Blood Products Policy

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1. Purpose of the Policy

Transfusion of blood and blood products is potentially hazardous as well as beneficial, so should be undertaken when the perceived clinical benefits to the patient outweigh the likely risks. Stringent procedures must be followed to ensure that the correct blood is given to the correct patient and that any adverse reactions are dealt with promptly and effectively.

- St Nicholas Hospice Care follows the procedures outlined by the West Suffolk Hospital (WSH) Trust; therefore staff must adhere to the procedures in this document, as amended for the Hospice from the WSH document
- Each section is designed as a free-standing procedure which can be used for training and assessment. See also details of transfusion competency assessments.
- This is a Hospice wide policy and is relevant to all clinical workers involved in any aspect of the transfusion process.

For a quick guide see Appendix 1

2. General Issues

2.1 Staff Responsibilities

For responsibilities for each part of the transfusion procedures see relevant sections. Responsibilities for ensuring the correct systems and training are in place, rest with:

The Chief Executive, via the Clinical Services Director for ensuring that:
- The requirements of legislation and Department of Health directives are in situ
- Health care professionals are trained and supported to follow all the Hospice transfusion policies
- Medical and Nursing staff undergo the required competency assessments as laid down by the National Patient Safety Agency
- We adhere to the legal requirement that all blood must be fully traceable and records documenting this are kept for 30 years

The Head of Nursing is responsible for ensuring that:
- Current transfusion request forms are available
- Administration sets for blood/platelet transfusion are available
- Staff have the necessary skills and training to perform blood transfusion procedures according to this policy and that training is documented
- The correct identity checks are always made when administering blood
- Incidents are reported through the Hospice adverse incident reporting procedures and West Suffolk Hospital Blood Transfusion department informed if appropriate

The Consultant in Palliative Medicine is responsible for the accuracy and appropriateness of the prescribing.
2.2. Training

Mandatory **yearly** e-learning blood transfusion training is identified in the Hospice’s training needs analysis for registered nurses and doctors, in accordance with The Department of Health “HSC Better Blood Transfusion 3.” The St Nicholas Hospice Education Department will liaise with the West Suffolk Hospital Transfusion Nurse Specialists to provide training.

Training covers the major areas within this policy and is intended to help minimize the risks associated with the blood transfusion process.

The West Suffolk Hospital blood transfusion department produces a regular newsletter to keep staff up to date with topical issues. This is produced 2 – 3 times per year (dependant on need) and is available to view on Sylvan Ward.

2.3. Competency Assessment

The National Patient Safety Agency (NPSA) safer practice notice 14 (2007) (Right Patient, Right Blood) recommends that all staff involved in the transfusion process should have **3 yearly** competency assessments. This assessment criterion is rolled out to all staff and includes the following competency frameworks:

a) For obtaining a venous blood sample
b) For organising the receipt of blood / blood products for transfusion
c) For preparing to administer blood / blood products to patients and administering a transfusion of blood / blood products

Competencies 'b' and 'c' are undertaken on the ward by appropriately trained staff, whereas competency 'a' must be taken at WSH by booking an appointment with the blood transfusion specialist nurses on 01284 713089.

When competencies are completed a copy should be sent to the West Suffolk Hospital blood transfusion nurse specialists to ensure that the central database is updated, and copies kept by the Head of Nursing and Personnel Department (Statutory Training programme) and training records updated.

If staff are unable to successfully achieve competencies, they must not undertake any part of the blood transfusion process, must re-read all relevant sections of the Hospice Policy and undertake re-assessment within 1 month.

Individual staff should be given a copy of their assessment for their CPD record, a copy of which can be found in **Appendices 2a and 2b**

2.4. Monitoring the effectiveness of this Policy

A database of all blood products is maintained within the blood transfusion department for traceability i.e. the return of blood product tags. The West Suffolk Hospital Transfusion Nurse will follow up cases where tags are not returned and examine the pink transfusion prescription chart for evidence of transfusion - the database will be updated accordingly. The effectiveness of this practice will also be monitored by West Suffolk Hospital clinical audit activities. Regular local audits will be performed as agreed by the Hospital Transfusion Team. Participation in both Regional and National audits of blood and blood products will
occur as required. Additionally, records of training and competency assessment will help to monitor the effectiveness of this policy.

The SNHC Quality & Audit Committee will ensure that the Hospice audits its compliance with the checking procedure. An audit form for this purpose is included in this policy ‘Audit tool for the final patient identity check prior to transfusion.’ See Appendix 3.

3. Consent

3.1 Principle of Consent

The Patient’s Charter states that patients have a right to know, where possible, about the treatment they are being offered and available alternatives. It states that:

‘You have a right to have any proposed treatment, including the risks involved in that treatment and any alternatives, clearly explained to you before you decide whether to agree to it’.

3.2 Resources

- Patient’s Healthcare records
- NHS patient information leaflet entitled ‘Will I need a blood transfusion? – Important Patient information’ – see Appendix 4 for picture of leaflet

3.3 Obtaining consent

- Doctors are responsible for obtaining verbal consent for the transfusion and must check it has been obtained when writing the prescription for a blood/blood product transfusion. Hospice doctors should not assume the General Practitioner has gained consent if the cross match blood sample has been taken in the community.

- It is not necessary to obtain written consent for blood transfusion. Verbal consent is sufficient. This should be documented in the patient notes together with the indication for transfusion. Verbal consent can cover a series of transfusions where a patient is transfusion dependent or having treatment that requires regular transfusions.

- The potential benefits and the potential risks of blood transfusion (as outlined in the NHS patient information leaflet) should be explained to the patient by a doctor. The risks include the risk of vCJD as well as Hepatitis C, B and HIV. Alternatives should be discussed, which would include no transfusion.

- The NHS patient information leaflet entitled ‘Will I need a blood transfusion?’ is available to assist clinical staff in obtaining patient consent to transfusion. It is available on Sylvan Ward and further copies can be obtained from the West Suffolk Hospital Blood Transfusion department.

- Where consent is not possible, clinical judgment must be used in the best interest of the patient. It is also important to look for an advance decision to refuse specified medical treatment, which might indicate that a patient would wish to refuse blood.
- Patients who are Jehovah’s Witnesses often refuse blood transfusions, including associated blood products. Their consent or refusal to treatment must be documented clearly in the healthcare records and respected.

3.4 Associated Policies and procedures

**Consent Policy** for examination or treatment

4. Completing the Blood Transfusion Request Form

4.1 Principles
The Transfusion Request form informs the laboratory of patient details and any special requirements or history of reactions. It is therefore important for patient safety that it is completed correctly

4.2 Responsibilities
- A doctor should complete a request form for ‘group and save’ sample, or it may be completed by the General Practitioner in the community
- Requests for cross-match of blood or for blood products or components should normally be made by a doctor.

4.3 Request Form
This is a form printed in red headed ‘Department of Blood Transfusion’ code WSH025.

4.4 Completion of the Form
All request forms should contain the following details:
- Unique patient number
**NB** St Nicholas Hospice patients MUST have the iCare/SystmOne number of the patient recorded on the cross-match form, and the West Suffolk Hospital CRN if applicable, completed by the requesting person

- Surname
- First name (initials not sufficient)
- Date of birth (age not sufficient)
- Gender
- Name and signature and contact number of member of staff making the request
- Specific location of patient
- Date and time blood required – if products requested
- Number of units of red cells or other blood components
- Any special requirements such as CMV-negative, or irradiated
- Patient’s diagnosis
- Reason for transfusion
- Date of request
• Previous transfusion history especially if there are known red cell antibodies. It is important to ask the patient if they have an antibody card and to check the front of the medical notes for an alert.

Addressograph labels may be used on request forms only but not on sample tubes.

4.5 Telephone requests for cross matching from a sample already sent to the transfusion laboratory

For telephone requests for cross-matching from a sample already sent to the transfusion lab for a group and save or for requesting additional units – see section 5

Samples are routinely kept at West Suffolk Hospital Pathology Laboratory for 7 days. See table below for timing of sample for cross-match in relation to previous transfusions.

4.6 Timing of cross-match sample

The sample used for cross-match must be valid. British Committee for Standards in Haematology (http://www.bcshguidelines.com/) guidelines state that:

<table>
<thead>
<tr>
<th>Patient</th>
<th>Take sample not more than:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the patient has been pregnant or transfused within the last 3 months (or transfusion history not known)</td>
<td>72 hours before transfusion</td>
</tr>
<tr>
<td>If the patient has not been pregnant or transfused within the last 3 months (NB this is the time between sample being taken and of transfusion completion)</td>
<td>7 days before transfusion</td>
</tr>
</tbody>
</table>

Blood sample should only be taken in the community if there is a guaranteed place available for the patient to receive the transfusion within the above timeframe.

In situations where patients are being repeatedly transfused, a daily sample is not a requirement. These patients should be screened for the development of irregular antibodies at least every 72 hours.

It is recognised that for some individuals, e.g. thalassaemic patients, who have been repeatedly transfused for several years and who have not had an antibody response, a more tolerant approach may be taken.

5. Requesting Blood and Blood Products by telephone (when laboratory has valid group and save sample) and requesting blood needed urgently

5.1 Principle

• Requests for platelets can be made either using a blood request form or by telephoning as long as the patient has a blood group on record.

• For red cell requests the patient must have had a group and save sample taken within the correct time period, see paragraph 4.6 ‘Timing of cross-match sample’.
Red cells should usually be requested using the request form. If additional units are required an order can be placed by phoning the laboratory.

Please also contact the laboratory (01284 713316) if blood is required urgently.

5.2 Responsibility
The person making the phone call should be a doctor.

5.3 Procedure
Contact the West Suffolk Hospital Blood Transfusion laboratory (01284 713316)

You will be asked to provide the following information (the request will not be processed without this information):

1. The identity of the person making the request – name and job title
2. The patient’s surname, first name, date of birth and hospice number
3. Current location of patient. If the patient is about to be transferred to a different location, provide the location of where the blood will be needed.
4. The number and type of blood or blood components required, including any special requirements e.g. gamma-irradiated.
5. The reason for the request
6. The urgency of the requirement

Important:

- Provide the laboratory with the time the blood is required so that the request may be prioritised.
- The West Suffolk Hospital Blood Transfusion laboratory or out of hours biomedical scientist will inform the relevant clinical area when blood is ready for collection for all urgent requests.

6. Obtaining a Sample for Group and Save /Cross match

6.1. Principles
Taking and labeling the blood sample is crucial in ensuring the patient receives the correct blood. It is therefore vital that the patient is identified correctly.

6.2 Responsibilities
Blood samples for compatibility testing (cross-matching) may be taken by medical staff, nurses, or health care assistants who have been trained in the procedure, and have successfully completed their competency assessment.

Procedure for sample collection

- The identity of the patient must be unequivocally established
- Where patients are judged capable of giving an accurate, reliable response they should be asked to state their first name, surname and date of birth. Use open-ended
questions (can you confirm your full name and date of birth?) rather than saying, “are you Mr Smith?” which is more likely to generate an incorrect answer – particularly if the patient is hard of hearing or confused.

- For patients who are unable to verbally communicate and at increased risk of being misidentified the wristband alone is the only source to confirm patient identity and must be carefully checked.

- The patient’s identification wristband should be checked for the first name, surname, and date of birth and hospice number. If in doubt do not bleed the patient.

- Check the details given match those on the request form.

- Only one patient should be bled at a time, by their bedside and the sample tube must be labelled immediately after the person taking the sample has taken the blood. Never pre-label the sample tubes. Use ANTT – Aseptic Non Touch Technique.

- Information must be hand-written and legible using suitable ink that does not easily smudge. Addressograph labels must not be used on sample tubes. Any sample labelled with an addressograph will be discarded.

The container must be labelled with at least the minimum amount of patient identification information:

- Hospice iCare/SystmOne number
- Surname
- First name
- Date of Birth
- Gender
- Date sample taken
- Signature of the person taking the blood

Samples without this information will be rejected. The laboratory has a ‘zero tolerance’ policy for samples that are unlabeled, incomplete, illegible or incorrectly labelled.

The laboratory will check their electronic register for all blood grouping samples, and if the patient has not been grouped before a second sample will be requested. The second sample may be obtained from the cannula that would be used for the transfusion.
7. Procedure for prescribing blood

7.1 Purpose of the Procedure

*Because of the risks of transfusion it is particularly important that prescriptions for blood products are clear and unambiguous. This document outlines the correct procedure for prescribing blood and blood products.*

7.2 Resources used

Patients' healthcare records and Blood and Blood Products Transfusion Record form (pink).

7.3 Responsibilities

Blood may only be prescribed by a doctor at St Nicholas Hospice Care.

7.4 Procedure

It is the responsibility of the prescriber to ensure that there is a valid **indication for the transfusion** and this should also be documented in the patient's clinical record. The indication code on the Blood and Blood Products Transfusion Record should also be completed.

- Patients who have co-existent cardiovascular or respiratory disease may require higher thresholds e.g. maintain above 80g/l or even 100g/l.

- Blood transfusions should be prescribed using the pink Blood and Blood Product Transfusion Record' Form WSHT 5590 version 10.

- Before prescribing the blood, the doctor should ensure the patient has given consent (see section 3). Verbal consent should be obtained and recorded in the patient's healthcare record. The patient should be offered the National Blood Service patient information leaflet.

- The patient should also be asked if they are aware of any special blood requirements e.g. presence of red cell antibodies or need for irradiated blood etc. See Appendix 5 for Request Form for Irradiated Blood Products.

The prescription must specify:

- The component

- Any special requirements e.g. irradiated blood

- The number of units. Target generally 100g/l
Guideline to number of units required:

<table>
<thead>
<tr>
<th>Patient weight</th>
<th>50kg</th>
<th>60kg</th>
<th>70kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in haemoglobin after a one unit transfusion</td>
<td>17g/L</td>
<td>14g/L</td>
<td>12g/L</td>
</tr>
</tbody>
</table>

**Duration**

**Adults:**

- 30 minutes for platelets

- The normal duration for transfusion of red cells is 1.5 to 2 hours. It may be reduced to 90 minutes in otherwise fit patients or much shorter in patients who are actively bleeding.

- The maximum rate is 3.5 hours. This is because there can be up to 30 minutes between taking the blood from the cold box and starting the transfusion. **The transfusion must be completed within 4 hours of removing the blood from the cold box.**

- Any special instructions e.g. premedication with paracetamol, should be written up on the drug prescription chart.

- At St Nicholas Hospice Care blood or blood products can only be transfused whilst a doctor is present throughout the duration of the transfusion.

- As a general indication transfusions should occur 9am-5pm Monday-Friday, and never overnight.

**8. Organising the collection of Blood to be transfused**

**8.1 Principle**

*If blood is kept out of the blood fridge or cold box for more than 30 minutes before transfusion it must be discarded. It is therefore important that blood is not collected until the patient is ready to receive the transfusion.*

**8.2 Responsibility**

A registered nurse or doctor can arrange collection of blood from the West Suffolk Hospital Blood Bank.

**8.3 Procedure**

1. Confirm that the blood is ready for collection.

2. Check transfusion prescription chart - surname, first name, date of birth and iCare/SystmOne number

3. Check that the patient is on the ward and ready to receive the transfusion
4. Check that appropriate cannula is inserted and patent by flushing with 10mls 0.9% saline

5. Check patient wristband is correct with surname, first name, date of birth and iCare/SystmOne number

6. Identify appropriate person to collect the blood. This can be collected from the blood bank by any member of staff with a photo identity badge. The blood will be issued from the fridge by blood bank staff who will be responsible for ensuring the product is packed appropriately in the box.

7. Ensure that there is clear verbal communication about which blood product is to be collected and where it is to be collected from.

8. When the blood is received on the ward, alert the staff responsible for administering the transfusion that the blood has arrived for transfusion.

NB If there is going to be a delay of more than four hours in starting the transfusion, the unit should be returned to the blood bank for storage

9. Collecting Blood to be transfused

9.1 Principle
It is important that the correct units are collected for a given patient. To minimize risks and to ensure traceability of blood products all units are now issued electronically from the blood fridge using the BARS system. In all cases it will be issued by blood bank staff.

9.2 Equipment
Staff collecting blood must have the patient's details with them in the form of:
- Healthcare record or the pink prescription chart
- Staff should have their own photo identity badge
- A cold box must be used for the transportation of blood or blood products to the Hospice. Blood can be stored for up to 4 hours in correctly packed cold boxes. The time the blood is placed in the box should be recorded on the box before leaving the blood bank

9.3 Procedure
Staff collecting blood should be clear about the identity of the recipient and have the patient's details with them in the form of the pink 'Blood and Blood products Transfusion Record' or healthcare record. Confirm that the patient is on the ward and ready to receive the transfusion

1. Wash hands prior to collection of blood/blood products

2. Only one unit of blood should be taken at a time

3. Take product immediately to St Nicholas Hospice Care
4. Do not leave blood unattended at any time

5. Hand blood over to an trained member of staff in the cold box

6. The person receiving the blood or blood product should promptly alert the relevant staff looking after the patient that the blood has arrived for transfusion

7. Blood must be connected to the patient within 30 minutes of leaving the cold box. Do not remove the blood from the cold box until the patient is ready, as it cannot be returned to the cold box once removed

8. Any blood left out of the cold box longer than 30 minutes should be returned to the Blood Transfusion Department and reported to a member of staff so the unit can be discarded because of the risk of bacterial growth

9. All blood will remain in the West Suffolk Hospital blood bank issue fridge for 48 hours from time of requirement. After this time period, if still in date, the blood will be returned to stock

10. The transfusion **must be completed within 4 hours** of removing the blood from the cold box

10. **Administration of Blood**

10.1 **Principles**

The person administering the blood must be confident that the right product is administered to the right patient at the right time, and that there are no discrepancies between the prescription, the product or the patient identification to ensure safe administration.

10.2 **Responsibilities**

- Blood and blood components are viewed as medicines for administration purposes and prescribed medicines should only be administered by a doctor, or a nurse holding current registration of the NMC Professional Register as a Registered Nurse (RN)

- Two Registered nurses are responsible for checking the patient and product as outlined below

10.3 **Equipment**

- Patent intravenous device
- Pink Blood and Blood Products Transfusion record form (WSHT 5590v10)
- Correct Unit of Blood /Blood Product
- Appropriate blood product administration set

10.4 **Procedure**

a. **Preparing the patient for transfusion**

The procedure for setting up an intravenous infusion should be followed and the usual care for intravenous lines should be applied.
1. Check that the intravenous infusion device is patent before requesting the blood/blood product. A narrow gauge e.g. 21G cannula may be used for transfusion but if a rapid infusion rate is required it should be larger e.g. 14G.

2. If the product is on the ward and the patient is not ready it should remain in the cold box. Blood or blood products must never be put in a ward fridge.

3. Take and record on transfusion prescription baseline observations of temperature, pulse, respirations and blood pressure within 60 minutes prior to the start of the transfusion.

4. Drugs needed for the treatment of anaphylactic shock are available in the Emergency Drug box located in the drug outer room.

b. Checks to be performed before commencing the transfusion

Two trained members of staff are required to carry out an identity check of the patient and the unit of blood at the patient's bedside. One should be responsible for the transfusion, the other responsible for checking.

<table>
<thead>
<tr>
<th>The persons responsible for the transfusion checks:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The unit of blood to be given has been correctly prescribed, and that the reason for the transfusion is recorded in the case notes.</td>
</tr>
<tr>
<td>2. The patient has been given information about the transfusion and asks whether they have had a transfusion reaction in the past and whether they have an antibody or irradiated blood product warning card, prior to undertaking the product &amp; identification checks.</td>
</tr>
<tr>
<td>3. That any drugs required prior to transfusion have been administered.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Information</th>
<th>Documentation/Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription:</td>
<td>Check prescription completed fully</td>
</tr>
<tr>
<td></td>
<td>Cross check with patient healthcare records for any special requirements</td>
</tr>
<tr>
<td>Donation number:</td>
<td>Same on</td>
</tr>
<tr>
<td></td>
<td>▪ Component label</td>
</tr>
<tr>
<td></td>
<td>▪ Blood product tag attached to bag</td>
</tr>
<tr>
<td>Blood group:</td>
<td>Same on</td>
</tr>
<tr>
<td>ABO Blood Group</td>
<td>▪ Component label</td>
</tr>
<tr>
<td>Rhesus Group</td>
<td>▪ Blood product tag attached to bag</td>
</tr>
<tr>
<td></td>
<td>Note: if blood bank have supplied a compatible but not identical product they will annotate this in the comments section of the blood product tag</td>
</tr>
<tr>
<td>Special requirements:</td>
<td>Match</td>
</tr>
<tr>
<td>Check any special requirements on prescription e.g., irradiation, CMV neg.</td>
<td>▪ Product supplied</td>
</tr>
</tbody>
</table>
### Information from blood bank:
Check blood product tag for any special instructions e.g. group compatibility, blood warmer required

### Integrity of product:
Check expiry date and pack for any sign of leakage, discolouration or clots

### Identity checks:
Ask patient to state name and date of birth

<table>
<thead>
<tr>
<th>Match exactly on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wristband</td>
</tr>
</tbody>
</table>

### Confirm:
- Surname
- First name
- Date of birth
- iCare/SystmOne No.

<table>
<thead>
<tr>
<th>Match exactly on</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wristband</td>
</tr>
<tr>
<td>Prescription chart</td>
</tr>
<tr>
<td>Blood product tag</td>
</tr>
</tbody>
</table>

4. Affix pink sticker indicating donation number from blood product tag onto the prescription chart.
5. Sign the blood transfusion prescription sheet, indicating the date and time of start of the transfusion. If mistakes are made, sign and date any corrections.
6. Detach yellow section of blood product tag and place in patient’s healthcare records – See Blood Product Tag diagram in Appendix 6

### Note:
Compatibility forms are no longer used.
Any discrepancy in the identity checks of the patient, the unit of blood, or the blood transfusion compatibility label must be reported to the Blood Transfusion laboratory and the blood must not be transfused until the discrepancy has been resolved. The Hospice incident reporting procedure should be followed.

### c. Starting the transfusion
The transfusion must not start until checks are completed.
1. Staff must wash their hands before starting the transfusion. Disposable, non-sterile latex (unless latex allergy) gloves should be worn
2. Blood giving sets
   - Use a blood giving set for red cell transfusion.
     - Change the giving set if the transfusion is to run for more than 12 hours in order to prevent bacterial growth
     - Use a new blood or platelet giving set for platelets and change it if changing the product given (does not have to be changed if giving another unit of the same product in a 12 hour period)
3. Commence the transfusion at the prescribed rate of (blood) flow: for a 300ml unit of blood over 2 hours:
   \[
   \frac{300 \times 20}{120} = 50 \text{ drops per minute}
   \]
The transfusion of each unit of red cells should be completed within 4 hours of removal of the blood from the cold box

4. Drugs must **never** be added to any blood component pack.

   It is generally advised that an infusion line that is being used for blood should not be used to administer any drug. If a patient has a saline infusion running for hydration, a new blood administration set should be used for blood.

d. **Monitoring the patient** (these are established minimum guidelines)
   
   - The patient should be transfused in an area where he/she is visible to a member of the nursing or medical staff.
   
   - The patient should be informed of any potential adverse effects and asked to report if any of them occur, these may include feelings of anxiety/restlessness, shivering, rashes, flushing, shortness of breath, pain in extremities or in the loins. The patient should have a means to contact the nursing staff e.g. call bell.

**Schedule of observations**

- The time of the start and end of the transfusion and the unit number of each unit of blood transfused should be clearly indicated on the chart

- Record temperature, pulse, respirations and blood pressure before the start of each unit and at the end of the transfusion.

- Record temperature and pulse 15 minutes after the start of each unit.

- Regular observations of temperature, pulse, respirations and blood pressure should continue on unwell patients as clinically indicated.

**Severe transfusion reactions are most likely to occur during the first half an hour of transfusion of each unit of blood or blood product.**

e. **Dealing with possible transfusion reactions – initial nursing management**

- If a reaction is suspected the transfusion should be stopped while the situation is assessed.

- A full set of observations including oxygen saturation levels should be performed and a doctor called to assess the patient. The West Suffolk Hospital haematology duty clinician is always available for advice – telephone via switchboard 01284 713000.

- Recheck the identity of the patient against the unit.

- Aim to maintain venous access with normal saline and oxygen saturation with supplementary oxygen – prescribed by on-site doctor.

- The further management of the patient depends on the type of reaction suspected as outlined below.

- Minor reactions (minor non-haemolytic transfusion reaction or localized urticaria) complete Transfusion Reaction Notification form ([Appendix 7](#)) and send to blood bank. No samples required.

- All other reactions - inform Blood Bank immediately and complete Transfusion Reaction Notification Form ([Appendix 7](#)). Take the form to Blood Bank with the initial blood samples and all used blood bags.

- Once the patient is stable brief details of the reaction should be recorded on the pink Blood and Blood Products Record form and fuller details in the patient’s Healthcare Record.
If the reaction involves errors or is more than a minor non-haemolytic transfusion reaction or localized urticaria, a Hospice Medicine Incident Report Form should be completed.

Appendix 8 is an algorithm showing a summary of the pathway to follow if a transfusion reaction is suspected.

See Appendix 9 for Acute Transfusion Reactions

See Appendix 10 for Actions, Investigations and Treatment

For further medical management see Anaphylactic Guidelines (M11)

f. Completing the Transfusion

- The observations at the end of transfusion should be taken and recorded on the Blood and Blood Products Transfusion Record form within 60 minutes of completion.

- A note should be made in the patient Healthcare Records of the number of units transfused, the volume of the units and any problems during the transfusion.

- All transfusion records are to be kept for 30 years to ensure the Hospice maintains full traceability of blood products & complies with UK law. The pink transfusion record should be kept in a file with Ward administrators and copy kept in patient’s Healthcare Records.

- Every unit of red cells and platelets will have a blood product tag attached to it. After the transfusion has finished and all the details completed, the blue detachable section of the tag should be detached and placed in the small red box provided for return to the transfusion department within 24 hours post-transfusion.

- If a new product is to be given, a new giving set will be required. If further units of the same product are to be given the giving set needs to be changed after a maximum of 12 hours.

- It is recommended that empty blood bags should be kept for 24 hrs in case of a delayed transfusion reaction and stored in a Sharps bin in the disposal room. After 24 hrs, dispose of the empty bag according to Hospice policy for clinical waste.

- Day case patients should be advised to stay for at least 15 minutes following transfusion or longer if clinically indicated.

11. Administration of platelets

11.1 Platelet concentrates

- Standard procedures for patient identification, patient preparation, component collection and transfusion apply.

- Platelet concentrates should be transfused as soon as possible after reaching Sylvan Ward.
• Check that each unit of platelets complies with any special requirements e.g. irradiated etc.

• Platelet concentrates are kept at 22°C, in a platelet agitator in Pathology at West Suffolk Hospital. They must be kept at room temperature, and must not be refrigerated. This retains their viability but means that they carry an increased risk of bacterial contamination. This limits the shelf life to 5 days.

• Standard blood giving sets or special platelet giving sets may be used. Platelets should not be transfused through giving sets which have been used previously for blood. The giving set may be reused for further platelets but should be changed for a different product.

• The transfusion of platelets should normally be completed within half an hour (30-60 mins).

• Observations during platelet transfusions should include pulse, blood pressure, respirations and temperature before the transfusion, 15 minutes after the start, and at the end. If a reaction is suspected or has occurred, additional observations should be carried out.

11. Irradiated Blood Products

One of the most serious hazards of blood transfusion is “transfusion-associated graft versus host disease” (TA-GvHD). This is caused by the transfusion of viable lymphocytes, which survive in the patient receiving the transfusion, and may see them as ‘foreign’ and ‘reject’ them which then causes this disease. This can occur if:

• The transfused lymphocytes are partially matched with the person

• The person is immune-compromised, such as with Hodgkin’s disease, or immunosuppressive drugs.

Irradiation of blood prevents lymphocytes dividing and causing harm, which then eliminates the risk of TA-GvHD.

Guidelines for the use of irradiated blood products are indicated on the pink prescription sheet under ‘Medical Guidelines’.

A ‘Radsure’ label is attached to the bag to indicate that the product has been irradiated and an alert sticker must be placed on the front cover of the healthcare record.
13. References and links
British Committee for Standards in Haematology Guidelines are all found via the link: www.bcshguidelines.com (http://www.bcshguidelines.com/)

- British Committee for Standards in Haematology ‘Guidelines on the administration of blood and blood components and the management of transfused patients.’ Transfusion Medicine, 1999, 9, 227-238
- Serious Hazards of Transfusion Reports. SHOT Office, Manchester Blood Centre. (www.shotuk.org.)

West Suffolk Hospital Guidelines are found in the Pink Book (http://www.wsh.nhs.uk/auth/n3/thepinkbook/default.htm) of West Suffolk Hospital website.

- Trust Policies – click on ‘Trust Policies’ icon or click on ‘pathology services handbook’ icon for Transfusion policies
- West Suffolk Hospitals NHS Trust. Guideline for the use of Platelets (CG10078)
- West Suffolk Hospitals NHS Trust. Guideline on Indications for Red Cell Transfusion (Adult) (CG10084)
- West Suffolk Hospitals NHS Trust. Guideline on Indications for Irradiated Blood Products (CG10094)
- West Suffolk Hospitals NHS Trust. Policy for the Treatment of Jehovah’s Witnesses (CG10013)
- West Suffolk Hospitals NHS Trust. Blood Policy (CG10010)
- West Suffolk Hospitals NHS Trust. Transfusion reactions (CG 10126)

St Nicholas Hospice Care Policies

- Consent
- Medicines management
St Nicholas Hospice Care Guidelines and Procedures

- anaphylaxis
- anaphylaxis algorithm
- aseptic technique
APPENDIX 1 - Quick Guide to the Administration of Blood at St Nicholas Hospice

Documentation

- Ensure prescription is signed and all sections completed
- iCare/Systm1 number to be used on all documents for identification
- Document reason for transfusion in patient’s notes

Preparation of patient

- Ensure cannula inserted and patent before collection of blood
- Give information leaflet to patient
- Ensure verbal consent obtained
- Ensure identity band in place, legible and accurate

Collection of blood

- Documentation needed for checking can be medical notes or pink prescription form.
- A designated cold box must be used for the collection of blood
- Blood must be packed between cold packs placed by blood bank staff
- The time blood is collected should be recorded on the label on the box.
- Blood can be kept in cold box for up to 4 hours
- Transfusion must be started within 30 minutes of removing from box

Administration of blood

- Patient identity and the unit of blood to be checked at the patient’s bedside by 2 registered nurses
- Ask patient to confirm verbally their identity with full name and date of birth, as well as checking the name band
- Baseline observations of temperature, pulse, respirations and blood pressure to be taken within 60 minutes prior to start of transfusion
- Any premedication to be given according to prescription
- Wash hands and wear plastic apron and gloves for procedure
- Blood must be administered via a blood administration giving set and should be given over 1.5 – 3.5 hours
- The patient should remain visible throughout the transfusion and temperature and pulse recorded 15 minutes after the start of each unit
- Affix pink section of blood product tag onto prescription indicating donation number
- Observe for any signs of reaction, such as feelings of anxiety/restlessness, shivering, chills, rigors, myalgia, nausea or vomiting, rashes, hypotension, flushing, and shortness of breath or wheeze, hypoxia, pain in extremities or in the loins. Cutaneous symptoms include urticaria or hives, skin rash and pruritus. Also, be aware of localized oedema which may be preceded by tingling
- If any reaction is suspected, stop transfusion and follow reaction guidelines (see back of pink form)
- A blood giving set should not be in use for more than 12 hours and different blood products should have a new giving set e.g., Blood should not be infused through a giving set previously used for platelets
- Never add any other component to a transfusion, such as drugs or glucose. A saline infusion is unnecessary before or after a blood transfusion
- Complete documentation on blood product tag and prescription form
- Blood can only be administered when a doctor is on duty in the Hospice i.e. Mon-Fri 9am -5pm
Completing transfusion

- Record temperature, pulse, respirations and blood pressure within 60 minutes of end of transfusion
- Complete documentation by recording outcome in patient notes
- Place completed blue section of blood product tag in red box and return to transfusion department within 24 hours (office hours)
- Affix yellow section of blood product tag in patient's multidisciplinary records
- Keep blood transfusion bags for 24 hours in sluice room and dispose of according to Hospice policy for clinical waste
- Ensure copy of transfusion record filed in patient notes and pink form in file to be kept for 30 years with ward administrators
- Continue to observe patient for any signs of latent reaction and cannula site for signs of infection or phlebitis.
- Yellow stickers are available on ward to place on the empty bag indicating date and time the bag should be disposed of
- Day-case patients should be advised to stay for at least 15 minutes following transfusion or longer if clinically indicated
- Patients should be asked to report any symptoms that occur within 24 hours of completing the transfusion
APPENDIX 2a – Competency assessment criteria for organising the receipt of blood / blood products for transfusion

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Did the member of staff:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td></td>
</tr>
<tr>
<td>• Confirm that the blood/blood product for transfusion is ready for collection?</td>
<td>✓</td>
</tr>
<tr>
<td>• Confirm the prescription complete &amp; the patient is prepared for transfusion:</td>
<td></td>
</tr>
<tr>
<td>✓ Prescription complete &amp; legible?</td>
<td></td>
</tr>
<tr>
<td>✓ Baseline observations recorded?</td>
<td></td>
</tr>
<tr>
<td>✓ Venous access in situ &amp; functioning?</td>
<td></td>
</tr>
<tr>
<td>✓ That the patient understands he/she is going to receive a transfusion?</td>
<td></td>
</tr>
<tr>
<td>Patient identity checks (NB not applicable to porters)</td>
<td></td>
</tr>
<tr>
<td>• Ask the patient to state their full name and date of birth?</td>
<td></td>
</tr>
<tr>
<td>• Check the details on the wristband or other attached identifier?</td>
<td></td>
</tr>
<tr>
<td>• Check the information on the wristband matched that on the prescription chart?</td>
<td></td>
</tr>
<tr>
<td>Documentation</td>
<td></td>
</tr>
<tr>
<td>• Understand that the patient’s full name, date of birth &amp; hospital or other identification number should be written on the blood transfusion prescription?</td>
<td></td>
</tr>
<tr>
<td>Requesting collection</td>
<td></td>
</tr>
<tr>
<td>• Identify an appropriate person to collect the blood/blood products for transfusion?</td>
<td></td>
</tr>
<tr>
<td>• Give clear communication about which blood/blood products to collect?</td>
<td></td>
</tr>
<tr>
<td>• Verbally confirm where the blood/blood product should be collected from?</td>
<td></td>
</tr>
<tr>
<td>• Give verbal instruction on the procedure to be carried out at the collection point?</td>
<td></td>
</tr>
<tr>
<td>Receipt of product(s)</td>
<td></td>
</tr>
<tr>
<td>• Respond promptly to the delivery of blood/blood products?</td>
<td></td>
</tr>
<tr>
<td>• Checking the details on the delivered blood/blood products match the patient documentation (i.e. blood prescription)?</td>
<td></td>
</tr>
<tr>
<td>• Ensuring that receipt of the blood was documented with their signature, time and date of receipt?</td>
<td></td>
</tr>
</tbody>
</table>

Knowledge assessment

**Does the member of staff know & understand the importance of:**

• Using open-ended questions for identifying patients?
• Correct procedure if patient is unable to give verbal identification?
• Why information on the blood prescription chart must be complete?
• The potential risks in the blood component collection process?

Statement of competence

I have assessed the staff member as competent to perform organising the receipt of blood/blood products for transfusion

<table>
<thead>
<tr>
<th>Level of competence achieved:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 – Competent to perform this task</td>
<td></td>
</tr>
<tr>
<td>Level 3 – Competent to perform and teach/assess this activity</td>
<td></td>
</tr>
</tbody>
</table>

Date: Signature of assessor:                          
Date: Signature of assessed:                          
APPENDIX 2b – Assessment criteria for preparing to administer blood / blood products to patients and administering a transfusion of blood / blood products

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Did the member of staff:</th>
</tr>
</thead>
</table>
| **Pre transfusion preparation**  | - Demonstrate effective use of health and safety measures by:  
|                                  |   - Washing hands?  
|                                  |   - Using personal protective equipment?  
|                                  |   - Adhering to other infection control procedures at all times?  
|                                  |   - Check that all equipment is clean and available (i.e. prescription chart, observation chart, administration set, infusion device etc)  
|                                  |   - Confirm the prescription complete & the patient is prepared for transfusion:  
|                                  |     - Prescription complete & legible?  
|                                  |     - Baseline observations recorded?  
|                                  |     - Venous access in situ & functioning?  
|                                  |     - That the patient understands he/she is going to receive a transfusion?  
|                                  |   - Check the quality of the blood product, expiry dates, and any special transfusion requirements?  |
| **Baseline observations**        | - Record the patient’s blood pressure, temperature, pulse & respiratory rate? |
| **Patient identity checks**      | - Ask the patient to state their full name and date of birth?  
|                                  | - Check the details on the wristband or other attached identifier?  
|                                  | - Check the information on the wristband matched that on the prescription chart? |
| **Administration**               | - Ensure that the blood transfusion was commenced in a timely manner?  
|                                  | - Calculate & set rate correctly according to the duration of the transfusion?  
|                                  | - Monitor the patient’s vital signs 15 minutes after starting the transfusion?  
|                                  | - Dispose of equipment safely?  
|                                  | - Monitor the patient’s vital signs on completion of the blood transfusion?  |
| **Completion of documentation**  | - Record the date, start time & stop time of the transfusion on the patient’s prescription?  
|                                  | - Complete the traceability documentation in accordance with national law? |

Knowledge assessment

Does the member of staff know & understand the importance of:  
- Using open-ended questions for identifying patients?  
- Correct procedure if patient is unable to give verbal identification?  
- The timescales for administering blood products safely?  
- The potential risks in checking the compatibility?  
- Monitoring the patient’s vital signs throughout the transfusion process?  

Statement of competence

I have assessed the staff member as competent to perform preparing to administer blood / blood products to patients and administering a transfusion of blood / blood products

<table>
<thead>
<tr>
<th>Level of competence achieved:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2 – Competent to perform this task</td>
</tr>
<tr>
<td>Level 3 – Competent to perform and teach/assess this activity</td>
</tr>
</tbody>
</table>

Date: Signature of assessor:  
Date: Signature of assessed:  

To ensure your training OLM record is updated send a copy of this form to the Transfusion Nurse Specialist, Blood Transfusion Laboratory
APPENDIX 3 - Audit tool for the final patient identity check prior to transfusion

Assessment Details

<table>
<thead>
<tr>
<th>Name of member of staff:</th>
<th>Name of assessor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job title:</td>
<td>Job title:</td>
</tr>
<tr>
<td>Contact details:</td>
<td>Contact details:</td>
</tr>
<tr>
<td>Date of assessment:</td>
<td></td>
</tr>
</tbody>
</table>

**The framework has been successfully completed:** YES / NO (delete as applicable)

<table>
<thead>
<tr>
<th>Signature of member of staff:</th>
<th>Signature of assessor:</th>
</tr>
</thead>
</table>

Please return a copy of both pages of this completed assessment to the:
Transfusion Nurse Specialist Blood Transfusion Laboratory

Knowledge Assessment

<table>
<thead>
<tr>
<th>Does the member of staff know and understand the importance of the following:</th>
<th>YES / NO / COMMENT</th>
<th>Initials / Signature of assessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of open-ended questions to identify the patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct action to be taken if the information identifying the patient is missing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct procedure if patient unconscious or unable to give verbal identification</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Patient Identity Check Prior to Transfusion

<table>
<thead>
<tr>
<th>Check Required</th>
<th>Task Completed Satisfactorily: YES / NO / COMMENT</th>
<th>Initials / Signature of assessor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two appropriate members of staff to perform the checks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that the unit of blood to be given has been appropriately and correctly prescribed, and that the reason for the transfusion is recorded in the case notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that the patient has been given information about the transfusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that any special requirements for the blood or platelets have been met (e.g. CMV-negative, irradiated)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check the expiry date and time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check ABO and RhD group and donation number are identical on the blood component label, AND compatibility label attached to the blood pack</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Final check – this must take place at the patient’s side** Ask the patient (if they are able to communicate) to state their first name, surname and date of birth

Check that the ID details provided by the patient match the patient’s wristband

For all patients, including unconscious patients, check that the following details (surname, first name, date of birth, hospice number, gender) are the same on:

- Patient’s wrist band
- Compatibility label attached to the blood bag
- Prescription chart

Commence transfusion as soon as the checks are complete

Sign the:

- Blood transfusion prescription sheet

Indicate the date and time of start of the transfusion

*Place blood product tag in appropriate box for return to the laboratory*

Once the transfusion has finished record the stop time
Will I need a blood transfusion?

Patient information
APPENDIX 5 – ‘Request for requirement for irradiated blood products form’

(To be flagged on blood bank computer, HISS and copy faxed by blood bank to Addenbrookes)

Consultant: ________________________________

Diagnosis: ________________________________________________________________

Reason for request for irradiated blood products:

(Only remove from APEX upon instruction from SpR/Consultant)

Duration of irradiated blood products: ________________________________

Requested by (print name): ________________________________________________

Signature: ___________________________ Date: ___________________________

Please ensure you ☑:

➢ give the patient the NHSBT leaflet on irradiated blood products ☐
➢ put the sticker from NHSBT leaflet in notes ☐
➢ write reason for alert on inside of front cover of notes ☐
➢ fax or deliver this form to the transfusion laboratory (713316 fax number 713083) ☐

Blood bank staff:

<table>
<thead>
<tr>
<th>Action</th>
<th>Print &amp;Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faxed to Addenbrookes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(01223 596276)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entered on to APEX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alert entered on to HISS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX 6 – ‘Blood Product Tag’

Front of label - to be used when checking patient identity & product and remain attached to blood product bag until disposed of

- Pre printed patient information including:
  - Donation number & donor blood group
  - Patient core identifiers
  - Patient blood group
  - Antibody status
  - Special requirements e.g., irradiated/CMV negative blood products required
  - Comments section in which blood bank will annotate messages to clinical staff e.g., “rhesus groups differ but units compatible”

- Detach & affix to pink blood product prescription chart
- Detach & affix to continuation record in health records

Reverse of label – to be completed upon commencement of transfusion and returned to blood bank (by placing in blood product tag box)

- Nurse to sign receipt of product on ward
- Nurse responsible for administration to sign, date & time when transfusion commenced
## APPENDIX 7 – Transfusion Reaction Notification Form

### Date of reaction: __________________________ Addressograph

### Time of reaction: __________________________

### Product transfused: __________________________

### Donation number: __________________________

### Dr who assessed pt: __________________________

### Consultant: __________________________

### Symptoms & Signs (R):

<table>
<thead>
<tr>
<th>Mild reaction (no samples required)</th>
<th>Moderate reaction</th>
<th>Severe reaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Temperature &gt;38 °C and a rise between 1 and 2 °C from pre transfusion values, but no other symptoms/signs</td>
<td>☐ A rise in temperature of 2 °C or more, or fever 39 °C or over and/or rigors, chills, other inflammatory symptoms/signs such as myalgia or nausea</td>
<td>☐ A rise in temperature of 2 °C or more, and/or rigors, chills, or fever 39 °C or over, or other inflammatory symptoms/signs such as myalgia or nausea</td>
</tr>
<tr>
<td>☐ Transient flushing, urticaria or rash</td>
<td>☐ Wheeze or angioedema with or without flushing, urticaria or rash but without respiratory compromise or hypotension</td>
<td>☐ Dyspnoea, bronchoeapasm, atidor, angioedema which require urgent medical intervention or anaphylaxis</td>
</tr>
</tbody>
</table>

### Management:

1. Obtain relevant samples according to presenting symptoms:

   - **Fever >2 °C rise or >39 °C:** FBC, U&E, LFTs, Group & Screen plus 1 red top clotted sample (for rpt cross match)
   - **and/or chills, rigors, myalgia, nausea or vomiting and/or loin pain:** DAT, LDH, Haptoglobin, Blood cultures (peripheral & central if CVAD in situ), Coagulation, Implicated unit & administration set (if fever sustained & unresponsive to medication)
   - **Mucosal swelling (angioedema):** FBC, U&E, LFTs, Group & Screen plus 1 red top clotted sample (for rpt cross match)
   - **Dyspnoea, wheeze, or features of anaphylaxis:** FBC, U&E, LFTs, Group & Screen plus 1 red top clotted sample (for rpt cross match)
   - **Urine for haemoglobin**: IgA level
   - **Oxygen saturation or blood gases**: Chest X-ray
   - **If severe or moderate allergy suspected measure IgA level**: If severe allergy/anaphylaxis suspected consider serial mast tryptase (immediate, 3hr and 24hr)

2. Send all samples & if relevant the implicated unit & administration set, to Blood Bank with request forms clearly indicating “suspected transfusion reaction”

3. For severe life threatening reaction inform Blood Bank BMS via telephone 3315 (out of hours bleep 526)

4. For cases of severe life threatening reactions contact duty haematologist

5. For moderate and severe reactions complete a DATIX report

### Further advice can be sought from:

- Consultant, Transfusion
- Blood Transfusion Nurse Specialist

Ext 2701, bleep 823 or Duty Haematologist, via switchboard
Ext 3080, bleep 445/262 (Mon-Fri)
APPENDIX 8 – Summary of the Management of Acute Transfusion Reactions

STOP THE TRANSFUSION (but maintain venous access)
Undertake rapid clinical assessment, check patient ID/blood compatibility label, visually assess unit

Is there evidence of:
Life-threatening Airway and/or Breathing and/or Circulatory problems and/or wrong blood given and/or evidence of contaminated unit

Yes

SEVERE/LIFE THREATENING
- Call for urgent medical help
- Initiate resuscitation ABC and give oxygen as required
- IV fluids as indicated
- Monitor patient: TPR, BP, urinary output, oxygen saturation more frequently
NB Consider haemorrhage as a cause of hypotension

Management & treatment is guided by rapid assessment of symptoms, clinical signs & severity of reaction (see section 4 for further guidance)
- If likely anaphylaxis/severe allergy – follow UKRC anaphylaxis pathway with i.m adrenaline
- If bacterial contamination possible start antibiotic treatment
- Use BP, pulse, urine output (catheterised if necessary) to guide intravenous fluid administration
- Inform Blood Bank 3316 & duty haematologist
- Return unit & administration set to Blood Bank
- Perform appropriate investigations (section 4)
- Complete "Transfusion Reaction Notification Form" & forward to Blood bank with blood samples (appendix 7)
- Document on prescription form and in medical notes

If patient deteriorates at any point move to 'Severe'

If patient deteriorates at any point move to 'Severe'

Inform medical staff

Define if moderate or mild reaction?

MILD

- Isolated temperature ≥ 38 °C and rise ≥ 2 °C from baseline
- Pruritis/rash only

If symptoms/signs worsen, manage as moderate/severe reaction

Symptoms/signs worsen?

No

Yes

Continue transfusion

Document as "minor reaction" on "Transfusion Reaction Notification Form" (appendix 7)

Send form to Blood Bank to enable Hospital Transfusion Team to review

NB if patient has frequent reactions may need prophylaxis – see section 5

Document in notes and on prescription chart

MODYERATE

- Temperature ≥ 39 °C or rise ≥ 2 °C from baseline and/or Other symptom/signs apart from pruritis/rash only

Inform medical staff

Define if moderate or mild reaction?

SYMPTOMS

Are signs & symptoms consistent with underlying condition?

No

Yes

Consider bacterial contamination & review the patient's underlying condition & transfusion history

Monitor patient more frequently e.g. TPR, BP, oxygen saturations, urinary output

If yes - stop transfusion & manage as moderate/severe reaction

Are signs & symptoms consistent with underlying condition?

No

Possibly Transfusion related?

- Do not restart transfusion (keep implicated unit/s)
- See section 4 for management, treatment intervention & investigations
- Complete "Transfusion Reaction Notification Form" (appendix 7) and send to blood bank with samples
- Document in notes and on prescription form

The Hospital Transfusion Team will review and if indicated report to SHOT/SABRE

If yes - stop transfusion & manage as moderate/severe reaction

Are signs & symptoms consistent with underlying condition?

No

Yes

Transfusion unrelated

- Continue transfusion at slower rate with frequent observations
- Treat underlying condition as clinically indicated

Document as "minor reaction" on "Transfusion Reaction Notification Form" (appendix 7)

Send form to Blood Bank to enable Hospital Transfusion Team to review

NB if patient has frequent reactions may need prophylaxis – see section 5

Document in notes and on prescription chart
Appendix 9 - Acute Transfusion Reactions

Acute transfusion reactions (ATR)

Is my patient having an acute transfusion reaction? Features may include:
- Fever, chills, rigors, tachycardia, hypotension, collapse, flushing, urticaria, pain (bone, muscle, chest, abdominal), respiratory distress, nausea, general malaise

STOP THE TRANSFUSION — Assess (basic clinical assessment). Check (patient ID / blood compatibility label). Inspect (look for turbidity, clots, discoloration)

Evidence of life threatening problems? Airway / Breathing / Circulatory problems, and wrong blood given / positive evidence of contaminated units?

Severe or life threatening
- Call for urgent medical help
- Initiate resuscitation — ABC
- Maintain venous access
- Monitor patient, e.g. TPR, BP, urine output, O2 saturations
- Blood transfusion (infection 0.9% saline as appropriate) qd by 15ml/kg/hr (as appropriate if necessary)
- Thrombectomy images if required

If likely anaphylaxis / severe allergy, follow anaphylaxis pathway
- If external contamination likely follow signs pathway
- If transfusion reaction likely to be causing hypotension fluid resuscitate / continue transfusion
- Consider if transfusion associated circulatory overload likely

Report urgently to transfusion laboratory for review at HIC and report SMO/MHA if appropriate

If transfusion is discontinued, DO NOT discard unit but return with administration set to transfusion line

Severe transfusion reaction

Moderate
- Temperature > 39°C or < 32°C and/or
- Other symptoms (e.g. purpura / rash only)

- Review patient and underlying condition
- Transfusion reaction history
- Consider carriers / contamination and undertake appropriate investigations
- Continue transfusion

Mild
- Blood transfusion (infection 0.9% saline as appropriate)
- Consider symptomatic treatment
- Monitor patient more frequently (as for moderate reactions)
- If symptoms worsen, manage as for moderate transfusion reaction

Continue transfusion

Document in notes. Report only if relevant

Acute transfusion reactions (ATR)

Safe transfusion practice — Be careful, be vigilant

All patients who have a blood component transfusion are at risk of an ATR
- Patients receiving a transfusion must be in a clinical area monitored by trained staff competent to manage transfusion and ATR
- Check: Patient identity, blood type, cross-match, blood compatibility label

Alerts: Raise awareness of signs and symptoms of transfusion reactions
- Blood transfusion (infection 0.9% saline as appropriate)
- Continue transfusion
- Report any new symptoms or signs during transfusion and within 24 hours of transfusion

Signs and symptoms of ATR
- Fever, chill, rigors, hypotension
- Hypoxia, hypovolaemia, decreased urinary output
- Signs of anaphylaxis
- Nausea, vomiting, rash

Management

Stop transfusion immediately
- ABC
- Oxygen
- Get medical help urgently

Investigate
- Blood cultures (if sepsis suspected)
- Consider C&ST if breathlessness present
- Check blood group and type
- Cell count / differential
- Repeat blood group and type
- Blood cross-match
- 5th unit
- Review signs and symptoms
- Review lab results
- Review transfusion history
- Review medications
- Review patient's condition
- Check transfusion rates
- Check blood product compatibility
- Check transfusion times
- Check blood product/source

For further information, contact the transfusion specialist

If symptoms of:

- Anaphylaxis
- Allergic reactions
- Hypotension, Collapse, Pain
- Fever
- Rigors
- Rash
- Hypersensitivity
- Acute breathlessness
- Hypoxia
- Acute transfusion reactions

Report to laboratory all severe reactions • return blood component to laboratory • complete report / incident form
APPENDIX 10 – Actions, Investigations and Treatment

Standard investigations; i.e., full blood count renal function, liver function and urine haemoglobin; should be performed in all cases of moderate and severe transfusion reactions. Further investigations should be guided by the clinical symptoms and signs, rather than presumed category of reaction.

<table>
<thead>
<tr>
<th>Symptoms &amp; Signs</th>
<th>Potential diagnosis</th>
<th>Investigations</th>
<th>Actions &amp; Treatment</th>
</tr>
</thead>
</table>
| Shock/severe hypotension without clinical signs of anaphylaxis or fluid overload | Consider ABO incompatibility or bacterial contamination | FBC, U&E, LFTs, Urine for haemoglobin, Group & Screen plus 1 red top clotted sample (for repeat cross match), DAT, LDH, Haptoglobin, Blood cultures (peripheral & central if CVAD in situ), Coagulation screen, Implicated unit & administration set | Initiate:  
  ➢ Supportive care with fluid resuscitation  
  ➢ Expert evaluation for inotropic, renal and/or respiratory support  
  ➢ Blood component therapy for disseminated intravascular coagulation with bleeding  
  ➢ If the identity check shows ABO incompatibility due to transfusion of a unit intended for another patient contact the transfusion laboratory immediately to prevent a further wrong blood incident  
  ➢ If bacterial contamination is suspected:  
    ➢ Take blood cultures from the patient (peripheral vein and through central line, if present)  
    ➢ Start broad spectrum IV antibiotics  
    ➢ Send the implicated unit & administration set to Blood Bank |
| Shock/severe hypotension associated with wheeze or stridor | Anaphylaxis | FBC, U&E, LFTs, Group & Screen plus 1 red top clotted sample (for repeat cross match), Urine for haemoglobin, Oxygen saturation or blood gases, Chest X-ray, If severe or moderate allergy suspected measure IgA level, If severe allergy/anaphylaxis suspected consider serial mast tryptase (immediate, 3hr and 24hr) | Intramuscular (IM) adrenaline according to UKRC guideline (DO NOT withhold in patients with thrombocytopenia or coagulopathy)  
  ➢ Supportive care of adult anaphylaxis includes  
  ➢ Rapid fluid challenge of 500-1000ml crystalloid  
  ➢ Administration of 10 mg of chlorphenamine IM or by slow intravenous (IV) injection following initial resuscitation  
  ➢ Administration of 200 mg of hydrocortisone IM or by slow IV injection following initial resuscitation  
  ➢ If the patient has continuing symptoms of asthma or wheeze, inhaled or intravenous bronchodilator therapy should be considered  
  ➢ Patients who have had an anaphylactic reaction to blood should be discussed with an allergist or immunologist regarding further assessment and investigation.  
  ➢ A policy for future blood component therapy must be formulated. |
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</tr>
</thead>
</table>
| **Severe dyspnoea without shock**  
Be aware: hypotension can occur in TRALI | Consider TRALI or TACO, although dyspnoea can be a feature of allergic reactions | **NOTE: Use ICE “Transfusion Reaction” profile to select appropriate pathology test**  
- FBC  
- U&E  
- LFTs  
- Urine for haemoglobin  
- Group & Screen plus 1 red top clotted sample (for repeat cross match)  
- Oxygen saturation or blood gases  
- Chest X-ray  
- If severe or moderate allergy suspected measure IgA level  
- If severe/allergy suspected consider serial mast tryptase (immediate, 3hr and 24hr)  
- Implicated unit & administration set (if TRALI suspected) |  
- Ensure the airway is patent and high-flow oxygen therapy commenced  
- Seek urgent advice from duty haematologist regarding the investigation and treatment of TRALI (non-cardiogenic pulmonary oedema) and TACO (left ventricular failure due to fluid overload)  
- If TRALI suspected:  
  - The primary treatment of TRALI is ventilatory support  
  - Mortality/morbidity may be increased by loop diuretic therapy in patients who already have depleted intravascular volume |
| **Angioedema and dyspnoea, but not sufficiently severe to be life-threatening** | Moderate allergic |  |  |
| **Fever**  
>39 °C or a rise of > 2 °C from baseline  
and/or  
systemic symptoms such as chills, rigors, myalgia, nausea or vomiting | If the reaction is sustained bacterial contamination or a haemolytic reaction should be considered |  |  |
| **Isolated fever**  
>38 °C and rise of 1-2 °C from baseline | Unknown |  |  |
| **Actions & Treatment** |  |  |  |
| **Potential diagnosis** |  |  |  |
| **Investigations** |  |  |  |
| **NOTE: Use ICE “Transfusion Reaction” profile to select appropriate pathology test** |  |  |  |
| **Actions & Treatment** |  |  |  |
baseline and/or pruritus or rash

transfusion and treat with an antihistamine

Contributors and peer review
This Policy is based on the West Suffolk Hospital Trust Policy which has been approved by the Hospital Transfusion Committee.
The SNHC version was compiled by Sylvan Ward Sister and reviewed by Clinical Services Director and Consultant in Palliative Medicine

Distribution list/dissemination method
Available on Sylvan Ward (paper version) and to whole hospice within the policy files of shared drive.