Need for transfusion? – supply, safety, information and consent

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Transfusion! Preparation for surgery and Peri-operative use
SWRTC study day
6th November 2012
Blood supply

- UK supplied by 4 blood services –
  NHSBT (NBS), SNBTS, WBS, NIBTS

- 2011/12 NHSBT issued:
  - 1,834,000 units blood (red cells)  SW 161,600
  - 265,000 units platelets   SW 18,700
  - 257,000 units FFP   SW 16,600
  - 121,000 units Cryoprecipitate   SW 6,800
Average Weekday Red Cell Issues By Month, with Trendline (order 3)
Average Weekday Platelet Issues By Month, with Linear Trendline

Average Weekday Issues


650 675 700 725 750 775 800 825 850 875 900 925 950

SWRTC study day 6th November 2012
Average Weekday Frozen Component Issues By Month, with Linear Trendline

Average Weekday Issues

SWRTC study day 6th November 2012
Donations

• Volunteer unpaid donors

• Donor – recipient unrelated (directed donation used in specific situations – such as rare antibodies)

• No restrictions on receiving blood components
Donating population

Long Term Trend in Number of Active Donors

Recent Trend in Number of Active Donors

SWRTC study day 6th November 2012
Disruption to donation

- Adverse weather
- Seasonal illness
- Events – Olympics
- Bank holidays
Blood stocks
[Red cells]

Stock Level on 02 Nov 2012

<table>
<thead>
<tr>
<th>Group</th>
<th>Stock Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>O pos</td>
<td>20,517</td>
</tr>
<tr>
<td>O neg</td>
<td>3,385</td>
</tr>
<tr>
<td>A pos</td>
<td>15,097</td>
</tr>
<tr>
<td>A neg</td>
<td>3,333</td>
</tr>
<tr>
<td>B pos</td>
<td>2,989</td>
</tr>
<tr>
<td>B neg</td>
<td>733</td>
</tr>
<tr>
<td>AB pos</td>
<td>1,324</td>
</tr>
<tr>
<td>AB neg</td>
<td>452</td>
</tr>
<tr>
<td>Total</td>
<td>47,831</td>
</tr>
</tbody>
</table>

Days Stock on 02 Nov 2012

<table>
<thead>
<tr>
<th>Group</th>
<th>Days Stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>O pos</td>
<td>9.31</td>
</tr>
<tr>
<td>O neg</td>
<td>5.48</td>
</tr>
<tr>
<td>A pos</td>
<td>7.97</td>
</tr>
<tr>
<td>A neg</td>
<td>7.29</td>
</tr>
<tr>
<td>B pos</td>
<td>6.51</td>
</tr>
<tr>
<td>B neg</td>
<td>6.06</td>
</tr>
<tr>
<td>AB pos</td>
<td>10.34</td>
</tr>
<tr>
<td>AB neg</td>
<td>10.27</td>
</tr>
</tbody>
</table>

SWRTC study day 6th November 2012
<table>
<thead>
<tr>
<th>Blood Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>O+</td>
<td>36.9%</td>
</tr>
<tr>
<td>A+</td>
<td>34.8%</td>
</tr>
<tr>
<td>B+</td>
<td>7.7%</td>
</tr>
<tr>
<td>AB+</td>
<td>2.8%</td>
</tr>
<tr>
<td>O-</td>
<td>7.9%</td>
</tr>
<tr>
<td>A-</td>
<td>7.7%</td>
</tr>
<tr>
<td>B-</td>
<td>1.5%</td>
</tr>
<tr>
<td>AB-</td>
<td>0.6%</td>
</tr>
</tbody>
</table>
Cost of blood components

- NHSBT price list 2012/13:
  - Red cells - £123.31
  - Platelets - £209.30
  - FFP - £27.46
  - Cryoprecipitate (pooled) - £189.19

- Additional charges for extended testing or processing, and for non-routine delivery
Safety of blood components (I)

- Donor Health Check –
  Lifestyle, health, risk of infection, travel
- Donor Selection Guidelines
- Mandatory testing –
- Additional testing –
  Malaria*, T. Cruzi*, CMV  (* where indicated)
- Bacterial screening (platelets)
Safety of blood components (I)

- Leucodepleted

### Red Cells in Additive Solution
Leucocyte Depleted

<table>
<thead>
<tr>
<th>Parameter</th>
<th>NHSET mean</th>
<th>NHSBT/UK Specification</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume (mL)</td>
<td>280</td>
<td>320-340</td>
<td></td>
</tr>
<tr>
<td>Haemoglobin (g/unit)</td>
<td>54</td>
<td>&gt;40</td>
<td></td>
</tr>
<tr>
<td>Haematocrit (L/L)</td>
<td>0.57</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>WBC count (x10^6/unit)</td>
<td>0.22</td>
<td>&lt;5</td>
<td>EU Directive spec &lt;1</td>
</tr>
<tr>
<td>Granulocytes (x 10^6/unit)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Platelet concentration (x10^9/L)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Platelet yield (x10^6/unit)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Factor VIII (IU/mL)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Factor VIIIc (IU/unit)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Fibrinogen (mg/unit)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Supernatant Hb</td>
<td>N/A</td>
<td>&lt;0.5%</td>
<td>Of red cell mass at the end of shelf life</td>
</tr>
<tr>
<td>pH at expiry</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
Safety of the patient

- Pre-transfusion blood samples must be hand written or labelled with specific machines.

- Label at the patients side as soon as possible.

- First name, last name, DOB, hospital/NHS number.

- Positive patient ID – full name and DOB should be given by the patient (when possible), or otherwise taken from a wrist band.
Safety of the patient

• Date, time and sampler on tube and request form.
• Only do one sample at a time.
• Sampler must be up to date with competency assessment.
• Special requirements (e.g. irradiation) must be identified on the request form.
• See BCSH Guidelines on Admin. 2009
• **SAMPLE TUBES MUST NEVER BE PRE-LABELLED!!!**
Safety of blood components (II)

- Cold chain – 30 min. & 4 hour rule
- Fate of all units (record kept for 30 years)
- Any staff involved in collection, setting up, or administering transfusion must be up to date with competency assessment
- NHSBT recall
Objective: Ensure patients who are likely to receive a blood transfusion are informed of their choices.

Action: Ensure that timely information is made available to patients, informing them of the indication for transfusion, the risks and benefits of blood transfusion, and any alternatives available.
Patient information leaflets

- Why blood transfusions are needed
- Alternatives to transfusion
- What the patient can do reduce the need for transfusion
- How they will feel during the transfusion
Patient information leaflets

http://hospital.blood.co.uk/library/patient_information_leaflets/leaflets/index.asp
Patient information

- GWH audit in 2008 on *Informed Consent and Patient Understanding of Blood Transfusion* (E. Court and D. Hocken).

- 93% of patients (14/15) that read the leaflet felt they had no need for further questions (1/15 did not respond).

- Overall comments from patients suggest they would welcome a leaflet as an information source.

- Most of the questions asked by the patients are covered in the NBS Patient Information Leaflet.
Patient involvement

Right Patient, Right Blood

Have you checked your patient’s identification band?
Ask them to tell you their full name and date of birth and check the details match their identification band.

Do they know who you are?

Have you been asked:
Your full name and your date of birth?
Have the staff checked that your identification band is correct?
This is important as it ensures you get the right blood.
Remember - it is OK to ask the staff to make sure they know who you are.

http://www.transfusionguidelines.org/Index.aspx?Publication=NTC&Section=27&pageid=982
Consent for transfusion

- SaBTO: Advisory Committee on the Safety of Blood, Tissues & Organs

- Identified key issues in transfusion practice:
  - Patients are not always given information on the risks, benefits, and alternatives to transfusion, or the right to refuse transfusion.
  - Patients are not always made aware that they have had a transfusion.
  - Patients who are unaware that they have received a transfusion may go on to donate blood when they should not.
  - There is inconsistent practice across the UK.

http://www.transfusionguidelines.org/Index.aspx?Publication=BBT&Section=22&pageid=7691
Consent for transfusion

- Following public consultation SaBTO made 14 recommendations for consent for blood component transfusion – ‘Valid consent for blood transfusion should be obtained and documented in the patient's clinical record by the healthcare professional’

- Resources to support this:
  - Guidance for clinical staff
  - Consent standard

- ‘Patients who have received a blood transfusion and who were not able to give valid consent prior to the transfusion should be provided with information retrospectively’
  - Retrospective Patient Information Good Practice Guidance

http://www.transfusionguidelines.org/Index.aspx?Publication=BBT&Section=22&pageid=7691
Consent for transfusion

- Does not necessarily mean a consent form just for transfusion
Informed Consent for Blood Transfusion

Your doctor feels that it is, or it may become necessary for you or your child to receive a blood transfusion. Although blood transfusion is quite safe, there are some potential risks associated with this treatment. Your doctor or nurse will explain these risks to you and will offer you an information leaflet. In the UK the risk of contracting a viral infection such as hepatitis or HIV from blood transfusion is extremely small. Very rarely patients receiving blood transfusion may experience an allergic reaction or develop other complications such as anaemia or a bacterial infection. The actual risk of contracting vCJD through blood is unknown but appears to be extremely small. There is also a small risk of receiving unsuitable blood, however there are stringent procedures in place to minimise this risk.

In some cases there may be a suitable alternative to receiving donor blood. Your doctor or nurse will explain if this is possible in your case. You can find more information about this in the patient information leaflet.

You will be asked to read and sign this consent form to indicate that you understand the reason for blood transfusion and the possible risks associated with it.

Statement of healthcare professional

I confirm that I have explained the reason for blood transfusion including benefits, potential risks, and any suitable alternative options to the patient/parent, and have offered/given a blood transfusion information leaflet to the patient/parent.

Benefits of blood transfusion .................................................................

Potential risks:

- Extremely small risk of viral illness such as hepatitis or HIV or other viruses
- Very small risk of bacterial infection
- Risk of transfusion reaction – allergic or haemolytic
- Unknown but probably extremely small risk of vCJD
- Very small risk of receiving unsuitable blood and procedures in place to prevent this risk
- The patient has been given/ offered a blood transfusion information leaflet.

Statement of Healthcare professional

Full Name .......................................................... Grade ..........................................................

Signature .......................................................... Date ..........................................................

Statement of Patient / Parent/ guardian

I have read and understood the above information and hereby give my consent to receive blood transfusion.

Name .......................................................... Signature .......................................................... Date ..........................................................

Statement of Interpreter (if applicable), I have interpreted the above information to the patient in a way I believe he/she can understand.

Name of Interpreter .......................................................... Signature .......................................................... Date ..........................................................

Note: If patient wishes to receive a copy of this consent form, please photocopy for them.
Consent for transfusion

- Does not necessarily mean a consent form just for transfusion

- ‘Tick box’ on surgical consent form – sufficient so long as timing is correct

- National audit on patient information and consent in transfusion planned for autumn 2013
Summary

- 1,834,000 units blood issued by NHSBT in 2011/12
- All sourced from volunteer unpaid donors
- Donor Health Check, mandatory testing and leucodepletion = safe ‘product’
- Pre-transfusion blood samples must be labelled at the patients side as soon as possible
- Patient information is important, and patients ‘welcome leaflets as an information source’
- SaBTO – valid consent for transfusion should be obtained and documented in the notes
Blood is not a ‘medicine’

Blood transfusion is a liquid transplant

Thank You