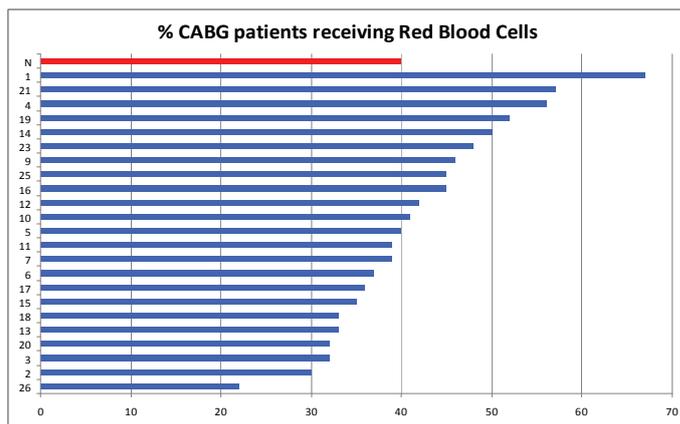


NHSBT Patient Blood Management Newsletter

Welcome

This is the second newsletter produced by the NHSBT Patient Blood Management Team. The team promote appropriate use of all blood components and their alternatives across England, by providing resources, support and information. This edition of our newsletter focuses on appropriate use of red blood cells.

Blood components are used to save and improve thousands of lives each year. However, blood transfusion is also associated with potential risks including infection, reactions, fluid overload and human error, which can lead to death in the worst case. As far as possible, exposure to allogeneic (donor) blood should be minimised. In recent years there has been evidence in many areas, that following a restrictive transfusion strategy, where patients were transfused at lower Hb levels, lower morbidity and mortality rates were seen. Red blood cell usage in England has decreased by over 20% in the last 14 years, but there is still room for improvement. National and regional audits consistently show that 15-20% of red blood cell transfusion is not compliant with national guidance. There is also evidence of wide variation in practice, as can be seen by the graph above, showing red cell transfusion in different hospitals carrying out cardiac surgery.



2011 Audit of Blood Transfusion in Adult Cardiac Surgery:

So what can you do?

Use locally agreed '**transfusion triggers**' and National Blood Transfusion Committee (NBTC) indication codes when assessing the need for blood components and when requesting blood from the transfusion laboratory. There should be regular audit of transfusion requests against these triggers to help assess practice against policy and guidelines. The NBTC transfusion indication codes are available in bookmark and poster format - see:

http://hospital.blood.co.uk/safe_use/general_educational_resources/index.asp

In non-bleeding patients:

Transfuse one unit of red blood cells at a time and reassess the patient clinically to determine if more blood is needed.

SINGLE Unit Blood Transfusions
reduce the risk of an adverse reaction

Don't give two without review

THINK!

- Is your patient symptomatic?
- Is the transfusion appropriate?
- What is the haemoglobin trigger level?
- What is the patient's target haemoglobin level?

Each unit transfused is an independent clinical decision

DO!

- ✓ Clinically re-assess the patient after each unit transfused.
- ✓ Only one unit should be ordered for non-bleeding patients.
- ✓ Document the reason for Transfusion!

Further copies available from NHSBT.CustomerService@nhs.uk

© British Committee for Standards in Haematology, Authority for Administration of Blood Components, 2012. Issue 1 - August 2014

Guidance for the use of Blood Components
This guidance is based on the NBTC Indication Codes for Transfusion (April 2013).

Red Cell Concentrates
Consider single unit only transfusion if anaemia reversible.

- **R1 Acute blood loss** in an emergency. Hb unreliable, >30%. When normovolaemic, use Hb thresholds below:
- **R2 Use Hb of <70g/l** as a guide for red cell transfusion.
- **R3 Cardiovascular disease** - consider transfusion at or tachycardia unresponsive to fluid resuscitation; or cardiac failure.
- **R4 Severe sepsis, traumatic brain injury** and/or acute cerebral ischaemia - use Hb <90g/l to guide transfusion.
- **R5 Radiotherapy** limited evidence for maintaining Hb >100g/l.
- **R6 Chronic anaemia** Maintain Hb to prevent symptoms of anaemia. Hb >80g/l appropriate for many patients.
- **R7 Exchange transfusion.**

FFP (15ml/kg)

- **F1 Coagulation factor deficiency** where factor concentrate unavailable.
- **F2 Reversal of warfarin** if critical bleeding. Prothrombin complex concentrate is the treatment of choice.
- **F3 Disseminated intravascular coagulation (DIC)** if bleeding and abnormal coagulation.
- **F4 Thrombotic thrombocytopenic purpura.**
- **F5 Major haemorrhage** if emergency uncontrolled bleeding, early infusion of FFP recommended. Subsequent use to maintain PT/APTT ratio <1.5 and fibrinogen >1.5g/l (see also G4).
- **F6 Liver disease (non-bleeding)** >1.5g/l (see also G4).
- **F7 Liver disease (non-bleeding)**: no evidence of benefit for FFP, regardless of PT ratio.

Reference:
National Blood Transfusion Committee Indication Codes - An Audit Tool (April 2013)
http://www.transfusionguidelines.org/docs/pdfs/nbtc_2014_04_recs_indication_codes_2013.pdf

Size Matters!

Transfusion Associated Circulatory Overload (TACO) is a known cause of transfusion-related morbidity and mortality, often related to over transfusion of red cells.

96 cases of Transfusion Associated Circulatory Overload (TACO) were highlighted in the 2013 Serious Hazards of Transfusion (SHOT) Annual Report (red blood cells were given in 92 of these), and these were associated with 12 deaths and 34 cases of major morbidity.

Blood Transfusion Size Matters!

Transfusion Associated Circulatory Overload (TACO) is a known cause of transfusion-related morbidity and mortality¹

Transfusing a volume of 4ml/kg will typically give a Hb rise of 10g/l, and should only be applied as an approximation for a 70-80kg non-bleeding patient.²

Before Transfusion

- ✓ Document the rationale for the decision to transfuse.
- ✓ Document the patient's weight.
- ✓ Document the target Haemoglobin (Hb) level.
- ✓ Calculate the number of units required.
- ✓ Clinically re-assess the patient after each red cell unit transfused.

Note: The average volume of an adult red cell unit is 280ml.

1. Annual SHOT report 2012.
2. NHSBT Customer Service - Haematology, Authority for Administration of Blood Components, 2012.

Donated blood is a precious resource

8,000 units of blood are needed every day to meet hospital demand in England and North Wales. NHSBT issued just under **1.7 million** adult red cells units in 2013/14 *but..... 2.4%* of these were wasted rather than used to treat patients.



- ♦ Red cells that have gone past their 'shelf-life' or time expired, account for two thirds of this wastage.
- ♦ About **25%**, equal to almost **10,000** units, were wasted because they were taken to the clinical area but then not used.

What can you do?

- ♦ Only collect blood components when the patient is ready for transfusion.
- ♦ Undertake pre-administration checks at the bedside. This is the final opportunity to detect a wrong transfusion.
- ♦ Always contact your transfusion laboratory if you are unsure or need advice.

The cost to hospitals for a standard unit of red cells is **£121.85**. Premiums are added to each unit for irradiation and CMV screening.

Patient Blood Management— What's new?

New PBM Bookmark
NOW available to order via
Access24 or contact
NHSBT Customer Services

Nursing Times – Blood Transfusion Articles

The PBM Team have written a series of articles to help raise awareness of transfusion topics among nursing staff. The series of five articles cover topics such as safe administration, patient information and an introduction to Patient Blood Management. The articles are being published over five consecutive weeks from 3rd September.



Transfusion Practice Toolkit

The Transfusion Practice Toolkit (formerly the Better Blood Transfusion Toolkit) on the JPAC website is now live with revised and updated pages on consent for blood transfusion and information on cell salvage from the UK Cell Salvage Action Group.

See: www.transfusionguidelines.org. The purpose of the Toolkit is to provide a comprehensive repository of information relating to all aspects of transfusion practice, developed and reviewed by specialists in the field and offering easy links to current related published works and articles.

It is anticipated that additional items will be posted on this Transfusion Practice Toolkit in the near future.

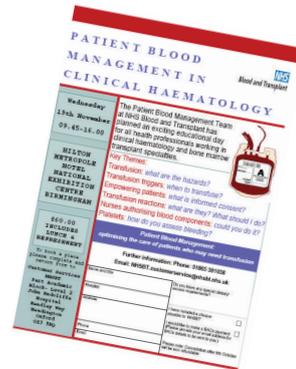
For more information on the Toolkit contact andrea.harris@nhsbt.nhs.uk

National PBM Conference in Clinical Haematology

On Wed 19th November at Hilton Metropole Hotel, NEC, Birmingham.
Delegate fee only £60!

Aimed at nurses, medical staff and other healthcare professionals working in clinical haematology and bone marrow transplant specialties, with a specific focus on use of blood component support and alternatives.

Phone: 01865 381038 for application form.



Patient Blood Management
Optimising the care of patients who may need transfusion

What is Patient Blood Management (PBM)?
PBM is an evidence-based, multi-disciplinary approach to optimising the care of patients who may need a blood transfusion.
PBM puts the patient at the heart of decision-making.
PBM represents an international initiative in best practice for transfusion medicine.

Why is PBM needed?
Improve patient outcomes.
Reduce healthcare costs.
Avoid inappropriate use of blood – blood is then available for those who really need it.

National clinical audits consistently show inappropriate use of all blood components of between 15-30%

Who needs to be involved?

- Everyone involved in patient care
- Patients
- Clinicians from both primary and secondary care
- Laboratory staff

Establishing a PBM Programme
include:

1. Patient and staff education
2. Active management of anaemia
3. Minimise the volume of blood samples taken
4. Use restrictive thresholds
5. In non-bleeding patients transfuse one dose of blood component, then reassess
6. Active management of abnormal haemostats
7. Use alternatives to transfusion where appropriate

Surgical Patients:

- a. Detect and treat pre-operative anaemia
- b. Minimise blood loss and oozing
- c. Be aware of drug interactions that can increase risk of anaemia

Remember to investigate and treat anaemia promptly!

For further information and to get involved with PBM in your hospital, contact your local Transfusion Practitioner or call 01865 381 038 for local PBM network details. Further information and details on PBM initiatives and strategies can be found at www.transfusionguidelines.org.uk <http://cooper.blood.co.uk/>

Follow us @PBM_NHS

PATIENT BLOOD MANAGEMENT

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Follow us on Twitter!
The PBM Team has launched a Twitter account [@PBM_NHS](https://twitter.com/PBM_NHS) to help promote key transfusion messages.

For further information or to obtain copies of the posters or bookmarks please contact:

NHSBT.customerservice@nhsbt.nhs.uk

Phone: 01865 381038

Also visit the website:

<http://hospital.blood.co.uk/>

Dates for your diary

24th–26th Sept: BBTS Annual Conference, includes PBM and Iron therapy one day meeting.
<https://www.bbts.org.uk/>

19th Nov: PBM in Clinical Haematology Education day. NEC, Birmingham.
Only £60. http://hospital.blood.co.uk/library/pdf/safe_use/Clinical-haematology-conference-flyer.pdf
Phone: 01865 381038

Further reading

Patient Blood Management – An evidence based approach to patient care
<http://www.transfusionguidelines.org.uk/uk-transfusion-committees/national-blood-transfusion-committee/patient-blood-management>

National Comparative Audit of Blood Transfusion:
2011 Use of Blood in Adult Medical Patients
2011 Blood Transfusion in Adult Cardiac Surgery
http://hospital.blood.co.uk/safe_use/clinical_audit/NationalComparative/NationalComparativeAuditReports/index.asp