

**Blood Transfusion Guidance for General Practice**

# KEY POINTS:

This guidance is for General Practitioners making the decision to transfuse their patients in Community Hospitals and for nursing/phlebotomy staff taking blood samples for transfusion in General Practice surgeries.

The reason for the guidance is to promote safe and appropriate Blood Transfusion, it describes National and Local Guidance relating to the decision to request blood, how to complete the request form and label the sample for transfusion, all of which happen within General Practice Surgeries

It does not include admission to Community Hospitals nor the administration of blood transfusion in Community Hospitals which is covered by the Royal Devon and Exeter Foundation Trust Blood Transfusion Policy.

**Contents**

**Introduction........................................................................................................ 2**

**Definitions.................................................................................................... ....... 2**

**Duties and responsibilities of staff.................................................................. 3**

**Blood transfusion requests and sampling in General Practice..................... 4**

**The decision to transfuse................................................................................. 4**

**Transfusion in patients at risk of Transfusion Associated Circulatory**

**Overload............................................................................................................. 5**

**Completing the transfusion request form....................................................... 5**

**Special Requirements....................................................................................... 7**

**Sample validity times for transfusion............................................................. 7**

**The two sample policy..................................................................................... 8**

**Taking a sample for transfusion..................................................................... 8**

**References........................................................................................................ 9**

# 1. INTRODUCTION

1.1 [Joint United Kingdom (UK) Blood Transfusion and Tissue Transplantation Services Professional Advisory Committee](https://www.transfusionguidelines.org/transfusion-handbook/4-safe-transfusion-right-blood-right-patient-right-time-and-right-place) requires all NHS Trusts to have policies and guidelines on the administration of blood and blood products(1).

1.2 This document gives guidance from the Hospital Transfusion Team working in the Royal Devon and Exeter Foundation Trust with regard to:

* Safe and appropriate requesting of blood transfusions by General Practitioners
* Safe practice in venous blood sampling for transfusion in General Practice

1.3 The reason for this guidance is to reduce risk and improve quality of care to patients by following a Patient Blood Management (PBM) approach to transfusion. PBM is a multidisciplinary, evidence-based approach to optimising the care of patients who might need transfusion. It puts the patient at the heart of decisions made about blood transfusion to ensure they receive the best treatment and avoidable, inappropriate use of blood and blood components is reduced.

1.4 The Trust recognises that Blood Transfusion involves a complex chain of events. Errors in this process can have serious consequences, including transfusion of ABO incompatible red cell units which can lead to the death of a patient and is listed as one of the Department of Health’s ‘Never Events’. This guidance helps General Practice staff make decisions about transfusion and take samples for transfusion in line with national and local policy.

# 3. DEFINITIONS

3.1 **Never Events** – [“Never Events”](http://www.england.nhs.uk/wp-content/uploads/2013/12/nev-ev-list-1314-clar.pdf) were defined in 2008 by the National Patient Safety Agency as “serious, largely preventable patient safety incidents that should not occur if the available preventative measures have been implemented by healthcare providers”. This includes ABO incompatible transfusions

3.2 **Positive patient identification** – In General Practice wherever possible this is achieved by asking the patient to **state** their full name and date of birth and checking the NHS number on their primary care records. A family member or carer can be asked if the patient is unable to confirm their name and date of birth. These details must match exactly those on the transfusion request form.

3.3 **Patient core identifiers** – This must include:

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

.

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

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

3.9 **Special Requirements** – any special requirement (e.g. irradiated or CMV negative) which is a patient-specific clinical requirement (defined by the patients underlying clinical condition).

# 4. DUTIES AND RESPONSIBILITIES OF STAFF

4.1 **Hospital Transfusion Team (HTT)**

* The Hospital Transfusion Teamoperates on behalf of the Patient Blood Management Group.
* This team is responsible for reviewing and monitoring the Trust’s compliance with Better Blood Transfusion and associated policies and guidelines, reporting to MHRA and SHOT as appropriate.
* This group includes the Clinical Lead for Transfusion, Transfusion Practitioner, Transfusion Manager, Quality Manager, Community Transfusion Practitioner and Patient Blood Management doctor.
* A member of the Hospital Transfusion Team will review all community requests for blood transfusion

4.6 **Lead Consultant for Transfusion**

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

4.7 **General Practitioners requesting blood for transfusion from the Trust Blood Transfusion Laboratory**

* General Practitioners are responsible for ensuring that they request blood for transfusion according to national and local guidelines to reduce the risk of adverse events from blood transfusions and inappropriate blood transfusion.

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

* Checking the identity of a patient before taking any blood samples
* Checking information written on the request form is complete
* Using safe techniques for obtaining blood
* Correct labelling of blood sample tubes in accordance with the Blood Transfusion Policy

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

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

# 5.1 BLOOD TRANSFUSION REQUEST AND SAMPLING IN GENERAL PRACTICE

5.1 It is the responsibility of doctors requesting blood transfusion to ensure that they are following local and national guidelines so that blood is requested in a safe and appropriate way.

5.2 It is the responsibility of all health care professionals taking venous blood samples for blood transfusion to follow local and national guidelines so that blood in sampled in a safe and correct way.

5.3 There is a national mandatory requirement (NPSA 2006 *Right Patient Right Blood*, reviewed by NBTC 2015) that all health care professionals involved in the process of blood transfusion undergo regularly training. The current recommendations are that this training is completed every 3 years as a minimum.

5.4 Online training and assessment packages are provided by the RD&E Hospital Transfusion Team and are available at [www.**exeterlaboratory**.com](http://www.exeterlaboratory.com)

**6** **THE DECISION TO TRANSFUSE**

6.1 It is the responsibility of medical staff, haematology advanced nurse practitioners or haematology clinical nurse specialists who decide to transfuse blood components/products to ensure that they are following local and national guidelines for the appropriate use of blood components/products.

6. 2 The decision to transfuse a patient should be made on an individual patient basis depending on symptoms and signs, the decision should be informed by [National Indication Codes for transfusion.](http://hospital.blood.co.uk/media/28630/27601_331mp-guidance-for-use-of-blood-components-nbtc-bookmark.pdf)

6. 3 Some patients, particularly those under the care of the haematology, renal, or oncology consultants have higher transfusion thresholds, be guided by local guidance from the relevant specialist, and by patient symptoms.

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

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

6.6 Single unit red cell transfusions should be used in stable non-bleeding patients, assessing need for further transfusion after each unit, wherever practical(4) .

6.7 Advice regarding the decision to transfuse can be obtained by contacting the haematology consultant on call, or the transfusion laboratory.

6.8 All transfusion requests from General Practice for Community Hospital transfusion will be reviewed by a member of the Hospital Transfusion Team to ensure:

* The sample received is correctly labelled
* The 2 sample policy requirement is fulfilled
* The timing of the planned transfusion is within sample validity times
* A full blood count has been taken within the previous 2 weeks and the results indicate that transfusion is appropriate using national guidance
* Iron deficiency has been excluded or replacement offered. If intravenous iron is required, this can be administered in the [Community Hospitals](https://www.exeterlaboratory.com/wp-content/uploads/iron-transfusion-parenteral-infusions-monofer-ch-clinical-guideline-updated-Version-3-Oct-2018-1.docx)
* A maximum of 2 units is requested per 24 hours, a third unit may in rare situations be requested for the following day.

6.9 If there is any uncertainty regarding the appropriateness of the transfusion or if it is felt that alternative treatments should be offered, then the General Practice surgery will be contacted by telephone or email in order that an individualised patient decision regarding the need for transfusion can be made.

**6.10 Patients at risk of Transfusion Associated Circulatory Overload**

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

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

6.10.3 In patients who are not bleeding acutely, single unit red cell transfusions are recommended where possible. Consider monitoring haemoglobin after each unit of blood to avoid over-transfusion; point of care devices may be available at certain locations to assist with this.

6.10.4 For patient safety, particularly the risk of circulatory overload during or after transfusion, the Transfusion Laboratory will only provide a maximum of 2 units per patient for transfusion within 24 hours.

6.10.5 Advice with regard to the decision to transfuse can be obtained from the Haematology Consultant for the patient or the on call consultant.

**7.0 COMPLETING THE TRANSFUSION REQUEST FORM**

7.1 Requests for transfusion must be accompanied by a fully completed blood transfusion request form and sample.

7.2 Telephone requests for red cells are acceptable where a confirmed blood group is already available, a valid sample is available and a valid reason for transfusion is given by the requestor.

7.3 Patient labels may be used on the request forms, however all blood samples for transfusion must be labelled by hand at the patient’s side.

7.4 Routine transport from the community to the RD&E means samples only arrive in the laboratory in the late afternoon. Therefore allow 48 hours from taking the sample to arranging the transfusion time; this enables the laboratory to cross match the blood and then send it out to the community the following afternoon for transfusion the next day.

 

Patient details must be legible or a printed label can be used

Mark urgent requests and phone the laboratory

The name and signature of the requestor and the person taking the sample must be recorded

If special requirements are needed the box(es) must be marked

7.5 The minimum identification details (addressograph label may be used) on the request form are:

* Patient Identification Details:
	+ Patient’s full surname.
	+ Patient’s forename(s).
	+ Date of birth.
	+ Patient number (RD&E hospital number, NHS number).
* Gender of patient.
* Ward and/or hospital.
* Consultant/GP of patient.
* Location of patient at time sample taken.
* Printed name and signature of registered staff making the request including contact number.
* Printed name, signature and grade of person taking sample.
* Special requirement tick boxes must be completed for irradiated and CMV neg when requesting a cross-match. These are available on the back of the request form.
* Location of patient at time of transfusion (if known).
* Date and time cross matched blood is required.
* The number and type of blood or blood components.
* Patient’s diagnosis and clinical indication/reason for request.

**8.0 SPECIAL REQUIREMENTS**

8.1 When requesting blood it is necessary for the clinician to consider whether the patient has any special requirements; namely irradiated blood or CMV negative blood.

8.2 Irradiating blood completely removes any leucocytes from blood components. This removes the risk of Transfusion Associated Graft versus Host disease, a rare but often fatal complication of transfusion.

8.3 Some patients, because of their diagnosis or treatment, past or present, are at higher risk of developing this condition and therefore require irradiated blood.

8.4 There is a system for identifying these patients in the RD&E as they are diagnosed or treated and a warning regarding the need for irradiated blood is placed on the laboratory computer. The patients themselves are also informed and given a warning card to carry.

8.6 Requestors should use the list on the back of the request form to identify whether the patient requires irradiated blood.

8.5 CMV negative blood is only a requirement for neonates and for women having an elective transfusion during pregnancy, so it will be extremely rare requirement in Community Transfusions.

 **9 SAMPLE VALIDITY TIMES FOR TRANSFUSION**

9.1 Patients may develop antibodies to red cell antigens after a blood transfusion or pregnancy. There are National Guidelines (BCSH 2012) which inform us how far in advance of a planned transfusion a sample can be taken.

|  |  |
| --- | --- |
| **Patient type** | **Repeat Sample required** |
| Patient transfused or pregnant within previous 3 months | 72 hours before transfusion |
| Patient not transfused or pregnant within previous 3 months | 7 days before transfusion |

9.2 If the sample is taken within 72 hours of the planned transfusion then the sample will be processed automatically by the laboratory.

9.3 If the sample is taken over 72 hours but within 7 days of the planned transfusion then the laboratory will fax you a form to sign to confirm that the patient has not been pregnant nor had a blood transfusion in the previous 3 months and will then process the sample.

9.4 Some haematology patients who are transfusion dependent require frequent transfusions and the 72 hour rule could make it more difficult for you to organise these transfusions. If the case is discussed with a Consultant Haematologist, it may be possible to exclude the patient long term from the 72 hour rule, allowing you to use the 7 day sample validity time.

9.5 If you have any queries about sample timings, please phone the laboratory on 402460 before the sample is taken or email the Hospital Transfusion Team at

rde-tr.HTT@nhs.net.

**10** **THE TWO SAMPLE POLICY**

10.1. The Transfusion Laboratory requires evidence of a patient’s ABO group from 2 separate samples before cross matching blood, this reduces the risk from mislabelled samples

10.2 Patients who have an historic ABO group recorded on our computer system just need 1 new sample for cross match

10.3 Where there is no historic blood group and two samples are required, the second sample must be taken either by another staff member or by the same member of staff using a separate venepuncture and request form with the second sample request having a different time of sampling.

10.4 If you are unsure of how many samples to take please ring the Transfusion Laboratory

**11 TAKING THE SAMPLE FOR TRANSFUSION**

11.1 Patient Identification errors remain the commonest error reported to Serious Hazards of Transfusion (SHOT)

11.2 There are 2 main reasons why the blood in the tube is not from the patient whose details are written on the sample label.

* Failure to positively identify the patient, so that the blood is taken from the wrong patient
* Failure to complete the label on the blood sample bottle at the bed or patient side so that the blood is taken from the right patient but labelled with another patient’s details

11.3 The risk from these ‘Wrong Blood in Tube’ incidents is reduced by our two sample policy

11.4 When taking blood samples, only one patient must be bled at a time to minimise the risk of error and open questions must always be used:

* **Ask** the patient their first name, surname and date of birth. (A family member/carer may be able to confirm the patient’s identity using open questioning).
* These answers must match exactly the details on the transfusion request form

11.5 When **labelling** blood samples:

* Blood sample tubes must never be pre-labelled
* The sample tube must be labelled immediately by the bed or patient’s side after the blood has been taken by the person taking the sample.
* The sample tubes must be hand written with the minimum patient identification of:
	+ Patient’s surname.
	+ Patient’s forename.
	+ Date of birth.
	+ Patient identification number (hospital number or NHS number)
	+ Date and time sample collected
	+ The sample tube and the request form must be signed, dated and timed by the person collecting the sample.
* Although some transfusion sample bottle contain a line requesting patient address this is not required and the space should be used to clearly write the NHS number of the patient.

11.6 For safety reasons the laboratory has a zero tolerance policy for mislabelled samples, this is an MHRA requirement.

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

11.8 If the request form has the NHS number on it, then the sample must also have the NHS number written on it; if the request form has the Hospital number on it, then the sample must have the Hospital number on it. If a patient sticker with both numbers is used on the form then either number can be used on the sample label.

11.9 Samples with PAS labels, overwritten patient details or two samples that appear to have been taken by the same person at the same time will also be rejected by the Transfusion Department. The sample taker will be informed by the Blood Transfusion Laboratory that the sample has been rejected

# 8. REFERENCES

Department of Health (2007). *Safe and Appropriate Use of Blood*. London: Department of Health (HSC 2007/001). Available at: <http://www.transfusionguidelines.org.uk/docs/pdfs/nbtc_bbt_hsc_07.pdf>

*The Blood Safety and Quality Regulations 2005*. (SI 2005/50). London: Stationary Office. Available at: <http://www.legislation.gov.uk/uksi/2005/50/contents/made>

NHSBT: Indication Codes for Transfusion 2013 <http://hospital.blood.co.uk/media/2995/917bce4f-ad57-43a6-9d03-3603094010b1.pdf>

BCSH: Addendum to Blood Administration 2012 <http://www.bcshguidelines.com/documents/BCSH_Blood_Admin_-_addendum_August_2012.pdf>