



# e-Network Forum

## CALIFORNIA BLOOD BANK SOCIETY

"We help save lives of people who need blood"

Search CBBS Website

### ***Prevention of Mislabelling of Pre-transfusion Compatibility Specimens***

**The Chairperson of a Transfusion Committee of a 450-bed hospital in Pittsburgh, PA** wrote that his hospital has experienced a steady (10 per month) level of mislabeled pre-transfusion specimens. This problem has been refractory to training and education efforts. The Transfusion Committee Chair thinks this problem may be attributable (at least in part) to a large number and high turnover rate of the personnel (largely nurses) assigned to phlebotomy tasks, although some errors involve persons with considerable experience. The inquiring member thinks that this is the most serious patient transfusion safety issue that he faces, and he would like to institute a "fail-safe" automated system, but is having difficulty finding and pricing **commercially available systems**. He has requested a list of these products.

---

In response to this plea, the e-network membership has provided the following information and suggestions:

1. **Commercial systems** (please provide more information if the following list is missing a product):

**Typenex Blood Recipient Verification System** by Baxter International

**Secureline Blood Bank Identification Wristbands** by Precision Dynamics Corporation.  
Customer Service 800-847-0670 (7:00 AM - 5:00 PM Pacific Time).

**Identi-Print** by Bio-Logics (no additional contact information was provided)

**I-Trac** by Immucor (*status unknown as of Oct. 3, 2002*)

**Blood-Loc** by Novatek, call Novatek at 800-358-5023. See [Wenz B and Burns ER, Transfusion 1991](#)

2. A member from **Texas** commented that **Becton Dickinson** has a patient identification system, and that information about it can be obtained by contacting either Veronica Martinez at (800) 595 0257 x4784 or Susan Gordon at (410) 365 3229.
3. **Another member from Texas** commented that in her 300-bed hospital, they also receive mislabeled specimens, but their use of a **separate banding system** usually keeps the redraws down to about 2 or 3 a month and that's mainly because the band has been cut off for some reason.
4. A blood banker in **New York City** said that, in his opinion, the 'only fail safe system' that he has seen successfully reduce mislabeled specimens is the **rejection (without exception) of every mislabeled specimen**. He says that in his experience, such a strategy eventually modifies behavior, and that the problem will be resolved. At the responding member's hospital, everyone was made to understand that there is a non-compromising policy that every mislabeled specimen will be rejected. The member reports that the problem of mislabeled specimens disappeared at his hospital after about 4-6 months following implementing this policy. [**Web Master's NOTE:** While I agree that it is very important to reject mislabeled specimens that have been submitted for blood bank testing, such a policy is just one aspect of an overall system to ensure that correctly identified and labeled specimens are submitted for laboratory testing].
5. A member from **Chicago** wanted to add a cautionary note. In his opinion, just because a patient identification system is **commercially available, one should not assume that such a system works flawlessly**. All such systems should be rigorously tested and monitored to detect potential system failures. As examples of system failures, the responding member mentioned two separate incidents where a phlebotomist failed to do a "light pen check" on a patient's wrist band. Instead, the "check" was done by using a bar-code that was in the patient's chart at a nurses station, and not by using the bar-code on the patient's wrist! This irregularity in performance was 'discovered' by an alert medical technologist, who witnessed the inappropriate behavior while hospitalized at a hospital where a commercial system had been implemented. Other inappropriate "workarounds"

may also occur.

6. A blood banker in **Southern California** commented that while there are several systems available that make use of bar-coded wristbands for positive patient ID, **an often overlooked solution is the use of a confirmatory blood type sample**. His institution requires a confirmatory typing to be performed on a **second** sample for any patient who types as other than group O AND who has no historical typing on file (autologous units count as a historical type). This actually results in very few second draws because they can often make use of other samples already in the Laboratory. The only requirement is for the second sample to have been drawn at a **different time** than the Blood Bank sample. In those instances where a second draw is needed, a laboratory phlebotomist is dispatched to collect the sample, so as not to burden nursing with the additional draw. In the case of pre-op patients drawn as outpatients, they send a list to the surgical admitting area each day telling them which patients require a second sample. They do not charge for the second typing. This policy has been well received by patients, once it is explained that the extra phlebotomy is for their safety. If there is insufficient time to collect a second sample, they use group O RBC units until a confirmatory typing is completed. Since implementation in this institution, **the system has resulted in the detection of numerous specimen mislabeling errors, and has prevented several potential hemolytic transfusion reactions**. Along with being much less expensive than a high tech solution, this method has the obvious advantage of guarding against errors in both sample labeling and laboratory testing. Further, because it is under complete control of the Transfusion Service, it is easy to manage.
7. A blood banker in the **Washington, DC** area informs us that **I-TRAC Plus** (Immucor, Inc.) is in a clinical trial at his facility and that the I-TRAC-Plus bar-code system ensures positive identification of patients' blood samples by generating a sticky label for tubes and accompanying forms. The hand-held device reads the patient's bar-code bracelet at the bedside and beams the information, including an electronic signature of the phlebotomist, to a battery operated portable printer that prints the label. The responding member's Blood Bank receives many mislabeled and otherwise unacceptable samples from nursing units that do not use the I-TRAC , but **the nursing unit using I-TRAC Plus has 100% accurate and complete labels and forms** because it's all electronic. The responding member's hospital has completed an evaluation in their Outpatient Infusion Service that is staffed by highly skilled nurse specialists with infusion certification. They were very enthusiastic about the system. They are about to begin an evaluation on a general nursing unit where they anticipate the possibility of some resistance to introducing this technology to some nurses who may not be facile with such devices. In the responding member's opinion, **the benefits of I-TRAC Plus are optimized when it is combined with an ABS2000 automated solid phase bar-code reading blood typing system** for hospital transfusion services. A related stand-alone system generates a bar code label for the blood component bag that is scanned at the bedside before transfusion. That step ensures positive identification of the patient and blood unit and, in addition, generates a sticky label with all of the pertinent information to document the start of the transfusion for the patient's chart. The responding member is unaware of any other hospital in the US that has implemented I-TRAC Plus into routine use. For more information, please read the following references:
  1. Marconi M, Langeberg AE, Sirchia G, Sandler SG. Improving transfusion safety by electronic identification of patient, blood samples, and blood units. *Immunohematology* 200;16:82-85.
  2. Langeberg AE, Berg M, Novak SC, Sandler SG. Evaluation of the Immucor I-TRAC system for positive patient, blood sample and blood unit identification. *Transfusion* 1999;39 (Supp):25S (abstract).

#### **ADDENDUM** Aug. 15, 2001

8. A blood banker from **Michigan** comments that without the cooperation of the nursing service, no patient identification system (not even a high-tech one) will work in a fail-safe fashion. While it has not reduced their labeling errors to zero, the responding member's institution has seen **significant change in behavior when the nursing department took ownership of the problem**. They now have a program that involves the nurse who mislabeled the specimen; the nurse must answer questions about how they mislabeled the specimen, and what could they do to prevent the error (much like items 6 and 7 on the Biological Product Deviation Report Form). If two nurses on the same unit mislabel a specimen, all nurses on the unit must complete the root cause analysis. The responding member has also reinstated annual competency assessments for all nurses who transfuse blood - including a quiz. Their error rate has dropped from 5 or six a month to one every other month.

Please submit comments to the [e-Network Forum](#).



**Printable PDF of this page**

**Ira A. Shulman, MD**  
CBBS e-Network Forum Editor & Moderator

**Posted:** August 15, 2001

**Addenda:** Aug. 15, 2001

**Link Updates:** Oct. 3, 2002;  
April 19 & Nov. 24, 2003; Feb.  
6, 2006

The e-Network Forum is supported by the California Blood Bank Society (CBBS) and endorses collegial discussion among blood banking and transfusion medicine professionals. However, the CBBS does not necessarily endorse the specific views and opinions expressed in the forum. The forum is not intended as a substitute for medical or legal advice and the content should not be relied upon for any medical or legal purposes. Readers should make their own determinations as to: (i) what constitutes appropriate medical, technical, and administrative practices, and (ii) how best to comply with laws and regulations relevant to their questions. For the latter, they should consider consulting, as to any medical matters, a qualified physician, and, as to any legal matters, an attorney familiar with related state and federal laws. The user of the forum, by accessing same, assumes all risks arising out of such use and releases CBBS and their respective members, directors, officers and agents from and against any loss, damage, claim or liability arising out of such use of the forum.