‘Infrequently Asked Questions’
A Learning Tool for Transfusion Practitioners

Q. **Our paediatric team are in the process of writing a staff guidance paper for dealing with Jehovah’s Witness children and their parents and also looking at producing a consent or refusal of consent form for young people.**
Please can you provide information or examples of such guidance?

A. The British Association of Perinatal Medicine *(*BAPM*)* developed best practice guidance for consent in neonatal units in 2004 and this can be accessed at:
http://www.bapm.org/media/documents/publications/Staff-leaflet.pdf
Please also consult your regional NHS Blood and Transplant Better Blood Transfusion team contact who will be able to provide you with examples of such guidance developed by other Trusts who are happy to share their work.

Q. **Where is the evidence for just one (as opposed to two) registered healthcare staff to do the necessary checking of blood before a transfusion is given?**

A. The Systematic Review Initiative in NHS Blood and Transplant are helping to develop the evidence base for the practice of transfusion medicine. As part of their Practice of Transfusion this subject was reviewed: See:
http://www.transfusionguidelines.org/index.asp?Publication=SRI&Section=24&pageid=1389
An article in Transfusion Medicine (2007, Volume 17, p57-8) by Watson et al entitled ‘Blood transfusion administration – 1 or 2 person checks - which is the safest method?’ was based on a systematic review of single versus double person checks and indicated that the evidence base for current practice is virtually non existent.
Despite a clear recommendation from the British Committee for Standards in Haematology (BCSH) in the 1999 ‘Guidelines for the administration of blood and blood components and the management of transfused patients’, anecdotal evidence suggests that few hospitals in the United Kingdom have introduced a system of single-person checking of blood administration.

Q. **Currently, if blood packs are removed from a temperature controlled environment and the time exceeds 30 minutes, packs are discarded as ‘out of temperature control’.**
Please can you advise how NHS Blood and Transplant addresses cumulative time out of the fridge on donor packs?

A. Advice sought from Better Blood Transfusion (BBT) Team and the Joint Professional Advisory Committee (JPAC):
There is no required process for logging cumulative time out of temperature control, only that each single episode outside of temperature control must not exceed 30 minutes. After this 30 minutes the blood cannot be returned to temperature controlled storage, and must be either transfused or discarded by the laboratory staff.
Other periods of time outside of temperature control are not a consideration, so long as they were below 30 minutes each, and the unit was returned to a correctly managed temperature controlled environment. Also the unit needs to still be within its expiry date to be fit for use.
There is no guidance as to units returned to temperature controlled storage within 30 minutes needing to be held there for any specified period of time before being issued again with another 30 minute transit window. The importance of 30 minutes is that it is thought that this is the time taken for the pack to warm up to 10°C and so long as the temperature stays below this, then the metabolism of the red cells should not have been affected.

Below is a link to a document that JPAC put out in December 2009 regarding this issue:
http://www.transfusionguidelines.org.uk/docs/pdfs/dl_general-24-12-09.pdf
Point 6 (recommendations) paragraph 2 makes some observations on this situation.

Q. **Can Intra Operative Cell Salvage (IOCS) be used on patients with Sickle Cell Trait?**

A. Advice received by a Consultant Haematologist who specialises in haemoglobinopathies:
There is very little information available on this process in this patient group. The concern is that the cells may become deoxygenated and sickle during the IOCS process, and that there may be an increased viscosity. It is known that sickle cell trait patients can sickle under extreme stress and it is suspected that cell salvage is quite stressful for the red cells. Advice would be to avoid this process unless there was no other available alternative.

Q. **Can patients with Sickle Cell Trait become blood donors?**

A. Whole Blood and Components Donor Selection guidelines available on the www.transfusionguidelines.org website state that the red blood cells from people with sickle cell trait can be safely transfused into most adults although sometimes there are problems with filtering the blood. They are however, not thought to be suitable for intra-uterine or neonatal use as there is a higher risk of the cells sickling and causing harm to the baby.

A patient information leaflet produced by NHS Blood and Transplant entitled ‘ Sickle Cell and blood donation’ can be accessed via the following link **http://www.blood.co.uk/pdf/sickle_cell.pdf** and provides a more comprehensive response to this query.

Q. **Does having B-Thalassaemia Trait exclude you from being a blood donor?**

A. NHSBT Donor Selection Guidelines state that thalassaemia trait is not an obligatory deferral, but is a discretionary acceptance by the attending medical officer providing the donor has no other medical problems.
While the donor may be clinically well, they are likely to have a lower than normal Haemoglobin (Hb) level, may fail the Hb-screening test and so be deferred under the terms of the Blood Safety and Quality Regulations 2005 which sets the Haemoglobin standards for donation. See:
http://www.transfusionguidelines.org/index.aspx?Publication=WB&Section=5&PageID=3701&AZLetter=H

Q. **What blood components should hospitals stock in order to meet the transfusion requirements of babies and young children?**

A. Perhaps the best way to answer this is to describe what NHS Blood and Transplant have available for this patient group, then hospitals can review their own practice and requirements in the light of components that may suit their needs.

Small Volume Transfusions: Neonates/Babies:
For 'small volume' transfusion, defined by British Committee Standards in Haematology (BCSH) guidelines as 15 - 20 ml/kg, then paedipacks are of the correct specification, in that they contain ~40ml red cells, are PANTS* tested, CMV-negative (and High Titre-negative if they are blood group O). They may be used up to the full expiry date of 35 days and can be ordered as a full set of 6 or as individual packs. Feedback from neonatologists indicates that they would be happy to have this on standby for general use because even if they were resuscitating a collapsed baby, they wouldn't prescribe red cells at more than 20ml/kg.
**'PANTS-tested' means that units have had the same high-quality three-cell antibody screen that patients would get in hospitals, rather than the very basic antibody screening done for most donor units.*

Large Volume Transfusions:
'Large volume' transfusions of 70 - 80 ml/kg i.e. the equivalent of a whole body exchange of red cells are generally used in cardiac surgery, extracorporeal membrane oxygenation (ECMO) and massive haemorrhage. BCSH stipulate that for babies less than 1 yr old, the blood should be no older than 5 days from bleed date, to minimise the risk of hyperkalaemia. (Cardiac surgeons tend to use blood less than 10 days old for their paediatric patients, for the same reason)
NHSBT are now producing 'large volume transfusion' red cell components, which are full-size units (in SAGM additive to reduce the exposure to UK plasma and vCJD). They are PANTS tested, have a Packed Cell Volume (PCV) within a fairly tightly defined range, and are CMV-negative (and High Titre-negative if blood group O). They have a 35-day expiry, and this allows hospitals to utilise them according to the BCSH 5-day rule. Once the packs reach >5 days post bleed, they can be placed in routine stock for older patients as required.

Exchange and Intrauterine Transfusions:
NHSBT produce the highest specification units for exchange transfusion and Intrauterine Blood Transfusions (IUT). They meet all the standards above, but are also irradiated. This means they must be used within 24 hrs of irradiation for children <1yr old, and up to 14 days post-irradiation for older patients.

Q. **What is the required temperature for transporting blood, organs and tissues as used by NHS Blood and Transplant and how do they achieve this?**

A. Advice from NHSBT National Logistics Resource Manager:

NHS Blood and Transplant, as such a large and diverse organisation, has many and varied demands for transport services. Some services will be temperature controlled and these temperature bands can be from -80°C (on movement of Stem Cells) to +21°C (on movements of unprocessed donated blood). However the majority of movements are ambient and transport will place temperature sensitive products and equipment in validated containers which are tested and certified to be moved in ambient conditions for specific periods of between 2 to 10 hours depending upon the product. NHSBT supplies the containers and takes responsibility for packaging them to specified requirements.

Q. **Can babies in the neonatal unit who have received blood, become donors later in life? If a pregnant woman receives a blood transfusion during pregnancy, can the baby then become a donor in later life?**

A. Reply from Consultant Haematologist, NHSBT:

Babies who receive blood whilst in the neonatal unit are viewed as having been transfused, and under current guidelines would be unable to donate.
Similarly, in the second case, both the mother and child are viewed as having been transfused so neither can donate under current guidelines.
However, it must be borne in mind that by the time the babies reach donation age, guidelines may have changed and guidance would need to be sought at that time.

Q. **Regarding the ruling on babies of pregnant women who had received a blood transfusion during pregnancy, are prospective donors really actually now asked whether their mother might have had a blood transfusion when pregnant with them? Would they know? Would even their mothers (could be 30 years on) remember? This all seems very doubtful (adults who were on a SCBU as neonates may well be unaware of a transfusion at this time).**

Reply from a Consultant Specialist in Transfusion Microbiology:

As with everything in this field, the precautions are aimed at risk reduction. It is impossible to completely remove the risk, and factors such as lack of recall / lack of knowledge about a transfusion will always be a possibility. However, many people do recall a transfusion, and some people will have been told that they needed to have their blood "changed" before birth, or shortly after birth, or that their mothers needed a blood transfusion in pregnancy and these people can be excluded. The fact that this question came up in the first place illustrates that it has been raised as an issue.

We cannot do anything about those who do not know they have had a transfusion (and this would apply to some people transfused as adults, but during surgery / when unconscious, especially in the 1980s when it was not routine to give the information afterwards). Nor about those who do not know that their mother had a transfusion during pregnancy. But the fact that some people cannot be excluded because they do not have the information should not prevent us from taking action for those who do have the information. The number of people affected will be small, compared with the total number of people transfused since 1980, so in terms of risk reduction the effect is probably negligible, but that does not mean we should just ignore it as that would be illogical.

All questions in this learning tool have been sent to the NHSBT Better Blood Transfusion Team. Answers have been sourced from NHSBT Consultant Haematologists and other transfusion experts and are generally agreed good practice advice.
However, we do not accept any legal responsibility for any errors or omissions.