Learning Outcomes

Following this session you will be able to:

- Explain why correct patient identification is vital at every stage in the transfusion process
- Ensure that the blood request form is completed clearly and accurately
- Correctly label the sample
- Communicate effectively with the hospital transfusion laboratory to ensure that the patient receives the right blood component at the right time
The Transfusion Process

Step 1 Decide to transfuse

Step 2 Request blood component

Step 3 Take blood sample

Step 4 Collect blood component

Step 5 Administer blood component

Step 6 Manage the transfused patient
A large number of Incorrect Blood Component Transfused incidents occur at the sampling stage of the transfusion process.
Data from 2008 Report n = 1040

Cases reviewed n = 1040

- ATR 300 (29%)
- TRALI 17 (2%)
- HTR 55 (5%)
- TACO 18 (2%)
- TAD 1 (0.1%)
- Autologous 28 (3%)
- TII 6 (0.6%)
- Anti-D 137 (13%)
- HSE 139 (13%)
- I&U 76 (7%)
- IBCT 262 (25%)

*New Categories for this year
Types of Errors

- Wrong patient bled
- Wrong name on sample tube
- Wrong DOB or other identifiers on sample tube
- Use of addressograph label on sample tube
- Wrong patient identifiers on request form
- Special transfusion requirements not identified
- Confusion of maternal / baby samples
- Transposition of samples – multiple births
- Delay in transporting sample to transfusion laboratory
- Communication issues with the transfusion laboratory
Types of Identification Errors

Positive patient identification is vital at every stage of the transfusion process

- Identification band problems – size, access, missing, illegible
- Patients with same last name
- Names that can be reversed e.g. Thomas Allan/Allan Thomas
- Consecutive hospital numbers
- Name does not indicate whether male / female
- Multiple births
- Alternative ID – use of photographs
Requesting a Blood Component

The person completing the request form/electronic order must be a trained registered practitioner
Request Blood Component

Before making the request identify:

- What type of request?
  - Routine or urgent transfusion
  - Adult or paediatric patient
- The patient’s transfusion history
- Doe the patient have special transfusion requirements?
  - e.g., Irradiated, CMV negative blood
What Type of Request

Use maximum blood ordering schedule (MSBOS)

For patients undergoing a surgical procedure but unlikely to require blood (<1:3 chance)

- **Negative antibody screen**: blood can be provided rapidly
- **Positive antibody screen**: 2 units will be matched

For patients having a surgical procedure who are likely to require blood (more >1:3 chance)

- **Red cells should be crossmatched according to local MSBOS**
Blood Availability

You should familiarise yourself with the hospital major haemorrhage protocol

- **O Negative (‘Emergency blood’)**
  - Immediate - 5 minutes
- **Group Compatible** (i.e. same group as patient)
  - 10 - 15 minutes
- **‘Fully screened and cross-matched’**
  - 30 - 40 minutes (NB maybe hours if antibody found)
Blood Component Specifications

- **Cytomegalovirus (CMV) negative components**
  - CMV is found in blood and harmless for most patients
  - Exception is immunosuppressed patients, such as neonates and those undergoing bone marrow transplantation

- **Irradiated components**
  - Irradiation renders T lymphocytes remaining in donated blood unable to engraft
  - If an immunocompromised patient receives red cells that are not irradiated, the donor’s T cells can cause graft-versus-host disease, causing tissue and organ damage, leading to death

- **Washed red cells**
  - Rarely used
Paediatric Blood Component Specifications

Refer to BCSH guidelines or contact the Hospital Transfusion Laboratory for advice on blood component specifications

- **CMV Negative**
  - Children < 1 year, all cellular components should be CMV negative

- **Irradiation**
  - Prior to stem cell collection - Bone marrow transplant
  - Intrauterine transfusion
  - Hodgkin’s disease (even after apparent cure)
  - Immunodeficiency states (including DiGeorge Syndrome)
  - Exchange transfusion
  - Post fludarabine and related drugs

- **Blood of specified age**

- **Non SAG-M blood**
RhD Blood Samples Required at Delivery

- 1x EDTA Cord blood: as soon as possible after delivery

- 2x EDTA maternal blood: taken at least 30-45mins after placenta delivered
RhD Blood Sample Error

- HTL staff used a cord blood sample as a control for a Kleihauer test but noted it did not contain any fetal cells.
- Recorded results showed that mother and baby had both typed as RhD negative.
- Mother and baby had been discharged and both had to be called back to hospital to give another blood sample.
- This showed that the baby was RhD positive, and that the mother required anti-D.
- The original cord and maternal samples that were taken both contained maternal blood.
- The mistake was only discovered by chance because the ‘cord’ blood sample was used as a control for a Kleihauer test.
Request Blood Component

Form must include the minimum patient ID data set

- Complete all patient demographics details
- State reason for transfusion
- State component type and number of units required
- State date, time and the urgency of the request
- Signature and contact number of practitioner making the request is required
**Example Blood Request Form**

---

**IN EXTREME URGENCY RING BLOOD ISSUE**

<table>
<thead>
<tr>
<th>URGENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTREME (within 10-15 mins)</td>
</tr>
<tr>
<td>VERY URGENT (&lt;40 MINS)</td>
</tr>
<tr>
<td>WITHIN 3 HOURS</td>
</tr>
<tr>
<td>SAME DAY</td>
</tr>
</tbody>
</table>

**OR DATE & TIME REQUIRED**

- **14/06/2010**
- **09.30am**

**PRODUCT:**

- GROUP, SCREEN AND SAVE ONLY (tick)
- RED CELLS - No. OF ALLOGENEIC UNITS
- OTHER

**UNITS OR DOSE:**

---

**SPECIAL NEEDS? (CMV/Leucodepleted/Irrad etc.)**

---

**NAME & SIGNATURE OF:**

<table>
<thead>
<tr>
<th>Requesting Doctor</th>
<th>Individual Drawing Sample if Different</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Doctor</td>
<td>Any Phlebotomist</td>
</tr>
</tbody>
</table>

| Bleep/Phone No. for queries: | 629  
| DATE: | 13/06/2010  
| TIME: | 09.30am  

**Lab Comments:**

---

**SURNAME (Block Caps)**

- MACDONALD

**FORENAME (In Full)**

- MORAG

**DOB**

- 11/07/1956

**M/F**

- F

**HOSP No.**

- 100198E

**HOSPITAL**

- ANY HOSPITAL

**WARD**

- ITU

**RISK OF INFECTION**

- NO

**PRIVATE PATIENT**

- NO

**DIAGNOSIS/REASON FOR REQUEST**

- ANAEMIA Hb 6g/L

**DATE OF LAST TRANSFUSION**

- 08/06/2010

**IF NEONATE, GIVE MOTHER'S DETAILS**

- Name/DOB/Known Antibodies:
  - Complete if appropriate

**RECEIVED BY:**

- 

**TIME:**

- 

**EVENT NUMBER:**

- REG*
A 34 year old female patient with Hodgkin’s Disease was admitted to the local hospice for top-up transfusion. The request was made using the hospice admission number and not the hospital number. The patient’s previous transfusion history was not found. The patient had Hodgkin's Lymphoma but the doctor did not request irradiated components. The junior BMS did not recognise the need for irradiated blood.
Taking a Blood Sample

All staff involved in taking blood samples for transfusion must ensure that they are competent to undertake the task.
Patient Identification

- **Unconscious patients (or paediatric practice)**; verify identification details with a second staff member

- **Unidentified patients**; use the unique identification number at all times

- **Out patient setting**; refer to your local hospital transfusion policy for the correct procedure

Refer to your local patient identification policy
SHOT
Identification Error

- Two patients with the same last name were on the same ward
- Neither were known to the transfusion laboratory
- Patient A was undergoing surgery and required a pre-transfusion sample
- The sample was taken from patient B but labelled as patient A
- Luckily the patient A did not require blood during surgery
- The discrepancy was not detected until a repeat sample was taken a week later
- It was identified that patient A was Blood group O and the blood in the sample tube had been Blood group A
Take Blood Sample

Ask the patient to tell you their:

**Full Name + Date of Birth**

Check this information against the patient’s ID band

Be extra vigilant when checking the identity of a paediatric/ unconscious or compromised patient
Check the patient’s ID band
Against documentation e.g., request form for:
- First name
- Last name
- Date of Birth
- Hospital number/ CHI
- Gender

A historical computer record will only be available if the patient has had a previous pre-transfusion test or transfusion.
Labelling the Sample Tube

*All samples must include the minimum patient ID data set*

- First name
- Last name
- Date of birth
- Gender
- Unique patient identifier Hosp number/ CHI
- Date and time sample taken
- Signature of the person taking sample
Best Practice Points

- Never use a sample tube that has been pre-labelled
- Only bleed 1 patient at a time
- Always label the samples immediately after taking them
- Always hand write the tube beside the patient
- Label the sample tube with details from the ID band
- Never give unlabelled sample tubes to someone else to label
- Never label a sample tube that you have not taken yourself
Best Practice Points

- The person taking the sample is responsible for ensuring ID details on the tube match the details on the request form.
- Place sample tube and request form in sample transport bag.
- Be aware of distractions.
- Be aware that patients in the out-patient or clinic setting may not be wearing an identification band.
Best Practice Points

- If taking a cord blood sample, label before taking the maternal sample.
- If you are unsure whether sample is maternal or cord blood you must discard it, even if it means the baby will have to be bled again.
SHOT Labelling Error

- A doctor took a sample for pre-transfusion testing from **patient A**
- The doctor was then asked to see relatives of **patient B** who was very ill
- The doctor put the sample in his pocket to label when he had more time
- Following his discussion with the relatives of **patient B**, the doctor remembered the sample
- He labelled the tube and completed the request form as **patient B**
Sending the Sample and Request Form to the Transfusion Laboratory

Know your local methods of sample delivery
Transporting the Sample

- Send the sample to the HTL in the most appropriate way for the clinical situation
- Urgent samples should be sent by the most rapid method *(see your local major haemorrhage protocol)*
- When an urgent sample is sent, you must inform the HTL
Specimen Reception

Does your hospital have a Zero Tolerance Policy?

The HTL undertake the following checks:

- Sample integrity
- Sample and form for **minimum** patient ID
- Sample and form for discrepancies
- Patient’s historical transfusion record

- Unique laboratory number is then assigned
SHOT Transportation Error

- Four patients were admitted to a surgical ward for pre-planned surgery
- Samples were taken from each of the patients for pre-transfusion testing
- The samples were put in the ward fridge and not the sample fridge therefore, they were not picked up
- A nurse found the samples the morning of the day the patients were scheduled for surgery
Safe Transfusion Practice is YOUR RESPONSIBILITY!

1. Ensure you correctly identify the patient
2. Ensure that the details on the patient identification band, sample tube and request form are identical
3. Ensure that you communicate effectively with the hospital transfusion laboratory to ensure that the patient receives the right blood component at the right time
Further Information

- Local Blood Transfusion Policy
- Serious Hazards of Transfusion Annual Report
  web site www.shotuk.org
  web site www.transfusionguidelines.org.uk
  web site www.nhshealthquality.org
- Learnbloodtransfusion eLearning resource
  web site www.learnbloodtransfusion.org.uk