



Hospital Risk Management

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Blood bag lock, ID system helps prevent transfusion errors

A new combination lock for blood bags, coupled with a strong identification and cross-checking system, helps prevent transfusion errors, a study published in a recent issue of *Transfusion* shows.¹ Bloodloc, a product of Novatek Medical Inc. of Greenwich, CT, is a plastic combination lock attached to an outer bag containing the bag of blood. The combination to the lock, which is set by a technician, must be taken from the patient's wristband, thereby physically preventing the wrong bag of blood from being transfused to the wrong patient, according to the study. A bag that can't be opened is returned to the blood bank and a new one is requested.

Many hospitals' identification procedures help prevent transfusion errors by checking color or letter codes on the blood bags with the code on the patient's wristband, says Barry Wenz, MD, an author of the study, professor in the department of laboratory medicine, and director of clinical pathology at Albert Einstein College of Medicine in the Bronx, NY, where the study took place. But those processes alone can be circumvented accidentally if, for instance, bleary-eyed, overworked nurses misread the labels, he says, and they sometimes do.

Between 1976 and 1985, there were 355 reported fatal transfusion errors in U.S. hospitals.² "Clearly, 90% of these reported mistakes were due

to some form of clerical error, not technical or scientific," Wenz says. He estimates the number of serious transfusion errors which don't cause death to be 20 times that amount, putting the number of transfusion errors per year at about 2,600.

The single biggest transfusion problem, says Richard W. Boone, JD, a health care attorney in Arlington, VA, is when someone administers a unit of blood to the wrong patient. Hospital liability for blood transfusion errors is almost certain, he says. "It's the closest thing to an automatic you're ever going to want to see."

The damages in cases like these tend to be high, and hospitals don't have much defense, says Kevin Porter, JD, MPH, a partner with Bower & Gardner in New York. "It's very possible that a blood transfusion case involving death could put you in the seven figure range," he says. Porter says he knows of several cases pending where nurses gave incompatible blood to patients because the nurses misread the arm-bands of patients with similar names on the same ward. In one of the cases, the hospital faces tremendous potential damages because the patient's hospital stay was considerably lengthened and the patient suffered cardiac arrest, both allegedly caused by the transfusion. The case typifies blood transfusion error cases, he says, which frequently involve similar errors.

"When you learn that one of your loved ones has died because someone didn't read a label, it's crushing," he says, thus the high damages. But don't be lulled into thinking that because there don't seem to be many reported high verdicts for blood transfusion error cases, the danger isn't real. On the contrary, he says,

hospitals frequently settle out of court for large amounts that aren't reported.

"For a risk manager analyzing that not only from the point of view of quality patient care, but also from the point of view of managing potential loss, it's a good area to put more resources into making sure the mistake does not take place," he says. "This type of technology is very important because you have to keep in mind that if you do make a transfusion error, you are in a virtual liability situation."

The study found that Bloodloc, which costs about \$4.25 per unit of blood, protects against these common errors:

- improper patient identification when obtaining a blood sample;
- improper patient identification when giving a transfusion;
- misidentification of patients with similar names in the same ward.

It can't, however, protect against the blood bank preparing the wrong blood for an individual, Wenz says, but these errors are rare.

Gary P. Kraus, JD, director of risk management for the American Association of Nurse Anesthetists in Park Ridge, IL, says the combination lock sounds like a good idea, though he was unfamiliar with the product. Kraus was formerly with a facility that had a problem with transfusion errors that it solved by grouping the blood bags according to type in separate refrigerator bins, and labeling them with large, colored labels. Bloodloc is supposed to work as the last line of defense within a labeling identification system that crosschecks information for accuracy.

Staff at New England Deaconess Hospital in Boston transfuse about 250 to 300 units of blood a month, estimates **Wendy Sandberg**, RN, risk management coordinator, because the 489-bed teaching hospital performs a lot of transplant operations. The hospital has not had much of a problem with transfusion errors, she says, though it did have one error last January which prompted a minor policy change. Two registered nurses are now required to perform the checks and crosschecks of the medical record number, the donor number, the patient's name, and the patient's blood type.

The Bloodloc device sounds like an added safety feature, she says, but it would not be something her hospital would need because the staff is well-versed in the transfusion procedure and knows the potential for adverse occurrence if the policy isn't followed.

Study prevents three errors

During the study, 672 blood products were transfused to 312 patients, and participating hospital personnel were interviewed about using the lock. Blood bank personnel found that using Bloodloc only added about 30 seconds to their routine, and nursing staff members said they were frequently unable to comply with the hospital's policy requiring two people to confirm the information because of their other duties. They felt safer with the system as a back-up, researchers found.

Over the test period of five months, the system prevented three potential transfusion errors, according to the study. Twice staff attempted to transfuse the wrong patient, and the third time the sample specimen for cross-matching was taken from a patient other than the patient who needed the transfusion.

References

1. Wenz B, Burns ER. Improvement in transfusion safety using a new blood unit and patient identification system as part of safe transfusion practice. *Transfusion* 1991; 31:401-403.
2. Sazama K. Reports of 355 transfusion-associated deaths: 1976 through 1985. *Transfusion* 1990; 30:583-590. ■