AGENDA
UHBNT Hospital Transfusion Committee

Anaesthetic Seminar Rm, 5th Flr QEH
12.30 –13.45 12 September 2002

1. Welcome and Introductions HD

2. Apologies for absence

3. Matters arising

4. Reports

To receive an update on the following key items some of which will become standing items on this agenda.

- Hospital Policy SH
- Induction programmes HD
- Hospital transfusion practitioner MG/HD
- Incidents/SHOT SH/HD
- Laboratory issues and Wastage management schemes JR
- Sample labelling audits BD/JR
- Budget JR/HD
- Royal Orthopaedic Hospital

5. Theatres **KP (10 min)**

To give the theatre representative the opportunity to brief the HTC on blood transfusion issues affecting theatre. Consideration should be given to the future need to introduce a cell salvage programme.

6. Royal Orthopaedic Hospital **JI (10 min)**

To give the representative the opportunity to share issues especially those affecting shared patient care.

7. Portering issues **CS (10 min)**

The transport of specimens and blood is a key area to a safe transfusion process. The item is designed to give the representative an opportunity to brief the HTC on issues in this department and current training of staff.

8. A.O.B Web site www.transfusionguidelines.org.uk

9. Date and Venue of next meeting
(Please bring your diary with you)

MINUTES
UHBNT Hospital Transfusion Committee

Anaesthetic Seminar Room, 5th Flr, QEH
12.30 –14.00 12 September 2002

Present
Heidi Doughty HD
Margaret Gately MG
Jacquie Roper JR
Helen Watkins HW
Jo-Anne Lacey JL
Karen Parkes KP
Mav Manji MM
Jonathon Wilde JW
Christine Stowe CS
Simon Sharp SS

Apologies
Jane Ives JI
Glyn Wynne-Jones
Paul Saunders

Distribution
Prof W Littler
Siobhan Heafield SH

3. Matters arising
The minutes were accepted with no amendments.

4. Reports

Hospital Policy.
The hospital policy has been re-read by MM who has recommended that it should be accepted. He also suggested that if additional information is required they could be added as appendices. JL to ask SH to take this forward. **JL**

Induction programmes **HD**
HD has delivered training during the Trust induction programme for PRHOs and SHOs with consolidation through protected training. No standardised training is currently being delivered through the nursing directorate. The HTP is considered key to achieving this CNST requirement.

Hospital transfusion practitioner **SH/JR**
Helen Moss has supported HD in preparing a job description for the HTP. The JD has been agreed however the source of funding remains unclear. Laboratory services to discuss with Risk Management as to the best way of taking this forward. The post is required for CNST.

Incidents
No incident reports were reported, due to technical problems with the SAFECODE Database. This is now resolved and reports will be produced for the next meeting. HD presented I case of a near miss involving patient identification. JR to report to SHOT. HD presented a complication of transfusion, which she will refer to SHOT. **HD/JR**

Laboratory issues and Wastage management schemes **JR**
No figures available today.

Budget **JR**
No report

5. Theatres **KP**

Cardiac surgery currently uses 13% of all red cells in the trust and 19% of platelets. Considerable effort is being made to rationalise the use of blood components in this area with investigation of Point of care testing and argon diathermy. Dr D Green is organising a Study day on the 16th October to review many areas that will contribute towards a bloodless surgical programme.

KP was asked to consider discussing with colleagues extending the use of cell salvage.

KP was also asked to identify who was responsible for maintaining the blood fridges in the theatre area including regular inspection of contents. The laboratories continue to provide a temperature monitoring service. **KP**

6. Royal Orthopaedic Hospital **HW**

Blood matters are dealt with by the critical care outreach team. The team is currently process mapping the transfusion process because they are concerned that there are considerable delays in handling moving specimens to off-site laboratories. The delay does impact on patient care. The team is auditing paperwork, blood use and wastage.

Autologous blood is being increasingly used. Currently there is intra-operative salvage and post- operative salvage for knees and hips. It has been noted that while staff are learning, autologous blood is being discarded and donor blood is being used. The team will continue to monitor this. **HW** will bring some figures on the impact of salvage.

HW asked for a copy of the UHBNT induction package. **HD**

7. Portering issues **CS**

Staff receives a trust induction programme. The team leader demonstrates the procedures for collecting and carrying blood components. There is not 100% record keeping and these are not currently forwarded to Clinical governance. CS suggested that training by laboratory staff is very successful elsewhere. JR agreed to explore with SS/CS/HW the delivery of simple documented training.

Administration of Blood Transfusions

Critical Care Outreach Team
The Royal Orthopaedic Hospital NHS Trust

Aims & Objectives

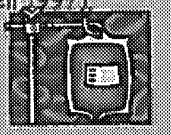
- Understand the reasons for administering a blood transfusion
- Understand the Nurses' role and responsibility when administrating a blood transfusion

Aims & Objectives continued

- Be aware of the possibility of a transfusion reaction, and be able to act accordingly
- Be aware of religious, cultural and beliefs of patient receiving a blood transfusion

Blood Transfusions-a Definition...

"The intravenous replacement of lost/ destroyed blood by compatible citrated human blood"
(Blackwell 1997)



Why Administer Blood ?

- Post-op
- Trauma
- Disease

Storage of blood:

- Blood should be stored in a refrigerator at 2-6C
- Shelf life 35 days
- Blood should be collected no more than 30 minutes prior to transfusion
- Longest time from leaving controlled storage to completing infusion- 5 hours

Nurses role in the collection of blood:

- Prior to collection ensure patient has suitable venous access
- Blood form and patient Identification label must be taken to the refrigerator when collecting blood
- CHECK the details on the form with those of the patients and the unit of blood

Nurses role in the collection of blood continued:

- CHECK bar code number on the bag of the blood against the bag number on the form
- Complete the blood bank register using details from the blood bag
- Patients name, registration number, donor unit number
- Date and time of removal
- Patients ward
- Sign register and blood form

Nurses Role In the Administration of Blood:

- Ensure that ALL documentation is available
- Check the following details from the blood bag against the blood transfusion form and patients armband with a second qualified nurse/doctor:
  - Patients name
  - Date of birth
  - Donor unit number
  - Registration number and ward
  - Blood group and rhesus type
  - Expiry date

Nurses role in the administration of blood cont:

- Bar code number on front of blood bag MUST be the same as the donor unit number on blood bag and form
- Check integrity of blood bag
- Volume to be infused
- Both checkers to sign blood transfusion form
- Explain procedure to patient

Nurses role in the administration of blood cont:

- Flush cannulae with normal saline
- Record observations ½ hourly for first ½ hour then hourly until completion
- Attach intravenous blood giving set to blood bag and prime line
- Connect primed line to patent cannulae
- Open clamp on the giving set and adjust rate of blood flow

Nurses Role in the administration of blood cont:

- Observe patient for any immediate adverse reaction
- Check IV cannula site hourly
- Once all blood has been administered flush with 5-10 mls normal saline
- Retain blood bags for 24 hours post transfusion
- Obtain FBC 24 hours post transfusion

Adverse reaction of Blood Transfusion:

- pyrexia
- Rigors/chills
- Lumbar pain
- Rash/itching
- Hypotension/tachycardia
- Dark urine
- Vomiting
- Jaundice
- Oliguria
- Chest pain

Adverse reactions continued:

- Dyspnoea
- Restlessness

Nurses role in the event of an adverse reaction:

- Stop! the transfusion
- Assess the patient
- If severe anaphylactic response administer high flow oxygen and call 222
- Inform Doctor, nurse in charge, critical care team
- Record observations
- Complete incident form
- Complete & photo copy Serious Hazards of transfusions form (SHOT)
- Continue to observe and monitor patient

Transfusion trigger guidelines:

Routine blood transfusion is not indicated when Hb > 10g/dl

Red cell transfusion probably indicated when Hb < 7g/dl

Emergency blood supply:

Two units of O negative blood available in the blood refrigerator in theatre

This blood is for emergency use only for administration prior to the arrival of cross-matched blood

Rate of blood administration

Red cell packs have no colloid content

Each unit averages 275 mls

Thus, transfusions can take place over two hours as opposed to four. Unless, there are serious concerns of heart failure

The move away from transfusing:

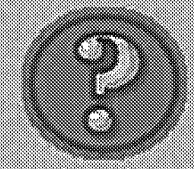
- Donated blood is expensive
- Donated blood is scarce
- Risk of infection/reaction
- Autologus blood becoming more of a reality

Cost of blood and blood products

1 unit of blood.....£99.77
Adult dose platelets....£165.22
1 Unit FFP.....£20.72
1 Unit cryoprecipitate..£24.90

The End

Any Questions



THREATS TO THE UK BLOOD SUPPLY – YOUR PRACTICE IS AT RISK

HOW SHOULD THE TRUST RESPOND?

The ready availability of blood transfusion has made possible many of the most important medical and surgical advances of recent decades. However, for some years all developed countries have struggled to meet the expanding medical demand for blood and blood products in the face of a falling blood donor population. This brief article is designed to alert clinicians to an impending severe reduction in blood supplies in the UK, largely related to the theoretical risk of variant-Creutzfeldt Jacob Disease (vCJD) transmission. This has profound implications for our ability to deliver routine medical and (particularly) surgical services. It emphasises the urgent need for contingency planning and highlights some of the measures we can take to ensure the most effective and economical use of blood in the Trust.

WHY IS THERE A PROBLEM?

Transmission of vCJD by blood products remains only a theoretical possibility. There have been no known cases acquired by this route. However, we should not be complacent. Animal studies confirm the possibility and we have absolutely no knowledge of the rate of subclinical carriage of vCJD (presumably acquired from BSE infected beef) in the "healthy" UK population. There have, so far, been 106 cases of vCJD in the UK. Statistical predictions of the ultimate size of the epidemic range from a few thousands to hundreds of thousands with an incubation period of decades in some cases. In the face of this worrying scenario, government has adopted the precautionary principle requiring the National Blood Services to consider all possible steps to minimise transmission of vCJD by blood products. Indeed, a number of very expensive precautions have been taken since 1998:

- All plasma for fractionation is now sourced from BSE-free countries outside the UK
  (I.e. all UK plasma products, except fresh frozen plasma [FFP] are now derived from commercial donors in the USA)

- All blood components are rendered white cell free (leucodepleted) by filtration soon after donation (at a cost of £85m per year)

Incidentally, UK citizens are now banned as blood donors in the USA, Canada and Australia and the US has banned any of its own citizens who have spent more than one month in the UK between 1983 and 1996.

The UK Blood Services now face further severe challenges:

- The licensing of "screening tests" for vCJD prion protein in blood donors within the next 12-18 months
- Advice to exclude all blood donors who have ever received a transfusion themselves
- Expert advice to ministers to source clinical FFP from non-UK BSE-free countries (i.e. the USA) as soon as feasible

When a screening test for vCJD becomes available it will have to be introduced even though its ability to predict clinical disease will not be known for several decades. Although a high percentage of the UK population are not expected to test positive

(who knows?) research suggests that up to 50% of blood donors would stop donating rather than take a test: implications would include personal uncertainty and potential problems with life insurance, mortgages etc. A straw poll taken at a recent scientific meeting at the Royal College of Anaesthetists showed that only 30% of the doctors present would continue donating after introduction of testing. The option of anonymised testing of donors (secretly withdrawing positive units from the blood supply) has been considered but is likely to be neither ethically or legally sustainable.

Sourcing FFP outside the UK will be difficult and expensive. There is grave doubt about the ability of US commercial donors to meet (or be allowed to meet) this demand and the estimated cost is around £80m per year (i.e. FFP would rise in cost from £20 to around £120 per unit). As an interim measure the possibility of obtaining "safe" FFP for children born after 1996 (who are assumed not to have been exposed to BSE-infected meat) is being considered, but this selective approach is unlikely to be sustainable.

Finally, new technologies for the photochemical sterilisation of platelets and red cells will be licensed over the next two years. These will virtually eradicate viral and bacterial transmission by blood (but NOT vCJD) and will cause a very significant rise in the cost of blood products.

Therefore, we are rapidly moving into an era where blood is an expensive and scarce commodity. Levels of current usage will not be sustainable and there is a severe threat to service delivery and patient safety unless measures are taken to make our use of blood as scientifically rational and economical as possible.

WHAT SHOULD WE DO?

Although there has been increasing professional interest in "better blood transfusion", progress has been impaired by a common perception that blood in the UK is a safe and unlimited resource. A much better scientific base for clinical transfusion practice is needed but many published studies show wide variations in blood usage between and within surgical teams for the same operations and markedly different utilisation of alternatives to donor transfusion. In response to the current situation the National Blood Service has set up a number of multiprofessional Working Parties which will shortly report on issues such as recruitment/retention of blood donors, appropriate clinical use of blood and areas for R&D to provide an evidence base for best practice. The UK Chief Medical Officers recently held an expert seminar which will lead to a new Health Services Circular ("Better Blood Transfusion 2") focussing on the wider implementation of measures to avoid unnecessary donor blood transfusion in hospitals. The measures include the wider use of; audit; evidence-based transfusion protocols; blood-saving technologies; strengthening the role of Hospital Transfusion Committees and the employment of Transfusion Nurse Specialists. New Regional Transfusion Committees have been established which feed into a National Transfusion Committee reporting directly to the CMO.

At the Trust level we feel it is essential to engage **all** clinicians that prescribe or initiate blood transfusion in developing a strategy to cope with reduced blood supplies. Firstly, we need to increase awareness of the key issues, of which this article is a first step. Many clinicians in the Trust already have a major interest in "better blood transfusion" based on the increasing literature supporting the clinical advantages of lower transfusion triggers in several clinical situations and the many safety and health-economic benefits of avoiding exposure to donor blood wherever feasible (especially in

healthy elective surgical patients who might have only one lifetime exposure and "vulnerable" groups such as neonates and immunocompromised patients).
Basically **all** clinicians and teams should be looking at their current practice and assessing how it could be altered and/or improved, accepting that some measures may be inconvenient, have significant resource implications (expertise, time and equipment) and require radically new ways of doing things. Achieving best practice and the most cost-effective use of blood can only come from the commitment and enthusiasm of those working at the coalface.

Amongst the key issues which have been identified internationally as contributing to "better blood transfusion" are:

- Scientifically-based "transfusion triggers"
- Recording the indication for every transfusion
- Establishing agreed surgical blood ordering schedules for routine operations
- Regular clinical audit of transfusion and peer review
- Education/training sessions for staff of all levels
- Pre-operative planning and optimisation of Hb levels – structured pre-admission clinics using protocols and algorithms to identify patients who might benefit from iron, Epo etc
- Identifying those patients for whom pre-deposit autologous transfusion would be appropriate
- Blood-saving techniques such as acute normovolaemic haemodilution, intra-operative cell salvage and post-operative reinfusion (increasingly cost-effective as blood prices rise!)
- Pharmacological blood-sparing interventions e.g. stopping NSAIDS, giving antifibrinolytics, fibrin glue, rational coagulation factor replacement based on laboratory monitoring etc
- Learning from the experience of "Bloodless Surgery Centres" which are well-established in the USA and clinical experience with Jehovah's Witnesses

Although this is a daunting agenda it is clear that "no change" is not an option. Avoiding all unnecessary blood transfusions is surely a prime objective of good clinical practice in every speciality and increasing stresses on the blood supply will simply act as a catalyst for review and improvement. There is no doubt that there will be resource implications attached to this programme, some at least of which can be balanced against the very significant savings from reduced blood usage. The principles discussed in this document have the full support of the Hospital Transfusion Committees in the Trust and are endorsed by the Medical Director. We would be grateful for advice and comments from any interested clinicians.

Dr H A Doughty, Consultant Haematologist and Clinical Lead for Transfusion Medicine

Based on a document prepared by
Dr D R Norfolk, Consultant Haematologist and Clinical Lead for Transfusion Medicine
Dr M Bellamy, Consultant Anaesthetist, Chair of St James's Transfusion Clinical User Group
Prof S Homer, Consultant Vascular Surgeon, Chair of LGI Transfusion Clinical User Group

October 2002