



## Hemovigilance and TRALI

On rare occasions, patients who receive blood transfusions can develop a condition called TRALI: Transfusion-Related Acute Lung Injury. Some reactions are mild, some are severe. According to cases reported to the FDA, the number of patient deaths linked to TRALI have risen over the past several years in the US (from 21 cases in 2003 to 35 cases in 2006).

By increasing awareness and recognition of TRALI, we hope to improve reporting of, and ultimately prevent,

potential TRALI reactions. United Blood Services supports the AABB's initiative to establish a nationwide hemovigilance system for reporting suspected cases of TRALI. By increasing communication with the hospital transfusion services and clinicians taking care of the patients involved in suspected TRALI reactions, we will further enable investigation of this incompletely understood reaction.

So far in 2007, the national office of United Blood Services has investigated 10 cases of suspected TRALI. (For more information on reporting transfusion reactions, please visit [www.UnitedBloodServices.org](http://www.UnitedBloodServices.org), click on the Hospitals/Physicians tab, choose Transfusion Medicine from the directory and scroll to the section on Transfusion Reactions.) The reporting of these adverse events has been instrumental in identifying donors at high risk

for causing TRALI, leading to their appropriate deferral and further reducing the risk of TRALI from the blood supply.

The current literature suggests that a large percentage of TRALI cases are linked to high plasma volume products such as plasma and pheresis platelets from donors who have developed specific antibodies directed toward the white blood cells of recipients. In an effort to reduce the likelihood of transfusing plasma with these specific antibodies, United Blood Services has taken initial measures to prevent donation of transfusable plasma from donors who have been transfused or women who have been pregnant (groups considered to be at high-risk for developing these specific antibodies).

While these measures help increase the safety of the blood supply, they also effectively reduce the number of donors eligible to donate plasma for transfusion. In the first two months since implementing the measures to reduce TRALI, the number of donors eligible to donate transfusable plasma has been reduced by 33 percent.

To maintain a strong plasma supply, we have revamped our platelet and plasma donor recruitment efforts, increased the availability of FP 24, (plasma frozen within 24 hours of collection), and encourage clinicians to consider "group compatible" rather than "group specific" plasma for their patients. The table below illustrates group compatibilities for frozen plasma:

*Frozen Plasma: No D Requirement*

Recipient's ABO Group	Component ABO Group
O	O, A, B or AB
A	A or AB
B	B or AB
AB	AB

Our current approach represents what we believe to be an effective and judicious strategy for reducing instances of TRALI while we continue to learn more about it through basic science and improved data collection.

### Reference

1. Kleinman S, Caulfield T, Chan P, et al. Toward an understanding of transfusion-related acute lung injury: statement of a consensus panel. *Transfusion* 2004;44:1774-89.

### Recommended criteria for TRALI and possible TRALI<sup>1</sup>

#### 1. TRALI criteria

- a. ALI
  - i. Acute onset
  - ii. Hypoxemia ( $\text{PaO}_2/\text{FiO}_2 \leq 300$ , or  $\text{SpO}_2 < 90\%$  on room air, or other clinical evidence of hypoxemia)
  - iii. Bilateral infiltrates on frontal chest radiograph
  - iv. No evidence of left atrial hypertension (i.e., circulatory overload)
- b. No preexisting ALI before transfusion
- c. During or within 6 hr of transfusion
- d. No temporal relationship to an alternative risk factor for ALI

#### 2. Possible TRALI

- a. ALI
- b. No preexisting ALI before transfusion
- c. During or within 6 hr of transfusion
- d. A clear temporal relationship to an alternative risk factor for ALI



## Chagas' Testing Reveals 98 Positive Cases Nationwide

In the five months since testing for Chagas' disease was licensed by the US Food and Drug Administration, there have been 98 confirmed cases of antibody to the *T. cruzi* parasite in donated blood throughout the United States. These test results indicate that United Blood Services' decision to promptly implement Chagas' testing was the right step to take to help protect patients from this rare but serious disease. While the test is not yet mandated by the FDA, United Blood Services began Chagas' testing January 29 of this year.

*T. cruzi*, the parasite responsible for Chagas' disease, is found primarily in Central and South America, but with the growth in immigration from Latin America, there is concern that Chagas' disease will become more common in the United States. People with the infection often have no symptoms, but some develop the disease long after they've been infected.

As of June 6, California has the greatest number of Chagas' positive units with 33 units testing confirmed positive. In addition to the 98 confirmed positives found nationwide, 388 blood units tested as "repeat reactive" for Chagas'.

Because there are profound differences between Chagas' disease and some other diseases transmitted by blood transfusion, the best way to use the new Chagas' test is not known today. Before testing began in

January, scientists at Blood Systems Research Institute and staff at Blood Systems Laboratories designed a study to generate data helpful in determining the best way to apply this test.

Soon, all components provided by United Blood Services will have been tested for Chagas'. The results of the testing will provide a clearer picture of the prevalence of infection in the country. We will use our research results (tests and related donor information) to provide a recommendation to the FDA on the most effective way to screen the blood supply for Chagas'. If the data presented support the move, it is possible that testing will be restricted to first-time donors and donors who have resided in or traveled to areas at risk.

"We began Chagas' testing as a cautionary measure because we knew that testing will make the US blood supply safer," says Peter Tomasulo, MD, Chief Medical Officer of United Blood Services. "Our concern is always for patient safety. We designed the research project so that we could provide data to the FDA to help the agency determine the most cost-effective way to apply this test to make blood safer."

The AABB is maintaining a Chagas' Biovigilance Network online at [http://www.aabb.org/Content/Programs\\_and\\_Services/Data\\_Center/Chagas/chagas.htm](http://www.aabb.org/Content/Programs_and_Services/Data_Center/Chagas/chagas.htm).

## Submit Applications for Label Variance Sooner Rather than Later!

To better serve our customers, United Blood Services has moved our *ISBT 128* transition date to November 12, 2007. We want to ensure that all facilities that plan to label blood products are moving forward

with their plans for implementation and will be ready to switch to the new labeling November 12. In order to comply with US Food and Drug Administration regulations, all facilities requiring a variance to any type of *ISBT 128*

blood label will need to submit their labels to FDA for approval prior to the new deadline. The FDA approval process may take several months. Here are some guidelines for submitting your labels:

1. Acquire a list of FDA-approved *ISBT 128* label types, *US Labels to be Submitted to the FDA*. The list is available on our Web site at [www.UnitedBloodServices.org/HH/isbt-labeltypes.asp](http://www.UnitedBloodServices.org/HH/isbt-labeltypes.asp). It is also available on the Members side of the ICCBBA Web Site: [www.iccbba.org](http://www.iccbba.org). (Click on *US Labels to be Submitted to the FDA*.)

2. If any of your labels vary from the list of FDA-approved label types, you will need to apply for a variance. Print out samples of all *ISBT 128* labels that your facility will need to submit for variance.

3. Fill out FDA Form 2567, *Transmittal of Labels and Circulars*. (Available at [www.fda.gov/opacom/morechoices/fdaforms](http://www.fda.gov/opacom/morechoices/fdaforms); then scroll to Form 2567.)

4. Submit your sample labels and Form 2567 along with a cover letter requesting a variance to the wording of the component description. Include this verbiage in your cover letter: "*We are requesting a variance under 21 CFR 640.120 for [your facility name] to use the United States Industry Consensus Standard for the Uniform Labeling of Blood and Blood Components using ISBT 128 Version 2.0.0 instead of 21 CFR 606.121(e)(1)(ii).*"

5. The FDA will respond with either approval, rejection or suggestions for changes to the application.

Please keep in mind that the variance approval process could take several months and therefore your application will need to be submitted well in advance of the November 12 deadline. As always, if you need any help with your application submission or have any other questions regarding the *ISBT 128* transition, contact your local United Blood Services representative or Helen Pleasant at [isbtcoremb@bloodsystems.org](mailto:isbtcoremb@bloodsystems.org).

