridge. If the electronic management software is unavailable, contact the laboratory.

4.0 Blood is stored in individual compartmentalised containers. Remove the unit of blood from the refrigerator.

5.0 **Check** all the **patient** identification details on the prescription chart or full identification label with those on the compatibility tag attached to the unit of blood (Appendix 1).

6.0 **Check** the 14-character bar code donor unit number on the bag against the corresponding number on the tag. These details **must match exactly.**

7.0 Any discrepancies must be reported **immediately** to the blood bank staff.

8.0 Under normal circumstances only **one unit of blood** for the patient must be collected at one time:

- Single units of red cells must be transported to the clinical area in a **red** transit bag (Appendix 2).

9.0 If blood components are collected but then not required for transfusion, they must be returned to the refrigerator immediately.

10.0 Red cells will be returned to stock as unused after a maximum of 3 calendar days from the date required. If cells are required for a longer period, then seek laboratory advice.

11.0 In the event of a *haemosafe* failure, the backup lab cold refrigerator will be used, and the manual process will be reverted to in line with the business continuity plan.
Contact blood bank for advice.

Attachment 5

Procedure for the receipt, bedside checking, and administration of blood components.

1.0 The commencement of the transfusion of blood components out of core working hours (between 20:00 and 08:00) **must** only occur if clinically indicated and the reason must be documented in the patient's medical records. Under no circumstances will routine transfusions be commenced during this period (SHOT 2006).

2.0 In all cases, the rationale for the decision to transfuse and the specific components to be transfused must be documented in the patient's medical records.

3.0 Patients must have provided informed consent which is documented in the clinical record (see Procedure for obtaining consent for blood and/or blood components transfusion).

4.0 Where relevant, a documented risk assessment for Transfusion Associated Circulatory Overload (TACO) must also have been completed by the clinician making the decision to transfuse (Appendix 7).

5.0 Transfusion must only take place if there are sufficient staff available to monitor the patient and the patient can be ready observed.

6.0 Some special blood components have a short shelf life (between 4 and 24 hours). Contact the blood transfusion laboratory to ascertain the expiry time when there is a clearly identified special requirement for the patient.

7.0 The staff member transporting the blood component to the clinical area must ensure that it is delivered to an appropriate member of staff. This can either be the registered health care professional responsible for the patient or the staff in charge of the clinical area.

8.0 All patients receiving a transfusion must be positively identified and must wear an identification band.

9.0 All checks must take place at the bedside immediately prior to commencement of the transfusion.

10.0 The following details must be checked by 2 registered healthcare professionals, one of whom is currently responsible for the patient.

- That the unit of blood is prescribed and signed for by the authorised prescriber on the patient's current intravenous infusion chart or electronic prescription record and that any special instructions are fulfilled.
- That the following patient's details match on the blood component, the blood compatibility tag, patient's identity band and the prescription chart or electronic prescription record: first name, surname, date of birth, and patient identification number. Ask the patient to state his or hers first name, surname, and date of birth where possible. Do not prompt the patient i.e., **DO NOT ASK,** "Are you Mr Jones?" etc.

11.0 Check that the unique donation number on the blood component pack corresponds with that on the compatibility tag label attached to the blood component.

12.0 Check that the blood group on the blood component pack corresponds with the blood group on the compatibility tag attached to the blood component. Check that the blood component pack group is compatible with the patient's group. If there is any ambiguity, the transfusion laboratory must be contacted for clarification.

13.0 Check the expiry date on the component has not been exceeded – unless a specific expiry time is stated, the component expires at midnight of the date shown.

14.0 For unconscious patients or patients unable to give reliable answers to the identification procedure, a parent or carer can confirm patient identification – if no parent or carer is available the patient, identification will be the only means of positive patient identification – the two healthcare professionals carrying out the administration checks are responsible for ensuring validity and accuracy of the patient identification and must be extra vigilant.

15.0 The final identity check **must** be the **patient's identity band** and the patient's details on the **blood component** to be transfused.

16.0 If there are any discrepancies, **do not transfuse** the blood component, and contact the transfusion laboratory staff for further advice.

17.0 All blood components must be transfused through a blood component administration set with an integral mesh filter (170-200 microns).

18.0 There is no requirement to "prime" the administration set with any solution other than the blood component to be transfused. If the administration set is primed prior to transfusion, it must only be with 0.9% normal saline.

19.0 The administration set must be changed at least every 12 hours (or in accordance with manufacturer's instructions) and must be changed in between administration of different blood components.

20.0 Either gravity or electronic infusion devices may be used for the administration of blood components. If an electronic infusion device is to be used the manufacturer must have verified it as safe for this purpose. Only blood component administration sets that are compatible with the infusion device must be used.

21.0 Patients who have been identified with cold agglutinins must have their blood transfused via a blood warmer.

22.0 The blood component must be examined for discolouration, turbidity, evidence of haemolysis, and clots or air in the bag; also check for any leaks by applying firm pressure to the bag.

23.0 If there are no discrepancies and the transfusion proceeds, record the date and time and your signature on the prescription chart or electronic prescribing record and on the blood compatibility tag. You must also print your name and registration number or use your stamp to ensure identity is clear. By signing the compatibility tag, you are confirming you have completed the necessary checks as described above.

24.0 The blood component donation number must be recorded on the prescription chart or electronic prescription record.

25.0 Transfusion of blood components must be completed within 4 hours of removal from temperature-controlled storage.

26.0 Drugs must never be added to a blood component bag. Co-administered intravenous drugs must be given through a second venous access device OR a separate lumen of a multi-lumen central venous catheter. If this is not possible, the transfusion should be temporarily stopped, and the line flushed with sodium chloride 0.9% solution before and administration of the drug.

27.0 Once transfusion is completed, disconnect the administration set and flush the venous access device with sodium chloride 0.9% solution.

28.0 When the transfusion is stopped, the time must be recorded on the blood transfusion compatibility tag.

29.0 When the component transfusion is complete, the tear off portion of the compatibility tag must be returned to the laboratory as soon as possible.

30.0 Once the transfusion episode has been completed uneventfully the empty blood bag(s) can be discarded as per Trust policy for the disposal of clinical waste.

31.0 **Do not** return any empty or part used blood bags to a blood refrigerator as it may cause a serious breach of the Blood Safety Quality Regulations 2005.

32.0 It is a contractual requirement to perform a post incremental platelet count 1 hour following the transfusion of Human Leucocyte Antigen (HLA) matched platelets. This is also important to ensure that patients are transfused with products which give the maximum efficacy.

33.0 Patients who receive blood transfusion components as a day case or an outpatient must be given the printed advice sheet, informed to report any symptoms or complications, and be provided with a 24-hour contact number (SHOT 2013).

34.0 The patient's GP must be notified if the patient has received blood components through the e-discharge (BSH 2016), or as per local procedure where e-discharged not available.

Attachment 6

Procedure for the checking and administration of blood derivatives (products).

1.0 All patients receiving blood derivatives must be positively identified.

2.0 All checks must take place next to the patient immediately prior to administration of the blood derivative.

3.0 The following details must be checked by 2 registered healthcare professionals, one of whom is currently responsible for the patient.

- That the blood derivative is prescribed and signed for by the authorised prescriber on the patient's current treatment chart or electronic prescription record.
- That the following patient's details match on the blood derivative, the blood compatibility tag, the patient identity band (if an inpatient/ day case), and the treatment chart or electronic prescription record: first name, surname, date of birth and patient identification number.

  Ask the patient to state his or/ her first name, surname, and date of birth where possible (and address if an outpatient). Do not prompt the patient i.e., **DO NOT ASK,** "Are you Mr Jones?" etc.

4.0 Check the batch number on the blood derivative pack corresponds with that on the compatibility tag.

5.0 Check that the expiry date on the blood derivative has not been exceeded.

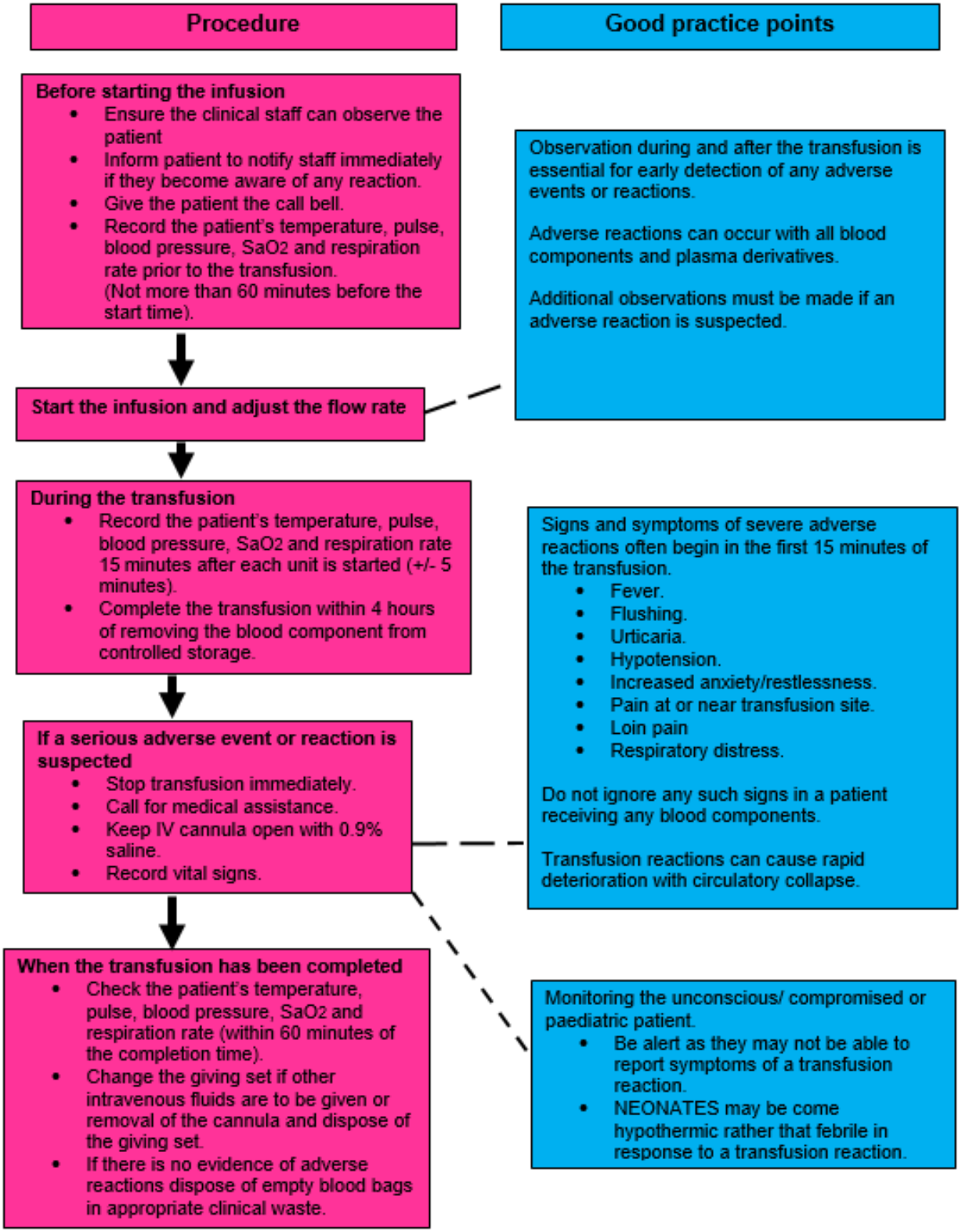
6.0 If a patient is unconscious or unable to give a reliable answer to the identification procedure do the following.

- For inpatients and day cases, a parent or carer can confirm patient identity. If no parent or carer is available, the patient identification band will be the only means of positive patient identification – the two healthcare professionals carrying out the administration checks are responsible for ensuring validity and accuracy of the patient identification and must be extra vigilant.
- For outpatients, patient identity must be confirmed by a responsible adult (e.g., parent, carer or relative). If no responsible adult is with the patient, the details must be confirmed with photo patient identification (e.g., driving license).
- For patients not fluent In English communication must ideally be with a professional interpreter face to face, or by telephone interpreting services, or by using a family member as a last resort.

7.0 For blood derivatives, the product issued will not have a blood group. **Specifically for Anti-D**, only Rh (D) negative women who do not have immune Anti-D should receive therapeutic Anti-D.

Attachment 7

Procedure for monitoring the patient during transfusion.



Attachment 8

Procedure for the management and reporting of adverse transfusion reactions.

1.0 All patients must be transfused in clinical areas where they can be directly observed.

2.0 Acute transfusion reactions can present with a range of signs and symptoms of varying severity. Whilst the onset is often during the first 15 minutes of transfusion, attention must be taken at any point during the transfusion if the patient develops any of the following signs or symptoms:

- Fever (and related inflammatory symptoms – chills, rigors, myalgia, nausea etc.);
- Allergic symptoms such as urticaria, pruritus, other rashes, and angioedema.
- Tachycardia.
- Hypotension or hypertension.
- Respiratory distress.
- Pain at or near site of transfusion.
- Loin pain and, or back pain.
- Restlessness or anxiety.

3.0 If the patient develops any new signs or symptoms during the transfusion, do the following.

- Stop the transfusion and maintain venous access with sodium chloride 0.9% solution.
- Check vital signs.
- As soon as possible, check that the identification details of the patient, their identity band, and the compatibility label on the blood component match.
- Depending on the severity of the reaction, arrange medical review at the earliest opportunity.
- Inform blood bank of a suspected transfusion reaction; they will then issue a SHOT (Serious Hazards of Transfusion) notification form to be completed.
- Investigations will be determined by the severity, type of reaction and clinical signs.
- Do not discard the implicated unit but return it to the transfusion laboratory.
- Complete a datix incident.

4.0 In the event of a suspected severe adverse transfusion, seek early advice from the Consultant haematologist / Hospital Transfusion Team.

5.0 Suspected transfusion reactions will be reported to the MHRA, SHOT and Regional Blood centre as appropriate and reviewed by the Hospital Transfusion Team and Hospital Transfusion Group.

6.0 The clinical flowchart for the management of acute transfusion reactions (BCSH 2012) is in Appendix 8.

Attachment 9

Procedure for training and education of staff involved in the blood transfusion process.

1.0 The managers of the clinical areas where transfusions take place are responsible to ensure that staff have attended or completed online relevant blood transfusion training within the previous 2 years.

2.0 All staff involved in blood transfusion must have received adequate instruction in the processes relevant to their role and are required to complete a 2 yearly mandatory training update (as a minimum) which includes a knowledge assessment.
Staff can complete their update through the Trust e-learning package or the "Learn Blood Transfusion" e-learning (for laboratory staff) which both can be accessed via the "My Academy" learning management system on the Trust intranet.

3.0 A one-off practical competency assessment will be undertaken for all clinical staff involved in the transfusion process, in line with the NBTC recommendations. This is subject to satisfactory on-going performance and no break in practice of 12 months or longer. A team of core trainers and the Associate Transfusion Practitioner will assist the Lead Transfusion Practitioner in the delivery of observational competency assessments. These can be completed either in real-time or through simulation.

4.0 Attendance and completion of 2 yearly training (as a minimum) and one-off competency assessment (as a minimum) in the transfusion process will be recorded in the appropriate section of each member of staffs personal training record on the Trusts Mandatory Training Database.

5.0 For staff involved in the collection of blood components, an additional training record is held in the blood bank including access rights to the system.

6.0 The roles and responsibilities of staff for blood transfusion are detailed in the training and task matrix (Appendix 9).

Attachment 10

Blood Safety Quality Regulations 2005.

1.0 Two EU Directives – 2002/98/EC and 2004/33/EC have been transposed into UK law through the Blood Safety and Quality Regulations 2005 (Statutory Instruments 2005/50, 2005/1098 and 2008/2013). The regulations came into force on 8th February 2005 and were implemented 8th November 2005.
http://www.opsi.gov.uk/si/si2005/20050050.htm

2.0 The regulations set standards for quality and safety for the collection, testing, processing, storage and distribution of human blood and blood components; aspects of the regulations apply to "blood establishments" (the UK Blood Services) and Hospital Blood Banks.

3.0 The key areas of impact for hospitals are below.

3.1 **Traceability** Hospitals must have total traceability of the fate of each unit of blood and retain that information for 30 years.

3.2 **Quality systems** Hospital Transfusion Laboratories must have a comprehensive quality system in place.

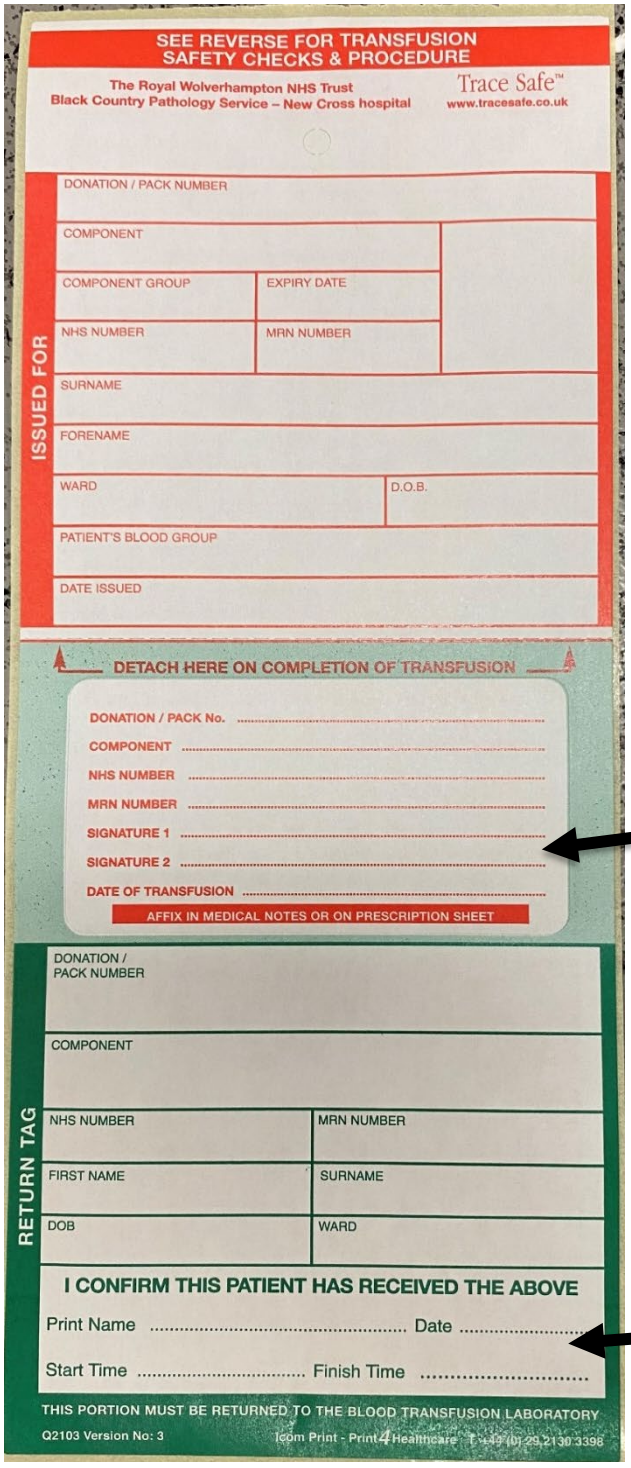
3.3 **Training, education, and communication** The regulations require the provision of training for Hospital Transfusion Laboratory staff.

3.4 **Haemovigilance** The MHRA provides a web-based reporting system for the notification of Serious Adverse Events (SAEs) 0r Serious Adverse Reactions (SARs).

3.4.1 **Serious Adverse Events (SAEs):** **'**any untoward occurrence associated with the collection, testing, processing, storage and distribution, of blood or blood components that might lead to death or life-threatening, disability or incapacitating conditions for patients or which results in, or *prolongs,* hospitalisation or morbidity,'

3.4.2 **Serious Adverse Reactions (SARs):** 'an unintended response in a donor or in a patient that is associated with the collection, or transfusion of blood or blood components that is fatal, life-threatening, disabling or incapacitating which results in or *prolongs* hospitalisation or morbidity'.

Compatibility tag



Must be signed by 2 qualified members of staff involved in the transfusion process and inserted into the patient's notes

Primary administrator must complete the blood administration tag and return to blood

CP26 Appendix 2

Blood transit bag

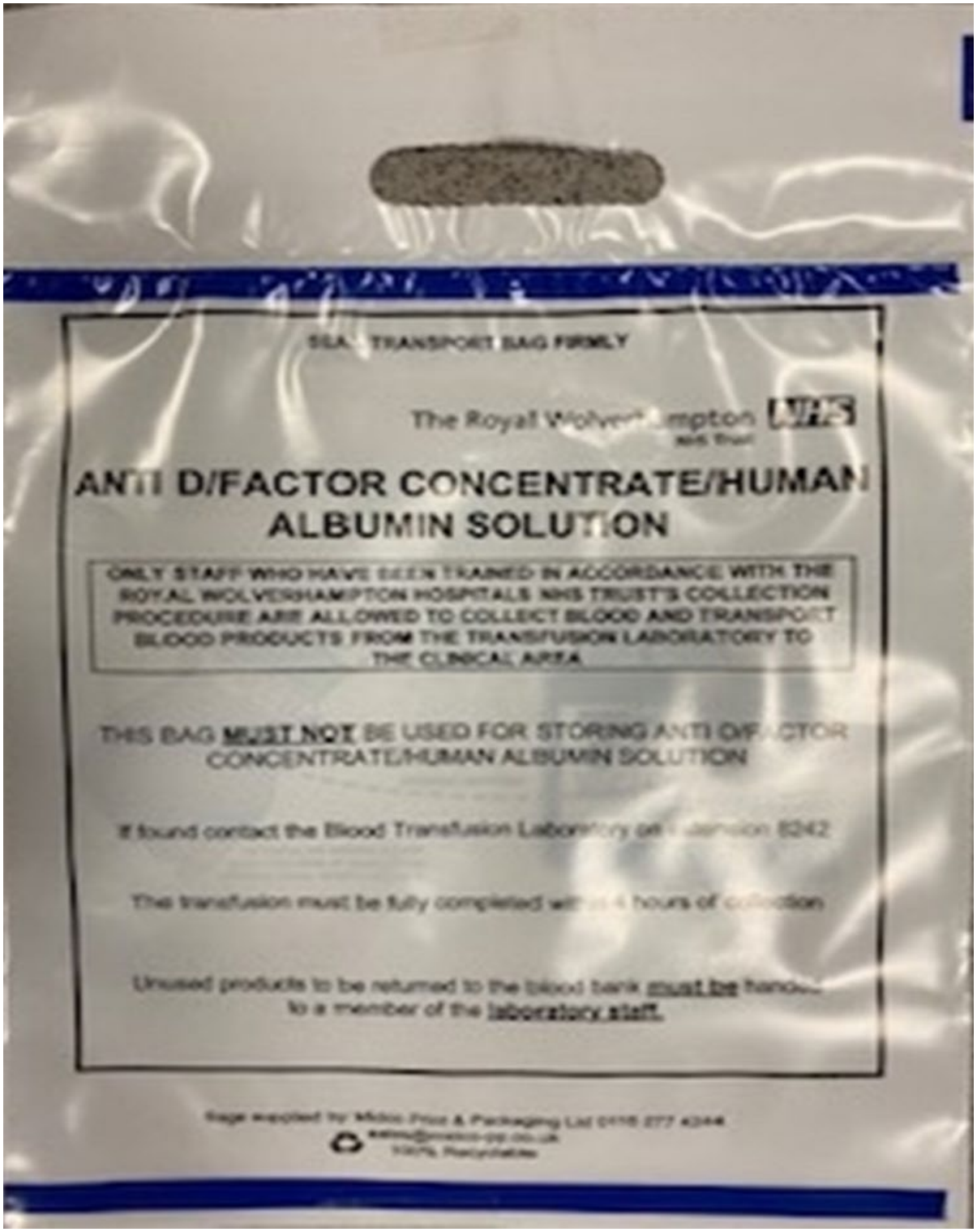
CP26 APPENDIX 3

Platelet transit bag

Plasma transit bag

CP26 Appendix 5

Product transit bag



CP26 Appendix 6a

Blood and blood component transfer form

BLOOD and BLOOD COMPONENT TRANSFER FORM (Appendix 1)

This form must be faxed to the receiving hospital blood bank and must accompany units transferred with a patient between the Hospitals documented.

Blood and blood components must only be transported using a validated container and in strict accordance with a locally agreed method which complies with the Blood Safety & Quality Regulations (2005)

PATIENT NAME | NHS number or local ID number | DOB enter as: dd/mm/yy | GENDER

COMPONENT TYPE

Blood ☐ FFP ☐ PLTS ☐

Special requirements: Irradiated ☐ CMV- ☐ HLA Matched ☐

Blood Group:
Antibodies:

Enter donation number of all units transferred (Blood, FFP, Platelets) or attach details to form

UNIT 1 | UNIT 2 | UNIT 3

UNIT 4 | UNIT 5 | UNIT 6

DISPATCHING HOSPITAL: NEW CROSS HOSPITAL

I confirm that the components listed above have been stored in accordance with national guidelines before issue and that the recipient site is aware of their obligation to transport, store, use and maintain fully traceability in accordance with Blood Safety & Quality Regulations 2005)

I confirm that the components listed above will be transported in a correctly packed, validated container and must arrive within the validated time for the box as documented on the label

Date Packed: **Time packed:** **Signature:**

RECEIVING HOSPITAL: .....HOSPITAL

The box was received sealed ☐ The box had been opened ☐

I confirm that the components received were appropriately transported and will be stored in accordance with the requirements of the Blood Safety & Quality Regs

Date received: **Time received:** **Signature:**

FINAL DISPOSITION

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	UNIT 5	UNIT 6
Transfused en-route	☐	☐	☐	☐	☐	☐
Wasted	☐	☐	☐	☐	☐	☐
Stock	☐	☐	☐	☐	☐	☐
Signature	.....	.....	.....	.....	.....	.....

Where units are transfused en-route or before being received by your Transfusion Lab please disclose above.

Sending Hospital contact details:

Transfusion Laboratory Fax no: 01902 3075640
Transfusion Laboratory Direct: 01902 694645
Out of Hours: 01902 307999 EXT 8242
Hospital Switchboard: 01902 307999

Label for transport box

FORM 2 Label for Transport Box (Appendix 2)
To: *Insert name and address of receiving hospital*

Immediately on arrival take this box to the Hospital Transfusion Laboratory unless required for immediate transfusion.
If blood is transfused send this completed form to your Hospital Transfusion Laboratory.

Do NOT open unless immediate transfusion of the patient is indicated.
Opening this box unnecessarily will render the contents un-transfusable and therefore wasted.

BLOCK

URGENT
For Immediate Delivery

The Blood / Components contained in this box were issued from the Transfusion Laboratory at NEW CROSS Hospital.
If found please telephone 01902 694645 OR 019023099 EXT 8242 Immediately

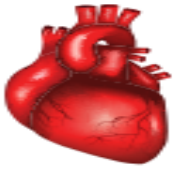
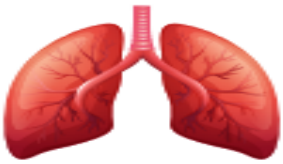
In compliance with BSQR 2005, it is confirmed that the contents of this box have been stored securely in accordance with Guidelines for the Blood Transfusion Services.

This transport box has been validated for the storage of blood components.
The contents of this box will be suitable for transfusion until
HH:MM **hours on** DD/MM/YYYY
Transport box opened/seal broken at: .....
Units MUST be transfused within 4 hours of box opening or be discarded

Packed by: Signature of BMS PRINT NAME **Date:** **Time:**	**Delivered by:** Signature of Porter/Driver/Nurse/Doctor PRINT NAME **Date:** **Time:**
Delivered to: Signature PRINT NAME and DESIGNATION **Date:** **Time:**	**If transfused date and time of transfusion:** Give exact time HH:MM Unit 1: Unit 2: Unit 3: Unit 4: Unit 5: Unit 6:

Appendix 7

Transfusion Associated Circulatory Overload

TACO Checklist	Red cell transfusion *for non-bleeding patients*
	Does the patient have a diagnosis of 'heart failure' congestive cardiac failure (CCF), severe aortic stenosis, or moderate to severe left ventricular dysfunction? Is the patient on a regular diuretic? Does the patient have severe anaemia?
	Is the patient known to have pulmonary oedema? Does the patient have respiratory symptoms of undiagnosed cause?
	Is the fluid balance clinically significantly positive? Is the patient on concomitant fluids (or has been in the past 24 hours)? Is there any peripheral oedema? Does the patient have hypoalbuminaemia? Does the patient have significant renal impairment?

If 'yes' to any of these questions

1

- Review the need for transfusion (do the benefits outweigh the risks)?

2

- Can the transfusion be safely deferred until the issue can be investigated, treated or resolved?

3

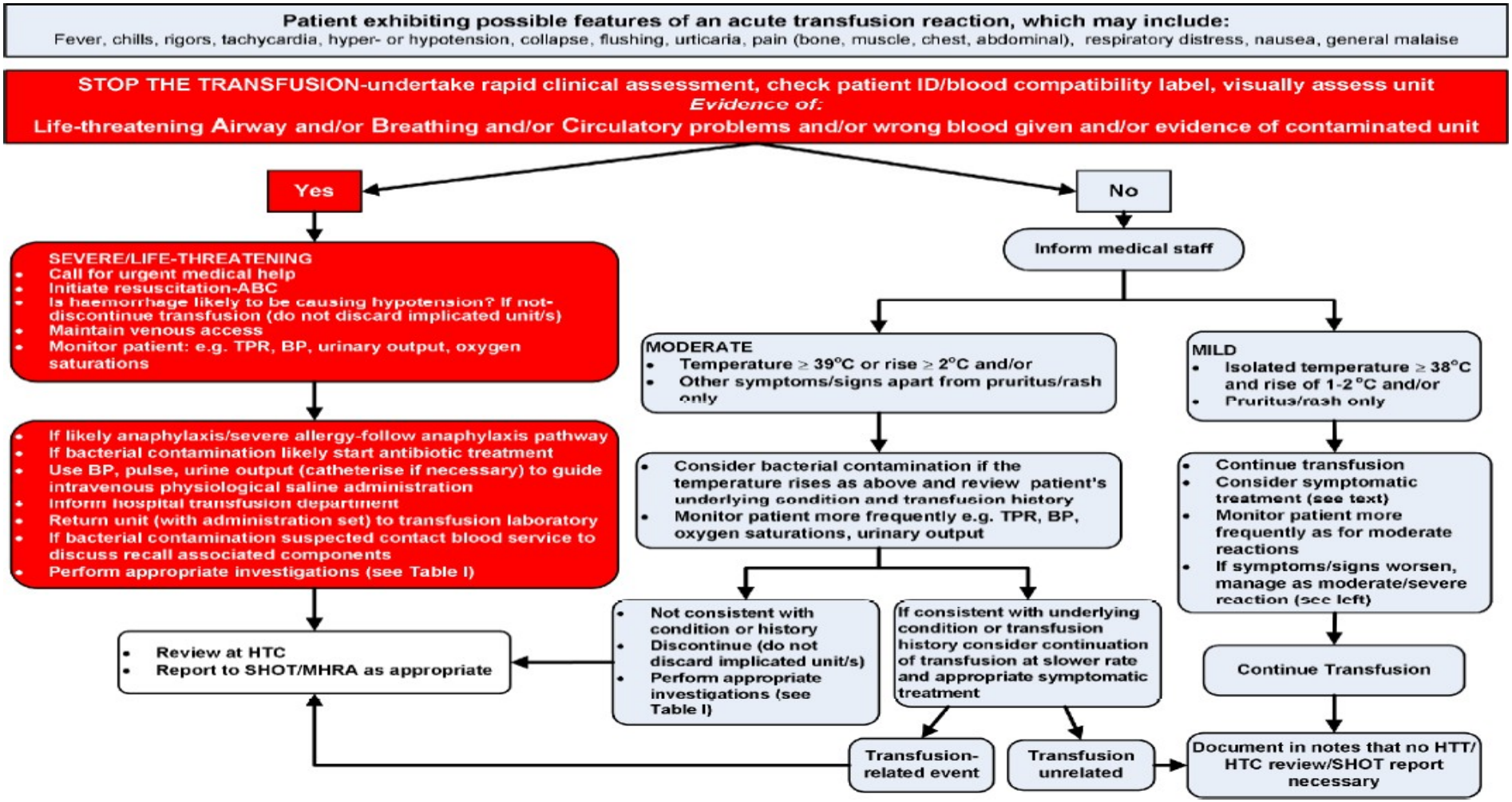
- Consider body weight dosing for red cells (especially if low body weight)
- Transfuse one unit (red cells) and review symptoms of anaemia
- Measure the fluid balance
- Consider giving a prophylactic diuretic
- Monitor the vital signs closely, including oxygen saturation

Due to the differences in adult and neonatal physiology, babies may have a different risk for TACO. Calculate the dose by weight and observe the notes above.

Version 3 10/2021 Review 10/2023

Appendix 8

Clinical flowchart for the management of acute transfusion reactions (BCSH 2012)



Appendix 9

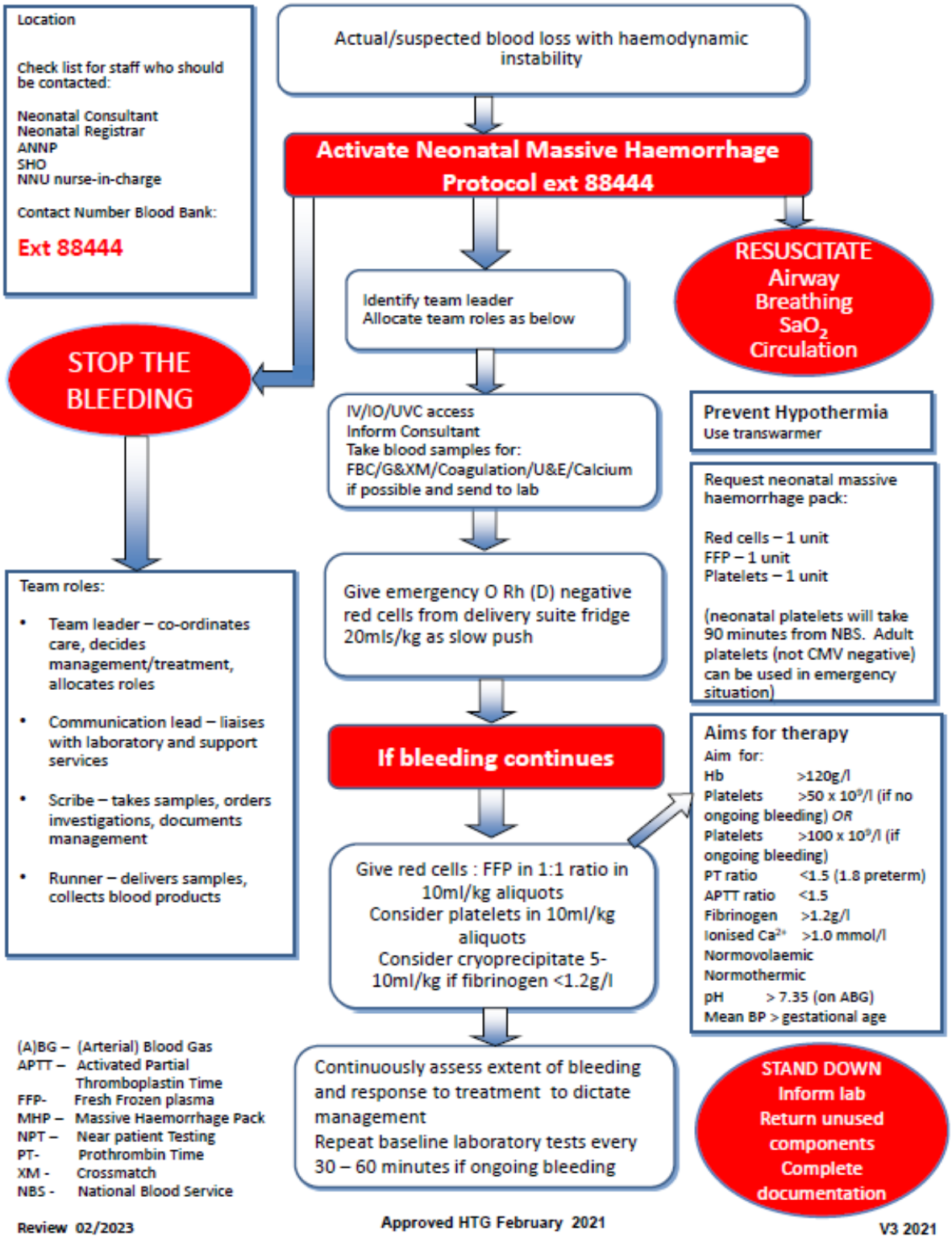
Training and Task Matrix

Task	Medical Staff	Qualified Nurses and Midwives	Registered AHPs	Student Nurses	HCA's	Portering Staff Ward Clerks	Phlebotomists	Perfusionists
Decision to initiate transfusion and prescribing blood	Yes	No*	No*	No	No	No	No	No
Requesting blood	Yes	Yes	Yes	No	No	No	No	Yes
Taking blood for transfusion samples	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Collecting blood from issue fridge	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Leading bedside check and monitoring patients	Yes	Yes	Yes	No	No	No	No	Yes
Reporting adverse reactions	Yes	Yes	Yes	No	No	No	No	Yes
Documentation of transfusion	Yes	Yes	Yes	No	No	No	No	Yes
Co-ordinator	**HTP**	**HTP**	**HTP**	**HTP**	**HTP**	**HTP**	**HTP**	**HTP**

***Registered non-medical prescribers who have undertaken the specific training and competency for authorisation of blood products can perform this task.**

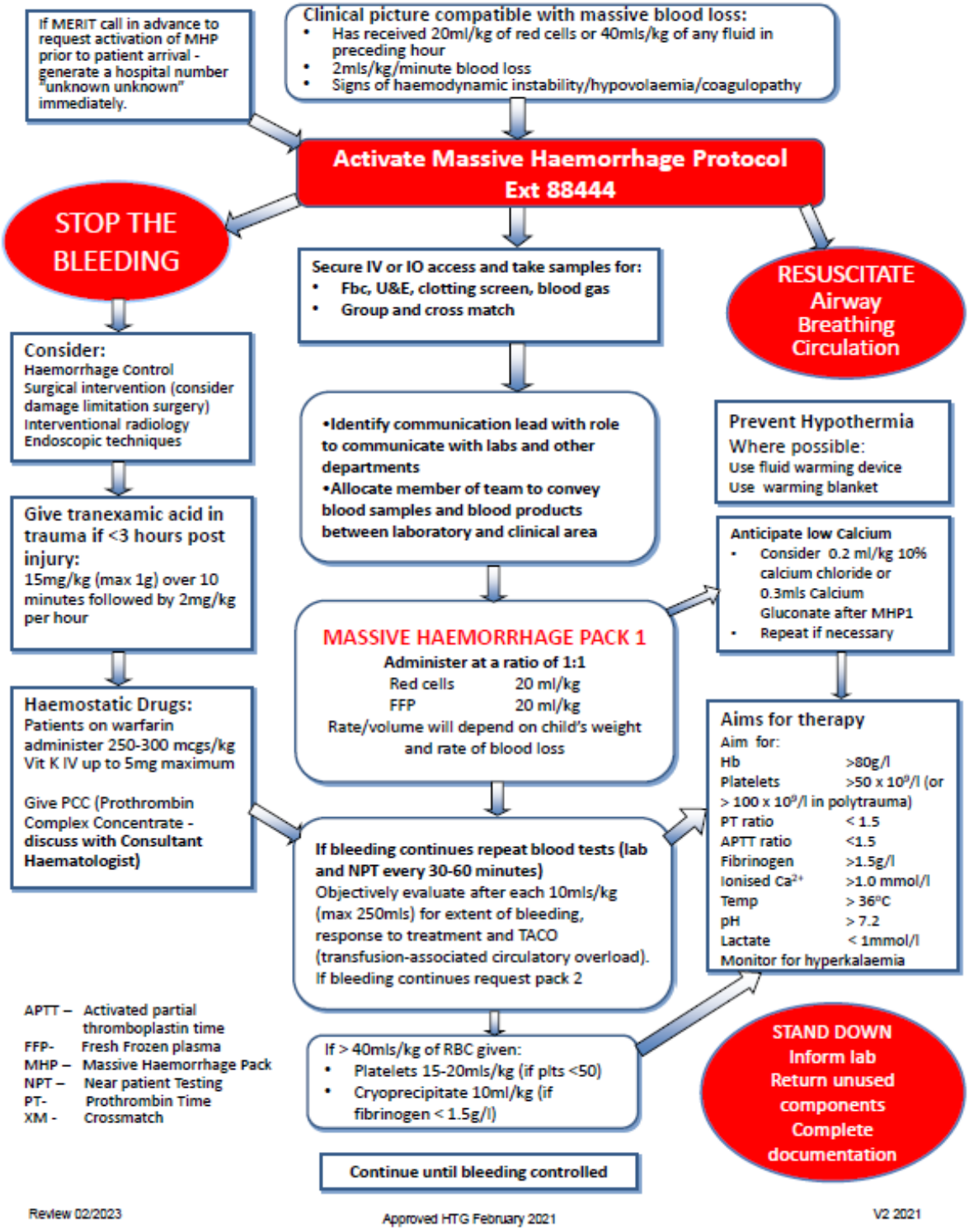
Appendix 10a

Transfusion Management of Massive Haemorrhage in Neonates



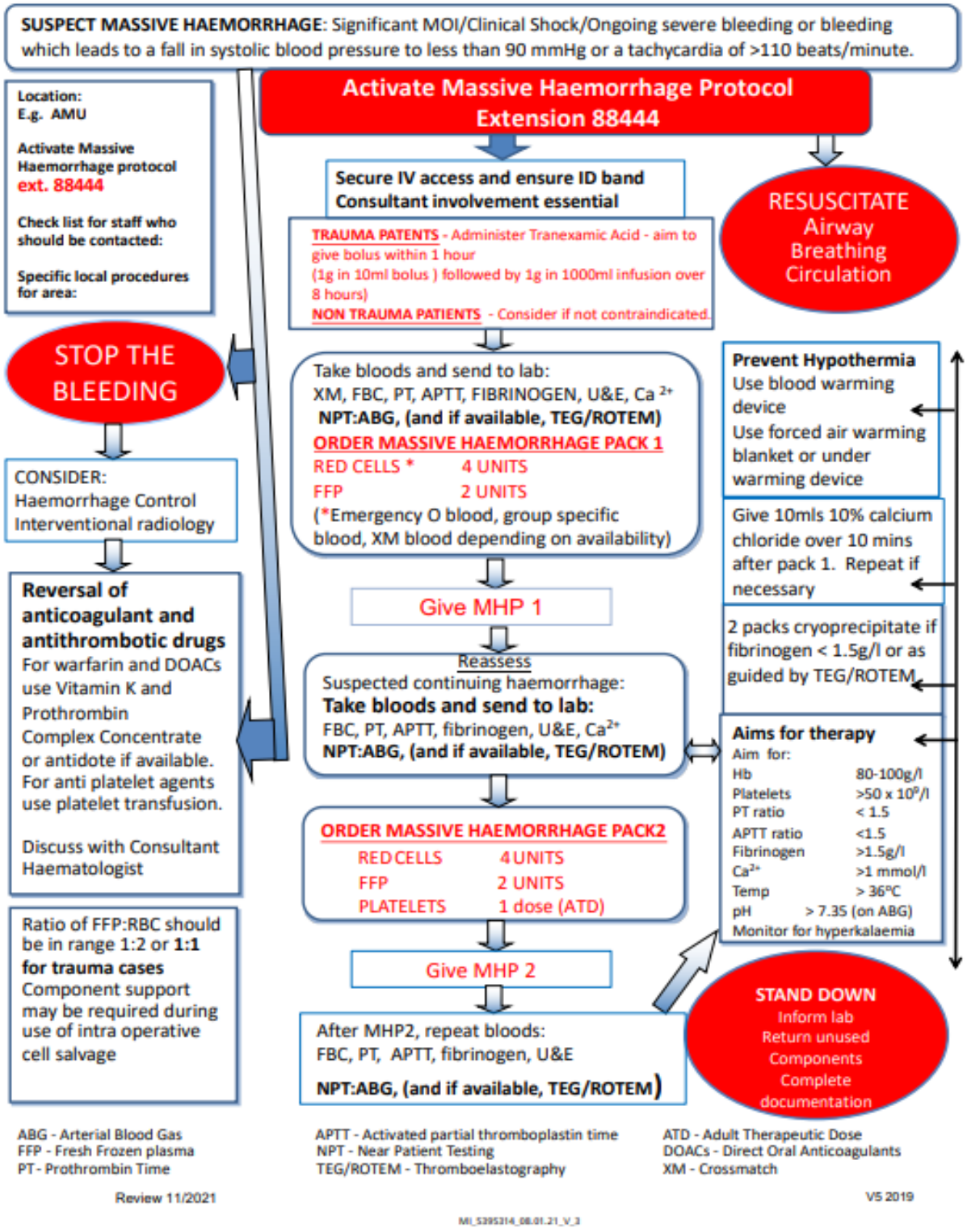
Appendix 10b

Transfusion Management of Massive Haemorrhage in Children



Appendix 10c

Protocol for Transfusion Management of Massive Haemorrhage in Adults



ABG - Arterial Blood Gas
FFP - Fresh Frozen plasma
PT - Prothrombin Time

APTT - Activated partial thromboplastin time
NPT - Near Patient Testing
TEG/ROTEM - Thromboelastography

ATD - Adult Therapeutic Dose
DOACs - Direct Oral Anticoagulants
XM - Crossmatch

Review 11/2021

V5 2019

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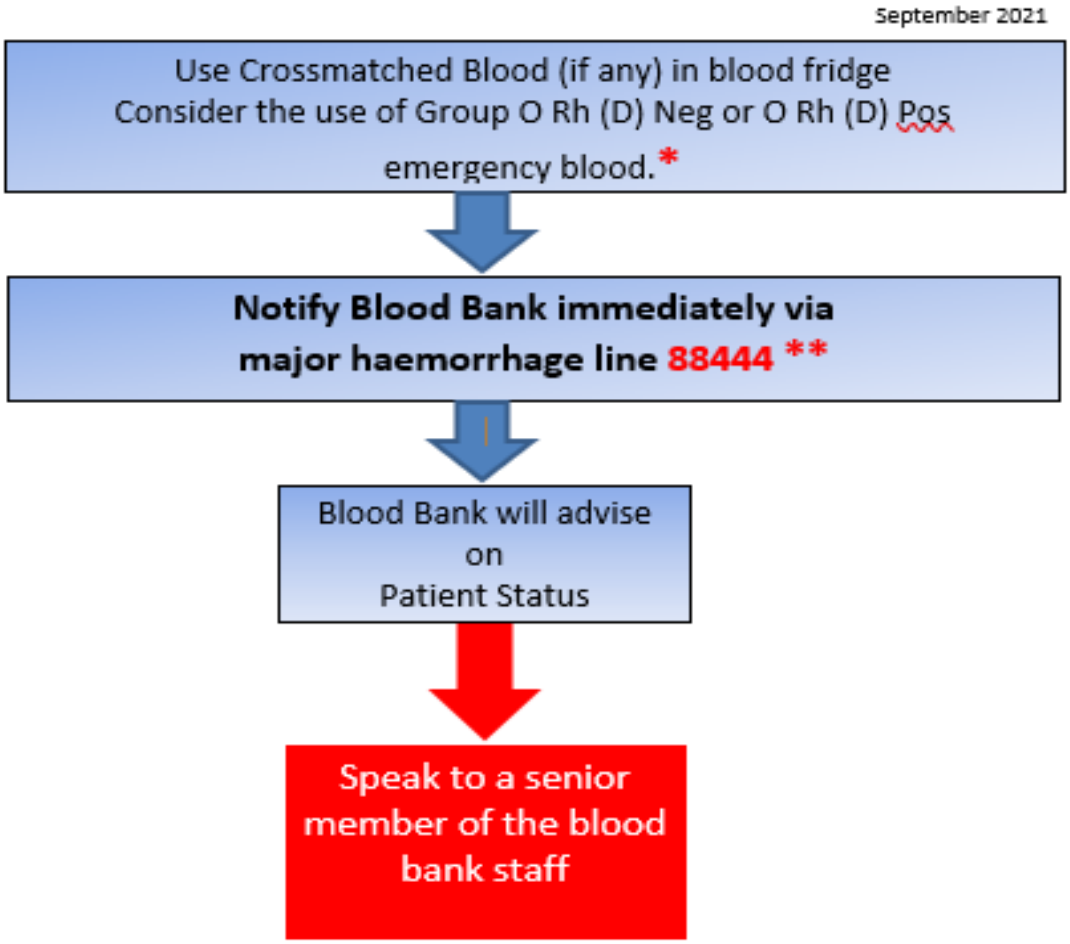
Appendix 10d

In the Event of an Unexpected Haemorrhage at Cannock Chase Hospital

September 2021



For subsequent Blood components Theatre co-ordinator to liaise with senior Biomedical Scientist on duty at The Royal Wolverhampton Trust.

* Refer to the major haemorrhage protocol in adults for additional guidance on management.

** This number MUST NOT be used for any other purpose other than unexpected haemorrhage.