# The Production of a Bookmark as a Tool to Improve Appropriate Use of Blood Components in the South West Region of England

South West Regional Transfusion Committee

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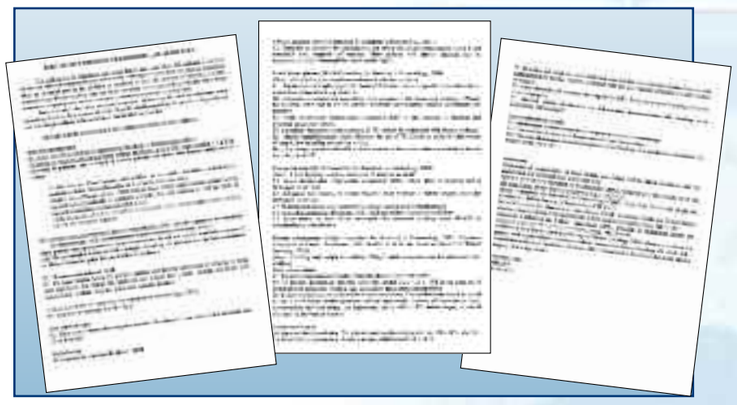
The Department of Health (England) Health Service Circular 2007/001: 'Better Blood Transfusion – Safe and Appropriate Use of Blood' sets out a programme of action which includes the avoidance of unnecessary blood components in medical and surgical practice.

In March 2007, the National Blood Transfusion Committee for England and North Wales (NBTC) produced 'indication codes for transfusion - an audit tool'. This is a guide for appropriate use for all staff involved in the transfusion process and represents a summary of British Committee for Standards in Haematology (BCSH) guidelines. It is not known how readily this document is available or implemented.

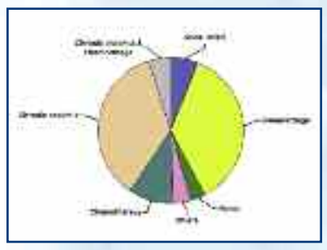


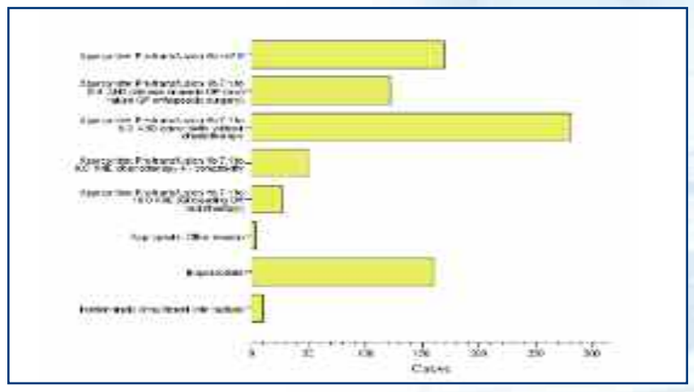
An audit of appropriate use of red cells within hospitals in the South West and West Midlands Regions of England, supported by the National Comparative Audit group (NCA), was conducted in September 2007.

Overall, 80% of transfusion episodes were considered appropriate, 19% inappropriate and 1% indeterminate.

57% of transfusion episodes occurred in medical as opposed to surgical specialties; general medicine and haematology, at 21% each, were the specialties associated with the highest number of transfusions.

More than 50% of transfusions were for patients managed within medical specialties who were not bleeding. Inappropriate use was found to be higher in patients who were not bleeding (especially haematology and oncology patients).





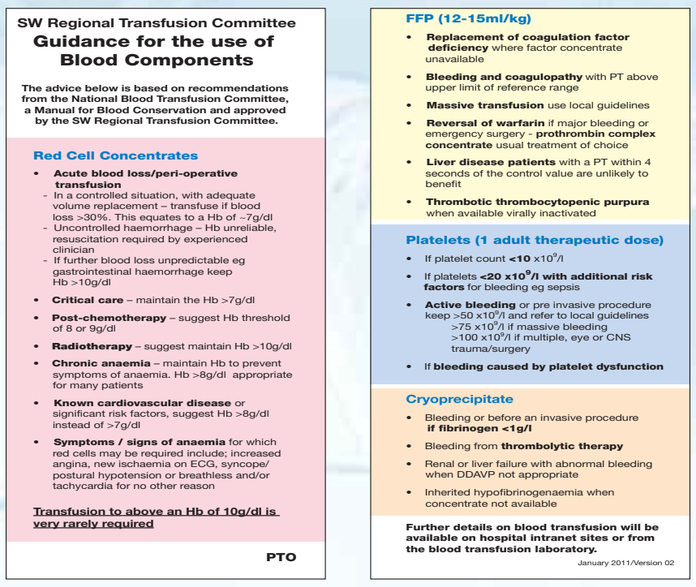
10%-35% of hospital's transfusion guidelines did **not** include a haemoglobin threshold for red cell transfusion for various clinical situations.

**Recommendations from this audit were:**

- Hospitals with transfusion guidelines which did not include haemoglobin thresholds should consider their inclusion
- Hospitals with haemoglobin thresholds outside of national guidelines should review their practice
- The NBTC "indication codes" should be reviewed to allow a higher haemoglobin threshold for patients at risk of bleeding.

As a consequence the NBTC "indication codes" were updated in 2009 and NHS Blood and Transplant produced a poster to promote and raise awareness of this guideline.


In 2009 the South West Regional Transfusion Team (RTT) started to develop a bookmark based on the updated NBTC guideline. This was approved by the South West Regional Transfusion Committee (RTC), in October 2009, and version 1 of the bookmark was published in January 2010. Annual review is performed to ensure the content is reflective of current guidance and best practice and as a result, version 2 was published in January 2011.



SW Regional Transfusion Committee

**Guidance for the use of Blood Components**

**The advice below is based on recommendations from the National Blood Transfusion Committee, a Manual for Blood Conservation and approved by the SW Regional Transfusion Committee.**

**Red Cell Concentrates**

- **Acute blood loss/peri-operative transfusion**
  - In a controlled situation, with adequate volume replacement – transfuse if blood loss >30%. This equates to a Hb of ~7g/dl
  - Uncontrolled haemorrhage – Hb unreliable, resuscitation required by experienced clinician
  - If further blood loss unpredictable eg gastrointestinal haemorrhage keep Hb >10g/dl
- **Critical care** – maintain the Hb >7g/dl
- **Post-chemotherapy** – suggest Hb threshold of 8 or 9g/dl
- **Radiotherapy** – suggest maintain Hb >10g/dl
- **Chronic anaemia** – maintain Hb to prevent symptoms of anaemia. Hb >8g/dl appropriate for many patients
- **Known cardiovascular disease** or significant risk factors, suggest Hb >8g/dl instead of >7g/dl
- **Symptoms / signs of anaemia** for which red cells may be required include; increased angina, new ischaemia on ECG, syncope/ postural hypotension or breathless and/or tachycardia for no other reason

Transfusion to above an Hb of 10g/dl is very rarely required

PTO

**FFP (12-15ml/kg)**

- **Replacement of coagulation factor deficiency** where factor concentrate unavailable
- **Bleeding and coagulopathy** with PT above upper limit of reference range
- **Massive transfusion** use local guidelines
- **Reversal of warfarin** if major bleeding or emergency surgery - **prothrombin complex concentrate** usual treatment of choice
- **Liver disease patients** with a PT within 4 seconds of the control value are unlikely to benefit
- **Thrombotic thrombocytopenic purpura** when available virally inactivated

**Platelets (1 adult therapeutic dose)**

- If platelet count **<10** x$10^9$/l
- If platelets **<20 x$10^9$/l with additional risk factors** for bleeding eg sepsis
- **Active bleeding** or pre invasive procedure keep >50 x$10^9$/l and refer to local guidelines >75 x$10^9$/l if massive bleeding >100 x$10^9$/l if multiple, eye or CNS trauma/surgery
- If **bleeding caused by platelet dysfunction**

**Cryoprecipitate**

- Bleeding or before an invasive procedure **if fibrinogen <1g/l**
- Bleeding from **thrombolytic therapy**
- Renal or liver failure with abnormal bleeding when DDAVP not appropriate
- Inherited hypofibrinogenaemia when concentrate not available

**Further details on blood transfusion will be available on hospital intranet sites or from the blood transfusion laboratory.**

January 2011/Version 02

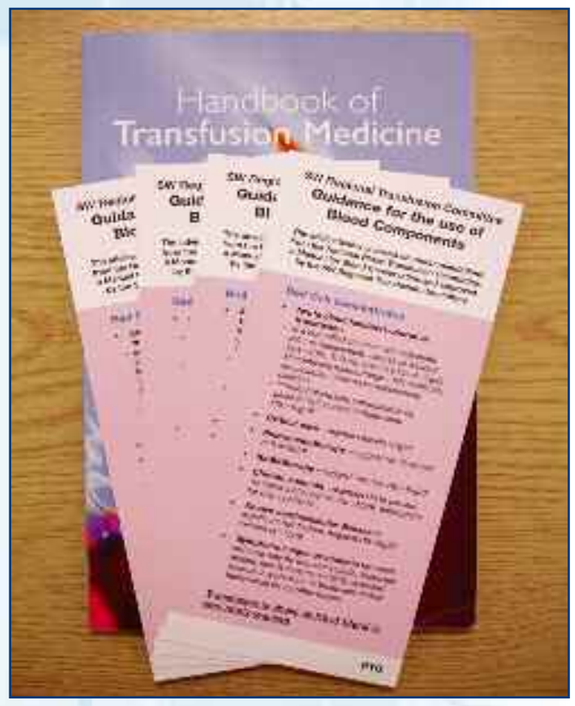
During development of the bookmark, a period of consultation was undertaken with representatives from several Hospital Transfusion Teams from around the region to seek compatibility with local policy, while not deviating from the National Guidelines.

Hospitals/trusts may take the text and adapt to conform to their own local policy if required.

The bookmark format was selected as this could be carried around for immediate reference or used as a bookmark in clinical areas. The design was 'sectioned' in to the different blood components to maximise ease of use.

10,000 bookmarks were commissioned by the RTC, to be distributed free of charge to the NHS and independent hospitals in the region and also to clinicians working in the primary care sector.

Since publication over 6,400 bookmarks have been distributed to 23 hospitals, two hospices and one community health trust within the region.




One key area for distribution of the bookmark has been at induction for Foundation Year 1 doctors (with the kind assistance of the hospital Transfusion Practitioners).

Through audit and collaborative work with the NCA group, NBTC and hospitals in the South West the RTC has produced a summary bookmark which has been well received in the region, to support and promote appropriate use of blood components. We would be very happy for others to share this tool.

For further information on the South West RTC 'Guidance for the use of Blood Components' bookmark please contact:
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