

## Transfusion news

### Introducing a valuable new TMS team member, ERIC ...

In June 2006, the ARCBS Transfusion Medicine Services (TMS) team implemented a new, national, web-based data collection system called ERIC (Electronic Returns Information Capture) to track discards of blood components in hospitals and laboratories.

The program is easy and fast, creating little extra work for its users. It operates via a web interface and uses a password-protected unique log in.

Hospitals and laboratories scan in the bar-coded unit number, product code, and blood group from the component bags. The reason for the discard is then selected from a drop-down menu and there is an option to add additional comments where these may be informative, before disposing of the unit at the hospital.

ERIC has already been highly effective in enabling hospitals, labs and the ARCBS to identify ways to minimise wastage of precious blood and blood products.

Institutions can easily prepare a report on their own activity for presentation to their transfusion committee. The ARCBS has been pleased to see a substantial number of laboratories taking action to reduce wastage based on review of their own results from ERIC.

In the pilot we identified that wastage of frozen products could be reduced by improving the packaging of these fragile components. We have also made changes to our issue policy for apheresis platelets resulting in reduced waste in hospitals.

In October alone, the system collected 2,600 records of discarded blood components.

The fully-fledged ERIC system was launched on 1 July this year and is now widely used in Victoria, Queensland, South Australia and Tasmania, with an increasing number of laboratories and hospitals in New South Wales also joining the scheme.

**The availability of nationally consistent data will create the opportunity to benchmark practices across States and organisations, to identify best practice and learn about better blood inventory management.**

### Other data include:

#### For red cells:

- Discard rates ranged from <1% to 6.5% for metropolitan hospitals, up to 28% for regional/remote organisations
- Discard rate for O- red cells was four times the rate for O+ and twice the rate for A-

#### For frozen products:

- 38% of discards were due to product being thawed and not subsequently used within the limited time specified
- 25% of discards were due to damage to the fragile product



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## Plasma Fractionation Review

At the time of going to print, the report from the Steering Committee into the review of Australia's plasma fractionation arrangements has not yet been released.

Newspaper reports suggest the review committee has recommended against the offshore fractionation of plasma sourced from Australia's voluntary donors, a position strongly advocated by the ARCBS and others. The same reports suggest that the committee has recommended that the ARCBS be provided with additional funding to support enhanced marketing and customer service strategies and that all Australian governments support a vigorous campaign to encourage more Australians to be blood donors to meet the anticipated increase in demand for plasma products in the next decade.

Once the report is released by the Minister for Health and Ageing, Tony Abbott, the ARCBS will provide informed comment.

**For further details, contact Dr Erica Wood on 03 9694 0203 or Dr Joanne Pink on 07 3851 4217 or visit [www.donateblood.com.au](http://www.donateblood.com.au)**

## CSL reviews packaging for plasma derived products



CSL Bioplasma, Australia's national fractionator, provides a wide range of plasma-derived therapeutics for use by healthcare professionals in the care of Australians. CSL Bioplasma ensures that the plasma donations voluntarily made by the citizens of Australia, and collected by the ARCBS, deliver the benefits that self-sufficiency provides – a sustainable, reliable and high quality source of plasma-derived therapeutics.

Working with the ARCBS, CSL Bioplasma aims to manufacture a range of plasma-derived therapeutics that deliver optimal end-user safety and convenience. To this end, recent product enhancements have been introduced including:

- the inclusion of two viral inactivation/removal steps in the manufacturing process of all plasma-derived therapeutics fractionated by CSL Bioplasma
- packaging of the range of lyophilised plasma-derived therapeutics with the Mix2Vial needleless reconstitution device and Water for Injections in glass vials
- introduction of a 25°C storage temperature option for BIOSTATE®, and the launch in 2007 of the 500 IU presentation of BIOSTATE.

As part of this process of product enhancement, CSL Bioplasma has commenced a review of all packaging elements across all products. The review will cover:

- the potential for improvements to all aspects of current packaging including bottles, rubber stoppers, cartons, labels, shippers etc
- new ways to package existing products
- a review of issues related to packaging which potentially affect all products, such as tamper evidency.

To ensure the success of this review, feedback will be sought from healthcare professionals including prescribers, and those who administer, reconstitute, store or transport plasma-derived therapeutics fractionated by CSL Bioplasma.

Your suggestions for review of the packaging of these products is valued and can be given by completing a survey on the ARCBS website which will be available in the new year. In addition, research on specific aspects of CSL Bioplasma's packaging will be directed to relevant groups via surveys and face-to-face interviews.

Your feedback will assist in improving the end user safety and convenience of these products, and contribute toward ensuring that Australia continues to access a world-class range of plasma-derived therapeutics.

## Prothrombinex changes

CSL Bioplasma has commenced fractionating PROTHROMBINEX-VF, incorporating a second dedicated viral reduction step – viral removal by nanofiltration. It is fractionated from voluntary plasma donations collected by the Australian Red Cross Blood Service.

The product it replaces, PROTHROMBINEX-HT, has an excellent viral safety record and this additional viral reduction step will further enhance its safety profile.

As a result, CSL Bioplasma is now the first plasma fractionator in the world to offer a complete portfolio of plasma-derived therapeutics fractionated using two dedicated viral inactivation and reduction steps.

The new, enhanced PROTHROMBINEX-VF has been phased in from July through to December 2006 as the product it replaces, PROTHROMBINEX-HT, is consumed.

The new product can be recognised by the suffix -VF (viral filtered) instead of -HT. PROTHROMBINEX-VF has a new product number and barcode, but all other aspects of the product, such as indications for use, route of administration, dose, and shelf life, remain unchanged.

**For more information about PROTHROMBINEX, contact the Australian Red Cross Blood Service, CSL Bioplasma, or your hospital blood bank or pharmacy.**



## Transfusion Practice Improvement Network (TPIN) meeting

A workshop to bring together the various groups actively involved in transfusion practice improvements was held in Sydney in September.

The meeting was initiated by Dr Amanda Thomson (Royal North Shore Hospital, Sydney and ARCBS) and Dr Kathryn Robinson (Queen Elizabeth Hospital, Adelaide and ARCBS/BloodSafe), and sponsored by the National Blood Authority (NBA), the Australian and New Zealand Society for Blood Transfusion (ANZSBT) and the ARCBS.

The established collaborative groups, hospitals, pathology services (including the private sector), ARCBS, the New Zealand Blood Service (NZBS), State governments, and the NBA were all represented.

Participants shared information about their programs and future plans, discussed how good ideas could be widely and rapidly disseminated, debated whether there was an opportunity for the groups to work together in the future and, if so, how best to do this. It was agreed that ANZSBT as the professional representative body would be the most appropriate group to coordinate these activities, in active partnership with ARCBS and NZBS, and supported by the NBA.

Many thanks from all involved to Amanda Thomson and Kathryn Robinson, to Bernie Harrison of the NSW Clinical Excellence Council for facilitating the meeting, and to Maria Burgess and Jen Roberts at the NBA for administrative support.



# Updated estimates of residual risks of transfusion-transmitted infections

The ARCBS publishes estimates of the residual risks of transfusion-transmitted infections in *Medilink* as a service to clinicians to guide transfusion decision-making and informed consent processes.

## Risk estimates for transfusion-transmitted infectious agents

Agent & Testing Standard	Window period (Days)	Estimate of residual risk 'per unit'*
HIV1 and 2 antibody only	22	1 in 2,976,000
HIV antibody + NAT	9	1 in 9,242,000
HCV antibody only	66	1 in 408,000
HCV antibody + NAT	7	1 in 6,387,000
HBV (HBsAg)	38	1 in 633,000
HTLV I & II antibody	51	1 in 6,820,000
Variant Creutzfeldt-Jakob Disease (vCJD) [No testing]		Possible. Not yet reported in Australia. See section below.
Malaria antibody	N/A	1 in 4.9 to 1 in 10.2 million

\* Viral risk estimates are based on ARCBS data from 1 January 2004 to 31 December 2005

*Viral estimates: Seed, CR, Kiely P and Keller AJ. Residual risk of transfusion transmitted human immunodeficiency virus, hepatitis B virus, hepatitis C virus and human T lymphotropic virus. Intern Medicine Journal 2005; 35(10): 592-8*

*Malaria: Seed, CR. Residual Risk Estimates for Transfusion Transmitted malaria (TTM). ARCBS DPARC: November 9/10 2005 meeting.*

There have been no reported cases of transmission by transfusion of classical Creutzfeldt-Jakob Disease (cCJD), and retrospective studies suggest that the possibility of such transmission of cCJD is remote.

To date no Australian has been infected with vCJD. In the UK there have been a small number of reported cases of probable transfusion transmission since 2004. In Australia, as a precaution, people who have spent a cumulative period of six months in the UK between 1 January 1980 and 31 December 1996 and/or had a transfusion in the UK between 1 January 1980 and the present time are not accepted as blood donors.

## Non-Viral risks of blood transfusion

The most frequently reported serious or fatal complications of blood transfusion are bacterial contamination, transfusion-related acute lung injury (TRALI) & ABO incompatibility (the latter mostly due to preventable patient or sample identification errors). Other serious risks associated with transfusion, based on overseas estimates, are outlined below.

## Reported Non-viral Serious Risks of Blood Transfusion

Adverse Reaction	Risk per unit transfused (unless specified)
Bacterial sepsis (platelets)	1: 100,000
Haemolytic reactions	Acute Delayed
	1: 12,000 to 77,000 1: 4,000 to 9,000
Anaphylaxis – IgA deficiency	1: 20,000 to 170,000
Fluid overload / cardiac failure	Up to 1% of patients receiving transfusions
TRALI	1: 5,000 to 10,000
Transfusion-associated graft v host disease	Rare

Reference: ARCBS Blood Component Information Booklet 2006

## Non-clinical blood requests

The ARCBS support research, teaching, QA programs and other non-clinical activities that require an ongoing supply of blood samples or components. The service, which is referred to as 'non-clinical supply', is nationalised and co-ordinated by the Intellectual Property Adviser based in Sydney.

Requests for blood or blood components are frequently received from a range of organisations including specialised research institutes, educational institutions (universities, TAFE and schools), commercial entities, the health sector (ie. hospital laboratories) and government (eg. forensic laboratories). The diversity of non-clinical use ranges from the need for blood samples, components or derivatives of these to establish normal ranges and controls, for clinical trials, for validation of kits and equipment and training staff to advanced research.

Wherever possible, ARCBS supplies products such as blood samples, whole blood packs and blood components (including buffy coats, fresh frozen plasma, red blood cells, serum and pooled platelets) to meet such requests. Specific requirements such as blood groups, phenotypes or presence of specified antibodies may sometimes be met. Due to the ever present clinical demand for blood products, the availability of blood products for non-clinical use needs to be assessed against a variety of factors before supply can be offered.

For an organisation external to ARCBS to obtain blood samples or components, a request form must be completed and lodged. The Intellectual Property Adviser will process the request form, confirm that ARCBS is able to commit to supplying the product required and ensures that the material will be used for a purpose in keeping with ARCBS policies and obligations to our donors. In some cases approval to supply for a particular purpose from the ARCBS Ethics Committee will be required.

If a request to supply is approved, a supply contract or material transfer agreement is entered into between ARCBS and the receiving party. Supply may be for one instance or for repeated supply over a maximum duration of two years. Once the agreement is executed, an order form is provided to place an order for the material with most often the ARCBS Blood Bank in the organisation's locality. Products are generally supplied free of charge in most States, in others a service and consignment fee is charged for each issue of product.

**Enquiries relating to non-clinical supply should be sent to:**  
[non-clinicalsupply@arcbs.red.cross.org.au](mailto:non-clinicalsupply@arcbs.red.cross.org.au)

## Diary date: Transfusion Update

The 2007 Transfusion Update will take place at the Adelaide Festival Centre from 9-11 May.

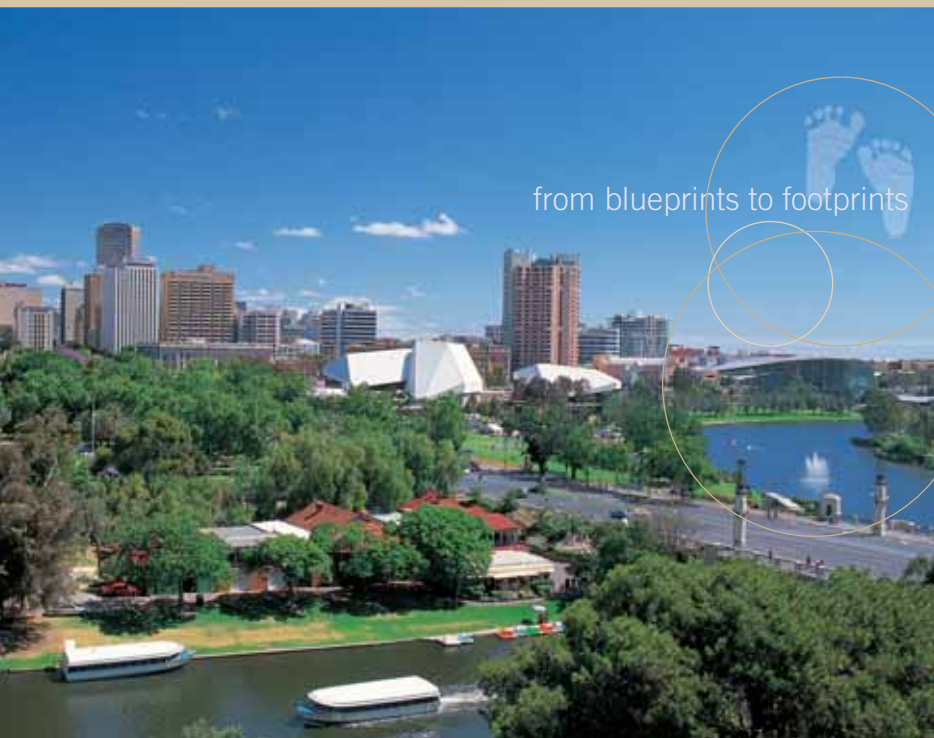
The theme for 2007 is "From Blueprints to Footprints" and will have a program consisting of a wide range of international faculty covering the latest and future news of the industry.

An exciting addition to the program for 2007 is a public lecture which will take place 6-8pm on Wednesday 9 May. This lecture is entitled; "All you really need to know about blood transfusion but were afraid to ask." This lecture is open to both delegates and the general public and is a great opportunity for questions and further learning.

Delegate package includes:

- 3 days of lectures from internationally renowned speakers
- Fully catered lunches and tea breaks
- Welcome reception
- Access to public lecture
- Gala dinner at the South Australian Museum

**For further information, visit [www.transfusion.com.au](http://www.transfusion.com.au) or contact Karina Gibson ([kgibson@arcbs.redcross.org.au](mailto:kgibson@arcbs.redcross.org.au)) on 02 9333 3210.**



## Criteria for IVIg use in Australia

On 27 October 2006 the Jurisdictional Blood Committee (JBC) Intravenous Immunoglobulin (IVIg) Working Party released for comment an exposure draft of a document entitled 'Criteria for IVIg Use in Australia'.

ARCBS Transfusion Medicine staff provided comprehensive specialist comments on the draft, including the clinical scenarios for which IVIg is used in Australia, as well as feedback on the section regarding the supply of plasma

for production of IVIg, and Australia's policy (in line with World Health Organization policy guidelines) of national self-sufficiency in blood and blood products.

ARCBS participated in the workshop held on 24 November 2006. Responding to feedback at the workshop, the JBC Working Party has now advised that additional comments may be received, with submission of new conditions for consideration due by 15 December 2006.

## Seeing it in the STARS

Supply Tracking Analysis and Reporting System (STARS) is a new national web-based database developed by David Jones and his colleagues in Transfusion Medicine Services (TMS).

STARS replaces at least three different legacy databases in each state that were used to record and report on the issue and use of Intravenous Immunoglobulin (IVIg).

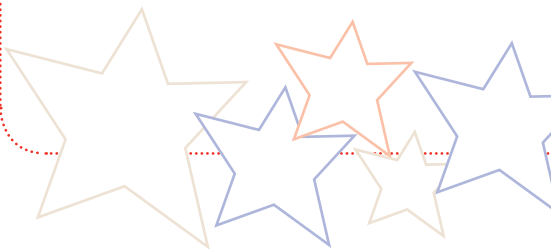
STARS allows ARCBS to collect information about IVIg issues along with patient clinical condition and other details.

Since the initial success of STARS, the system has been expanded to capture issues of 17 additional specialised products such as CMV and Zoster immunoglobulin, RhD immunoglobulin (Anti-D) and coagulation factors.

In the future, this detailed information will help ARCBS to identify the indications for the use of these products in more detail, and will assist in clinical supply planning as well as meeting certain aspects of reporting under the Deed agreement by which we receive our funding from the NBA.

Only staff in I&D departments and staff within TMS at the ARCBS have access to this database in order to maintain patient confidentiality.

**For more information contact David Jones, TMS, 08 8100 4609**



Submissions of revisions to conditions already listed, and proforma for new indications, should be received by 15 January 2007.

Comments may be sent to Graham Brown ([graham.brown@nba.gov.au](mailto:graham.brown@nba.gov.au)) at the National Blood Authority. The ARCBS has been advised that a revised version of the document will be made available for written comment in early February, with submission of the final document and recommendations to JBC in April 2007.