

Blood Matters

Quarterly information for hospitals served by the National Blood Service

EDITORIAL

Dr Angela Robinson, Medical Director of the NBS & Chairman of the NBS vCJD Sub-Group on Appropriate Use of Blood and Dr Elizabeth Love, NBS vCJD Project introduce this edition of *Blood Matters*.
Page 2/3

DONOR RESPONSE TO A TEST FOR vCJD

Page 3

CONTINGENCY PLANNING

Page 3

AUTOLOGOUS BLOOD TRANSFUSION

Page 4

AUTOLOGOUS DONATION - A PATIENT'S STORY

Page 4

REDUCING SURGICAL BLOOD USAGE AND BLOODLESS SURGERY

Page 5/6/7

THE ROLE OF THE CLINICAL AUDIT IN ENSURING APPROPRIATE USE OF BLOOD

Page 7/8

ESTABLISHMENT OF NATIONAL AND REGIONAL TRANSFUSION COMMITTEES AND THE "BETTER BLOOD TRANSFUSION" INITIATIVE

Page 8



Editorial

This edition of Blood Matters is devoted to issues concerning variant Creutzfeldt-Jakob Disease (vCJD) as they affect the National Blood Service (NBS), hospitals, patients, donors, and the wider public health.

The risk that vCJD may be transmitted through transfusion and transplantation of blood and tissues is unknown. There is no direct evidence that this has ever occurred but precautionary measures to mitigate this unknown risk have already been taken. In 1998, the Government instructed the Bio Products Laboratory (BPL) to source plasma for fractionation from countries outside the UK. This resulted in importation of plasma for fractionation from the United States, a country which to date has had no reported cases of Bovine Spongiform Encephalopathy (BSE). In the same year, the NBS was also instructed to implement leucodepletion of all blood components (universal leucodepletion, the removal of white cells). Both actions were supported by extensive risk analysis.

To date there are no proven or suspected cases of transfusion-transmitted vCJD, however recent preliminary data from experiments in sheep suggest that this prion agent may be transmissible by transfusion. Other animal experimental data and theoretical considerations based on what is known about the behaviour of BSE/vCJD suggest that this possibility cannot be discounted. The UK Blood Services have therefore adopted the view that whilst there is no proof of transmission in humans, the risks are unknown. Furthermore, recent developments in diagnostic tests lend weight to the possibility that a test suitable for screening purposes may become available in the relatively near future.

It is therefore essential that the NBS is aware of and contributes to the identification of further strategies that might mitigate the unknown risk of transmitting vCJD to recipients. To demonstrate that all reasonable precautions are being taken the NBS is working closely with the Department of Health (DH) and expert groups to identify and co-ordinate appropriate initiatives. It is possible that such initiatives, including the implementation of a screening test, when available, could result in a significant reduction in the blood supply. Strategies to ensure that blood and blood components are used appropriately will therefore be of the utmost importance and the NBS is already working with blood users to develop these.

NBS vCJD Project Group

The NBS has formalised this enormous task with the development of the vCJD Project under the direction of an NBS Steering Group, chaired by our Chief Executive, Martin Gorham and described in the last issue of Blood Matters in June 2001. The project is being managed using formal project management tools to provide a structured approach. It will ensure that the NBS:

- Has strategies for dealing with different levels of risk to the blood supply and recipient safety which are cohesive, based on the best available expert advice and evidence and subject to rigorous risk assessment.
- Actively prepares for the potential availability of a donor screening test for vCJD, possibly as early as 12-18 months time.

Recognising that there are many strands to this work, a number of specialist sub-groups have been tasked with identifying and prioritising the issues facing the NBS. There are six such sub-groups concentrating on the following areas:

- Donor issues
- Tissues
- Processing
- Testing
- Research and development
- Appropriate use of blood and blood components

An integrated communications strategy is a vital ingredient for the whole project. Because of the nature of the task, in some groups there is more clarity than in others but the stage has now been reached where the NBS can begin to create a cohesive framework for establishing:

- Overall priorities and a work programme
- Outcomes
- Interdependencies between the separate facets of the project.
- Interdependencies with other blood safety initiatives.

Blood supply and appropriate use

Early on in the discussions of the impact vCJD testing might have on the NBS, it became clear that our ability to maintain a safe and sufficient blood supply to meet all patients' needs could become compromised. The article by Liz Reynolds, which follows, gives the background as to how and why we may have to face a falling donor base and the possible resultant blood shortages in the not too distant future.

Whilst the other vCJD sub-groups within the NBS are concentrating their efforts on how to mitigate this risk and on contingency planning to cope with potential blood shortages, the task of the appropriate use of blood group is to try and ensure that we make the best use of what we have, i.e. that blood and blood components are only ever transfused when clinically indicated.

Numerous national and international studies and comparative audits over the last ten years have demonstrated that some blood continues to be inappropriately transfused despite the production and dissemination of a variety of good clinical guidelines. The prospect of potentially impending blood shortages may provide the necessary impetus to practice what we preach. The aim of good clinical care has to become avoiding blood transfusion where possible, with co-ordinated clinical team management and involvement of the patient in consideration of all the alternatives in this decision making process.

Obviously the NBS cannot tackle these issues alone and the membership of this sub-group has been expanded to include willing and enthusiastic volunteers who are heavily involved in the hospital blood transfusion chain, including "key blood users", so that collaborative workable strategies can be developed for widespread implementation throughout the National Health Service. Membership includes surgeons, anaesthetists, blood bank managers, hospital transfusion nurses, paediatric transfusionists and clinical haematologists.

continued on page 3

Reducing overall blood and component usage without compromising patient safety will be one of the best methods of moderating the risk of shortages of blood supply. This working group therefore has four key tasks:

1. How to minimise exposure to the unknown risk of transfusion transmitted vCJD by only transfusing blood when absolutely necessary.
3. How to ensure the most effective and efficient use of an increasingly scarce resource - the available blood supply.
4. Consider alternatives to blood transfusion - autologous transfusion programmes, all forms of blood substitute therapies, feasibility of bloodless surgical units.
5. Contingency planning for prolonged periods of blood shortages.

We are faced with the lack of collated information on the “epidemiology” of the blood supply and this makes it difficult to undertake scenario planning as much of this will have to be based on assumptions or projections of the small number of data sets currently available. To achieve some idea of the impact the introduction of a vCJD blood test might have, we are working on the best and worst case scenario of a reduction of the available blood supply. At this moment in time we have no idea what impact the implementation of measures to promote the appropriate use of blood might have on reducing overall blood usage.

We therefore need to ask for your tolerance, co-operation and collaboration with regard to the various “gathering of information” and “education” exercises that are either underway or about to be launched, as it is important to try and establish just how much impact appropriate use of blood and the use of alternatives could have on reducing blood usage.

Through our communication strategy we will keep you as well informed as possible about how the NBS vCJD Project is progressing. There is a need to plan and implement mechanisms to reduce blood usage now, whilst contingency planning will have to start addressing issues like a blood scarcity.

The unknown risk that vCJD may be transmissible via the blood supply is probably the largest single challenge that the blood services in the UK have had to face. There are many unknowns and there seems to be more questions than answers. The NBS will continue to be pro-active in its approach to this uncertainty in order to achieve a position where it can cope with any eventuality whilst maintaining the trust and respect of our colleagues and the public.

The following articles outline in more detail how together we are preparing to tackle this challenge.

Dr Angela Robinson

Medical Director of the NBS

Chairman of the NBS vCJD

Sub-Group on Appropriate Use of Blood

Dr Elizabeth Love

NBS vCJD Project

Donor response to a test for vCJD

Blood Services worldwide are facing a major challenge presented by vCJD, particularly in the UK.

Should a test for vCJD be introduced it is possible that some donors will not wish to know the outcome. And, if it transpires that a donor knows they might have an incurable disease and not have access to life insurance, mortgages etc. the likelihood of large scale defection in the blood donor base must be considered. Here the scenario planning around a worst case of 50% reduction in blood donors may become a plausible option. Would you donate if you were going to be told the results of the test? From a donor perspective, issues around whether to provide test results to them and what do we do with the blood donation next time a “positive” donor appears become critical. The NBS certainly does not have the answers, but we are tackling these difficult questions.

To gauge likely donor response we are undertaking qualitative and quantitative research at the moment to understand baseline donor views. These might give us an initial indication of potential donor (& non-donor) response to the introduction of a test. The results will inform our scenario planning further. As more becomes known about vCJD this research can be repeated to understand if perceptions are shifting.

What is clear is that as more is known around vCJD and the risks associated with it, we can no longer assume that changes in the blood collection regime can be easily compensated for without reviewing other blood donor selection criteria and the appropriate use of blood.

Liz Reynolds

NBS Director of Public and Customer Services

Contingency Planning

As part of our vCJD process planning a small working group has been formed to consider how the NBS and hospitals could respond to a severe, prolonged shortage of blood, perhaps for instance, following the introduction of a screening test.

Although the NBS has a policy for managing shortages of supply, this group will investigate a response to a more extended shortage than those we have experienced previously. In such a scenario it would be critical to ensure the available stock of blood is distributed effectively. The working group will develop a contingency plan for managing the logistics of supply in such a situation.

Membership of the group includes both NBS, Blood Stock Management Scheme and hospital blood transfusion laboratory managers. The group will consider what are the key supply issues for the NBS and hospitals and will work to define a plan that will enable the most effective use of the available stock. The proposed plan will be distributed for consultation later this year with a view to producing a final plan early in 2002.

Stuart Penny

Head of Hospital Liaison

Autologous Blood Transfusion

Autologous blood transfusion is the collection and reinfusion of the patient's own blood, and generally regarded as the safest form of transfusion at all. In the UK attention has focused, if at all, on pre-deposit autologous blood transfusion i.e. blood is collected at intervals, usually weekly, from the patient and stored until the operation day. However few patients are suitable for this procedure as safe systems are complex to institute, logistics are difficult to organise and a guaranteed operation date is needed.

Other forms of autologous transfusion are perioperative blood salvage, where blood is collected either at the start of surgery or from the operative field and reinfused during or immediately after the procedure, and post operative salvage where blood is collected after the surgical procedure is complete from drainage of the operative site and reinfused within 6-8 hours. The first is suitable for operations where blood loss is likely to exceed a litre, and the latter for knee and hip surgery. Both these techniques require equipment, disposables, trained staff and above all change in practice for surgeons and anaesthetists.

In spite of the work of the Autologous Transfusion Special Interest Group of the BBTS and several enthusiasts very little autologous transfusion occurs in the UK. The main reason for this general lack of interest is the easy availability of "safe" homologous blood and possibly a still timid patient body.

The vCJD strategy together with emphasis on the appropriate use of blood, will encourage all forms of autologous transfusion.

How will this happen?

A multidisciplinary working party is actively collecting baseline data on current levels of practice. I hope everyone who received a questionnaire for their hospital will feel able to complete and return it. The group will then review all aspects of the major forms of autologous transfusion, including all the hurdles that need to be removed, or at least lowered, to enable a programme of autologous transfusion to take off. It is hoped that a constructive proposal for a realistic strategy will result from these discussions by the spring of 2002.

Experience in the Trent area, where a joint pilot study between the NBS and five large hospitals for increasing intraoperative cell salvage use is underway, indicates that the active involvement of enthusiasts and Trust Chief Executives is vital to bring about changes in practice. It is recognised that autologous transfusion is only part of the portfolio of transfusion medicine but with appropriate encouragement it can grow substantially. In many developed countries up to 20% of transfusions are autologous transfusions.

Dr Virge James

Chair, Autologous Transfusion Working Group

Autologous Donation – a patient's story

I cannot remember how I became aware that it could be possible to donate blood for one's own use. Like most normally healthy people, I did not expect that the need would arise for me, only for others.

Watching television programmes of surgical operations, using blood donation that allowed them to happen, was awe-inspiring but how the blood came to be supplied was never covered. In fact, there appears to be a dearth of information about blood, its donation, donors and all connected issues in general.

I consider myself average in keeping abreast of health news, enjoying articles that inform. Therefore, when the prospect of surgery with the possibility of my needing blood arose, I was faced with a dilemma.

I realised that I was not content to receive donated blood if there was an alternative. I was uneasy that however well tested and however confident the experts sounded, I did not wish to run the risk, however slight, of acquiring problems of background infection from another person. I understand that screening for all major infections and bacteria are exemplary, but I was worried that however careful the screening, there must always be a residual risk. Some health conditions take a long time to develop and may not display themselves easily in the blood for testing.

I wonder how it can ever be possible to test for the unknown; perhaps someone out there can inform me?

Just before the first, emergency operation, I talked with the surgeon, strongly stating that receiving donated blood must be the last not the first resort. I stated that this was not a religious objection, but a biological one. Rightly, he asked that should there be no alternative to saving my life, would I receive blood? – to which I agreed – of course I would! In the event, no blood was used, for which I was happy.

When eighteen months later another planned operation was booked, I had the opportunity to arrange autologous donation. In November 2000, at the meeting to arrange this date, I stated to the Consultant that I wanted to organise this.

His response was one of astonishment. Taken aback, he said that in over 20 years he had never been asked for this. In his opinion, it was not necessary, as 'donated' blood is safe here, unlike other countries where drug addicts and others are paid to donate, and anyway, I might not need any. His attitude was not encouraging and appeared to be quite condescending. He smiled when he said that people do not know when they will be knocked down by a bus, to which I replied that they do know when elective surgery will take place!

I did not expect to hear from his department immediately, but after the New Year, I contacted his secretary who said that the papers were awaiting signing. Another call, a week later, she said they had been sent. Hearing nothing

continued on page 5

I contacted the National Blood Service (NBS); they had received nothing. I contacted the hospital, to be told that no papers had been sent. On telephoning his secretary, she told me that the Consultant had not thought it important!

I was furious, having a foreign holiday booked and running out of time, I could envisage my plan failing by default! The NBS had informed me of the conditions to be met for autologous donation, my health, blood state and usual requirements of blood donation and storage limitation. I was counting the days by now!

On contacting the NBS for an appointment with the Doctor, I was told that the papers had still not been received. Yet another call, amongst many more! Three days before my holiday, I received a call from the Consultant's secretary saying that she now had the papers that required my signature – "should she post them to me?" I was very angry because I had not been told that this was necessary before they could be sent. Needless to say, I told her to stay put; I would be with her in twenty minutes to sign them and then to be posted to the Blood Service immediately. I telephoned to inform the NBS that the papers were on their way and made an appointment on my return from holiday. They then advised me to obtain iron tablets from my GP to enhance my blood haemoglobin.

In stark contrast to the inefficiency and run-around I had endured from the hospital, my experience with the Brentwood Blood Service has been an uplifting one! From the Receptionist, Doctors and Nurses I received respect and a caring, interesting attitude. Never having been in the situation, I was impressed by the range of machinery, donors giving whole blood, and others – platelets only. I was told of 'Special Donors' for pre-natal babies and placental and stem cell recovery. I saw the careful recording that enables 'tracking' of donors. This was a whole new area of health work that was unknown to me. Due to them, I was able to donate two units in time.

The operation took place on the appointed date. The primary plan was achieved, but unfortunately an accidental 'nicking' of my spleen occurred resulting in an unplanned splenectomy, so my two units were fully employed! Whilst very saddened at this loss, and the necessary ongoing medication, I am happy that I was not given 'donated' blood, which would have worried me.

Before and during my stay in hospital, I was amazed that people had absolutely no idea that it might be possible to donate for themselves. Even the lady who took my blood test in the hospital did not know. Without exception, everybody agreed that it was a good idea, as they have worried about HIV and CJD, as well as other conditions. Nurses and 'younger' doctors were very interested, as I was the only person they had encountered to have received 'my own blood'!

One thing that made me cross throughout is that the system is available and that some health regions promote this as an option.

My two units are not important in the wider scheme of blood transfusions, expect that they saved valuable

donations in the Blood Bank! However, to my peace of mind and my body's ready acceptance of its own product, they are the most important!

Sonja K. Stubbs

A patient's tale

Reducing Surgical Blood Usage and bloodless surgery

Recent developments in medical litigation (i.e. the Hepatitis C Virus judgement), together with the unknown risk of transmission of vCJD through blood transfusion, are creating greater awareness of the need to alter and improve transfusion practice. We are now faced with an imperative. It is anticipated that a blood test for vCJD will become available in about 12-18 months' time, and it is likely that the NBS will be required to introduce it for screening of blood donors. It is possible that the NBS could lose many blood donors because of the long reaching implications of a positive test result for the donors

The race is now on to try to achieve uniformly good transfusion practice nationally before we have a major reduction in the blood supply. Only when this is achieved will it be possible to make realistic calculations regarding the potential sourcing for blood components from elsewhere.

Reducing surgical blood usage

One of the main aims of good transfusion medicine practice has always been to reduce unwarranted exposure to blood components. This cannot be more so than in the case of the healthy elective surgical patient who is likely to have only one episode of donor exposure in a lifetime. In this situation blood and blood components should only be transfused if absolutely unavoidable.

Reasons to reduce blood exposure

- Reduce immunological complications
- Red cell allo-antibodies; HTR
- HLA antibodies; refractoriness
- TRALI, PTP, TA-GvHD etc
- Reduce errors and 'wrong blood' episodes
- Reduce TTI – bacterial, viral, prion
- Immunomodulation – infection, malignancy
- Litigation
- Resource
- Cost

Key:

HTR – haemolytic transfusion reactions
TRALI – transfusion associated acute lung injury
PTP – post transfusion purpura
TA-GvHD – transfusion associated graft versus host disease

Implementation of good transfusion practice has always been problematic due to the long held notion that blood is a safe and unlimited resource. It has often been hard to persuade the prescribers of blood components that there are risks associated with blood transfusion that are worth avoiding, even if this requires extra work and forward planning.

To reduce blood usage in elective surgery requires attention to detail and planning ahead for each patient. Although the cost of the blood components may be saved, other costs may be incurred, and therefore there may not be an overall saving in the short-term. However the long-term savings with regard to potential cost of transfusion transmitted infection, immunomodulation, and litigation may be significant but are hard to quantify.

In elective adult surgery the need for blood transfusion can be reduced by specifically addressing the issue during the four phases of patient care: i) Advance pre-operative planning, ii) Day of admission iii) Intra-operative care and iv) Post-operative care.

i) Pre-operative planning

The patient should attend a pre-operative clinic at least 6 weeks in advance of the date of surgery, for the following:

- full history and examination including previous surgical episodes and bleeding history.
- full blood count, group and antibody screen, routine chemistry, coagulation screen and tube for haematinics assessment, which can be put on hold pending FBC results.
- consideration of autologous pre-deposit if patient is fit enough and greater than 50% likelihood of significant blood loss requiring transfusion.
- consideration of prescription of erythropoietin, even with normal haemoglobin, at a dose of 600u/kg weekly for 4 weeks preoperatively.
- prescription of iron and folic acid supplement if any suspicion of iron deficiency.
- to establish whether patient is taking regular aspirin, NSAIDS or warfarin and to make necessary arrangements to stop this drug preoperatively.
- to consider a staged surgical approach in major surgery.

After the clinic it is of course essential that all the results of the above tests are seen within a few days so that necessary action can be taken. In addition, discussion with anaesthetic staff is needed if acute normovolaemic haemodilution (ANH) or intra-operative cell salvage may be appropriate.

ii) Day of admission

- the operation date should not be moved, especially if preoperative autologous deposit has been taking place.
- double check the ingestion of aspirin or NSAIDs; reschedule the surgery if necessary.
- repeat full blood count and group and screen.
- weigh patient and calculate blood volume: estimate volume of blood which can be lost before haematocrit drops to 0.22 (haemoglobin approximately 8g/dl) from current preoperative level.
- consider feasibility of ANH or intraoperative cell salvage depending on nature of procedure and amount of blood likely to be lost.
- consider use of tranexamic acid if there are no contraindications.

iii) During surgery

- be prepared to prolong the procedure in order to secure surgical haemostasis with sutures and diathermy.
- use acute normovolaemic haemodilution and/or cell salvage if appropriate for patient.
- consider use of aprotinin infusion to reduce bleeding in major surgery.
- anaesthetists may wish to consider use of hypotensive surgery.
- avoid hypothermia as this prevents proper function of the coagulation cascade. All intravenous solutions and blood components should be given through a fluid warmer and the patient should wear a bear hugger and hat for prolonged surgery.
- the availability of near patient testing, particularly for coagulation, may allow rapid correction of abnormal haemostasis and therefore reduce the number of blood components transfused.
- surgeons should consider use of fibrin glues or sealants as appropriate.
- tranexamic acid may be started towards the end of surgery if appropriate.
- avoid unnecessary over haemodilution with crystalloid or colloid as this increases blood pressure and alters haemodynamics, thus increasing bleeding.

iv) Post-operative care

- acceptance of a lower post-operative haemoglobin (7g/dl).
- acceptance of small volume transfusions (1 unit) to exceed transfusion trigger only.
- use of continuous oxygen by face mask for 72 hours post-operatively.
- routine prescription of iron (with vitamin C) and folic acid post-operatively.
- continue tranexamic acid for 72 hours if appropriate.
- give an immediate postoperative dose of erythropoietin, which will reduce the lag time before bone marrow responds to anaemia.

To put any of these plans into practice requires effective teamwork with all involved fully understanding and believing in the rationale for trying to avoid excessive transfusion of blood components. The prospect of possible blood shortages once a vCJD blood test becomes available should provide the motivation and the added impetus to start putting these kind of plans into practice now.

Bloodless surgery

There is an increased awareness of the risks of blood transfusion, in particular the infectious risk, which ironically has come at a time when these risks are probably the lowest they have ever been. However, particularly in the United Kingdom, we now have an unknown risk related to the transmission of variant CJD by blood transfusion. We therefore foresee an increase in the demand for bloodless surgical practice from our patients. In addition, it is prudent for medical practitioners

to learn from the experiences of the Bloodless Surgery Centres in the United States, as we may be faced with a major shortfall in the blood supply within the next 12-18 months. Thirdly, in the light of the known and unknown risks of blood transfusion, however small these may be, we have a medico-legal responsibility to avoid unnecessary blood transfusion. The United States estimates that 25% of red cell transfusions are unnecessary, and I suspect that a similar figure could be applied here in the UK. We are therefore in a position where the practice of “bloodless” or transfusion-free surgery should be carried out where it is medically feasible and safe.

A further driver to reducing the routine transfusion of blood components arises from population demographics: as the population ages there are fewer potential blood donors, and a greater number of older people requiring surgery. (The USA predicts a major blood shortage by the year 2030 due to the ageing population of baby boomers.)

Bloodless surgery is espoused by members of the Transfusion Medicine Community in the United States. At Washington University School of Medicine in St. Louis, there are three main proponents of bloodless surgery. These are Gerald L. Androle Jr, Professor of Urologic Surgery, Lawrence T. Goodnough, Professor of Medicine and of Pathology and Terri G. Monk, Associate Professor of Anaesthesiology. A large amount of useful clinical work has been carried out by this team and published in high quality medical journals. They use preoperative erythropoietin routinely although they have found it to be more costly than blood transfusion, if the cost is compared directly with the bag for bag cost of blood. However they are now looking at lower dose schedules of erythropoietin and of course the broader “real cost” of blood transfusion. The team also use acute normovolaemic haemodilution as standard; often 3 or 4 units are removed from the patient in the anaesthetic room, and replaced with crystalloid and colloid.

This is much cheaper than preoperative autologous deposit and the chance of administrative mix-up and of transfusion transmitted infection are much reduced.

A useful website in the United States regarding bloodless surgery is the University Centre for Bloodless Surgery and Medicine, University Hospital, Newark, New Jersey: www.theuniversityhospital.com/bloodless/index.htm. This contains lists of centres in the United States offering bloodless surgery, lists of practitioners and information about alternatives to blood transfusion.

Dr Clare Taylor

Consultant in Haematology and Transfusion Medicine
National Blood Service & Royal Free Hospital

BIBLIOGRAPHY

1. Saborio, G. P., Permanne, B., Soto. C., (2001) Sensitive detection of pathological prion protein by cyclic amplification of protein misfolding. *Nature*, 411:810.
3. BCSH Guidelines for the clinical use of red cell transfusions (2001) *British Journal of Haematology*, 113: 24-31.
4. Association of Anaesthetists Guidelines: Red cell transfusion (2001) *British Journal of Anaesthesia*, (in press).
5. Goodnough, L.T et al (1997) Erythropoietin therapy. *New England Journal of Medicine*, 336: 933-938.

6. De Castro, R. M (1999) Bloodless surgery: establishment of a programme for the special medical needs of the Jehovah's Witness community: the gynaecological surgery experience at a community hospital. *American Journal of Obstetrics and Gynaecology*, 180: (6): 1491-97.
7. Muramoto, O (2001) Bioethical aspects of the recent changes in the policy of refusal of blood by Jehovah's Witnesses. *British Medical Journal*. 322: 37-39.
8. Geneva (May 2000) Proceedings of the First European Congress on Bloodless Healthcare.
9. Awake! (Jan 2000) Published by Watch Tower, Bible and Tract Society of New York - Blood in surgery the growing demand.

The Role Of Clinical Audit In Ensuring Appropriate Use Of Blood

Our responsibility is to conserve the scarce blood supply for those patients who need it most, whilst ensuring that others are not unnecessarily exposed to an as yet unknown risk. All available means must therefore be used to ensure that blood is only ever transfused when clinically indicated.

A renewed emphasis must be placed on clinical audit to monitor and improve practice against agreed guidelines. Transfusion audit is an important part of the remit of hospital transfusion committees and of the newly established National and Regional Transfusion Committees, whilst haematologists, transfusion nurses and blood bank staff share a vital role in promoting appropriate blood use.

Effective clinical audit requires good information. It is the responsibility of all who prescribe blood components to ensure that the reason for the request is clearly documented on the request form and in the clinical notes, and supported by the results of relevant investigations. A request for blood components should not be regarded as a requisition but as a clinical consultation and the decision to transfuse should be made by experienced clinical staff in accordance with agreed policies. Use of an ‘educational’ request form, review of unusually large blood requirements, empowerment of blood bank staff and transfusion nurses to challenge requests, and regular feedback via the Hospital Transfusion Committee can all be effective methods of reducing inappropriate use. The facility to analyse data and provide useful information on blood usage should be considered a mandatory requirement of a blood bank computer system.

The essential questions to ask when planning an audit are “What is the aim of the audit?” and “What are the standards against which to compare practice?” In a blood transfusion setting, the answer to the first question will frequently be “To reduce inappropriate use” whilst the second question may not be easy to answer without good evidence for the efficacy of blood transfusion. Simple benchmarking of blood component use may be conducted at local, national or even international level, and used to highlight variations in practice. But participation in benchmarking requires commitment by clinicians to investigate differences and effect change as a result.

Transfusion practice can be improved by basic interventions such as implementation of an agreed post-operative transfusion protocol, which has reduced transfusion rates in patients undergoing knee replacement in one unit from 66% to 30%¹. Discharge haemoglobin level has been recommended as an audit standard in surgical practice² but transfusion audit in medical specialities is more complex.

As the balance between supply and demand becomes ever more marked, there is an increasing responsibility to demonstrate that stocks are managed optimally. Wastage of components may result from time expiry, incorrect storage or handling in clinical areas, with frozen components sometimes thawed and not used. Wastage should be regularly audited and appropriate action taken. Review of surgical blood order schedules should be supported by audit of emergency blood provision for patients 'grouped and saved', so clinicians are confident that patient safety will not be compromised if blood is not cross-matched in advance of surgical procedures.

The burden imposed by clinical audit on the already onerous workload of haematologists and blood bank staff should not be underestimated and needs to be allowed for in manpower planning. Specialist Transfusion Nurses can provide much needed support for audit and monitoring in addition to their valuable role in education and training. The NBS clinical audit department, contacted via the hospital liaison consultant, provides advice and expertise in audit planning, and will facilitate sharing of audit tools and dissemination of good practice, in addition to undertaking a programme of national audit projects. A national audit of FFP and cryoprecipitate use is under way and, in collaboration with the Royal College of Physicians, a national comparative audit of red cell transfusion is in the planning stage. The success of these projects is entirely dependent on the commitment and co-operation of hospital colleagues. We will do our best to make data collection as easy as possible and avoid bombarding you with too many questionnaires!

Clinical audit is an essential component of clinical governance and professional development. Evidence of participation is required by doctors for training and revalidation, and by laboratories seeking accreditation. It is a disciplined, iterative process that should be part of the day-to-day activity of clinical teams. When supported by evidence based practice and coupled with effective mechanisms for change, clinical audit can be a powerful tool with which to achieve better blood transfusion.

Dr Dorothy Stainsby
Head of Clinical Audit

¹ Boralessa H et al in press

² Goodnough L.T., et al (1994) Discharge haematocrit as clinical indicator for blood transfusion audit in surgery patients. *Transfusion Medicine*, 4 35-44

FEEDBACK

We are always interested in your comments and feedback on Blood Matters. We are constantly striving to improve Blood Matters and your suggestions help us in this task. If you have any comments please contact Chris Hartley on chris.hartley@nbs.nhs.uk, or phone 01923 486800 or fax 01923 486801.

Establishment Of National And Regional Transfusion Committees And The 'Better Blood Transfusion' Initiative

A National Transfusion Committee will be established to replace the National Blood User Group (NBUG) along the lines of recommendations by the WHO blood Safety Unit for a National Committee on the Clinical Use of Blood. An Interim National Transfusion Committee (Chairman: Professor E.C.Gordon-Smith) was set up in September 2000 with the objective of establishing National and Regional Transfusion Committees. Its membership included the ex-Chairmen and Blood Bank Members of the NBUG and Zonal Blood User Groups to provide a link with the previous User Group structure.

The terms of reference and membership of the National and Regional Transfusion Committees were finalised by the Interim National Transfusion Committee following two consultation exercises with hospitals and relevant professional bodies, and were widely circulated in July 2001. Meetings of Regional Transfusion Committees are beginning to take place, and the first meeting of the National Transfusion Committee will be held on 3rd December 2001.

The primary purpose of this initiative is to promote safe and effective transfusion practice in hospitals in accordance with the HSC 1998/224 'Better Blood Transfusion', which highlighted the essential role of Hospital Transfusion Committees. A two-way flow of information between Hospital Transfusion Committees and the Regional and National Transfusion Committees is envisaged to encourage good local blood transfusion practice and implement national transfusion guidelines. In addition, the identification of problems in any aspect of blood transfusion including the delivery of services by the National Blood Service remains within the remit of the Regional and National Committees. It is proposed that the National Transfusion Committee will be accountable to the Chief Medical Officer (CMO), and the Chairman appointed by the CMO.

It is planned to highlight this initiative at a second CMOs' Seminar on 'Better Blood Transfusion' involving an invited audience on October 29th 2001. The overall objectives of the Seminar will be to: -

- Publicise a new partnership between Blood Services, hospitals and the public that the absolute safety of blood cannot be guaranteed and that avoiding transfusion where possible must be an aim of clinical care,
- Consider approaches for strengthening hospital blood services and the work of Hospital Transfusion Committees, including the wider implementation of protocols for the safe and effective use of blood and promoting the role of Transfusion Nurses.

It is envisaged that a clear policy statement or Health Services Circular outlining immediate actions to be taken including an ongoing programme for 'Better Blood Transfusion' will be made following the Seminar. A website providing information about the Seminar will be set up in advance of the meeting.

Dr Mike Murphy
Lead Consultant, Hospital Liaison