Northwestern Memorial® HealthCare

PROMISE

2005 Annual Report

"Northwestern Memorial is one of the very few academic medical centers in the country that can push the boundaries of quality and performance."

— Donald M. Berwick, MD, president and chief executive officer of the Institute for Healthcare Improvement

A new safety device called Bloodloc™ ensures the accurate matching of the right patient to the right blood product. It is one of the 43 improvement projects launched at Northwestern Memorial Hospital last year.
See story on page 13.


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"Northwestern Memorial's focus on quality is evidenced through the personal commitments of our individual physicians, nurses and others, along with an active and ongoing institutional effort. All of this is directed at exceeding benchmarks in patient safety and achieving the best possible clinical outcomes."

— Thomas A. Cole, chairman of the Executive Committee with Sidley Austin LLP and chairman of the Professional Standards Committee of Northwestern Memorial Hospital's Board of Directors

A plastic locking device called Bloodloc cannot be opened unless the blood product and the patient have been properly matched.


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Locking In Safety

Use of the Bloodloc, along with the barcoding of blood samples in the laboratory, reduces the potential for error. At left: Barcoded blood products are stored by type in the blood bank until needed for use.

Above: Blood products are scanned, inventoried and then secured with a Bloodloc before they are dispensed.

Northwestern Memorial dispenses more than 58,000 units of blood and blood products to our patients each year. A misidentified specimen, a transcription error or a wrongly administered blood product can be a human error with potentially severe consequences.

To prevent misidentification and decrease the possibility of transfusion errors at Northwestern Memorial, we assembled a team of our own healthcare professionals and caregivers to identify ways to improve patient safety. The goal was to understand why errors occur, to eliminate the human factors that can lead to errors and to better manage the risks.

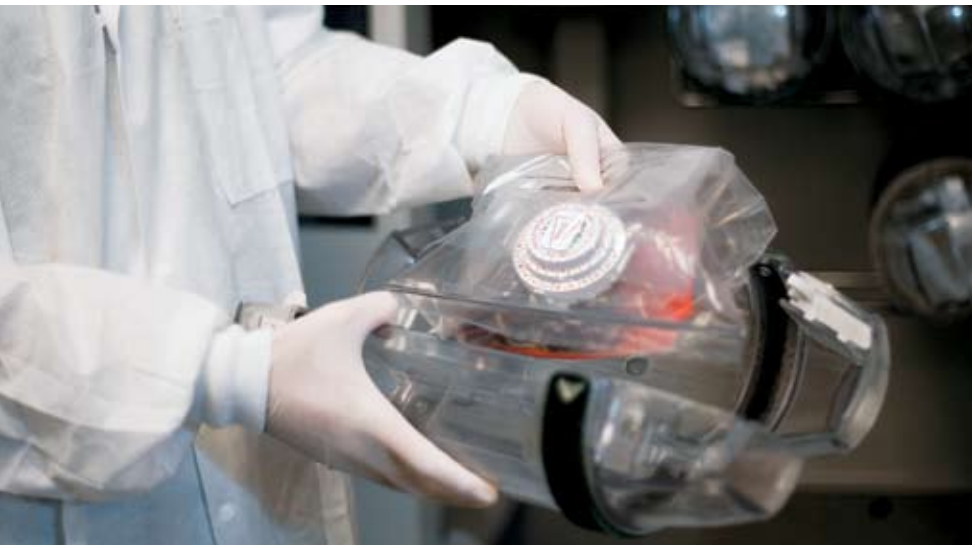
Within six weeks, our team developed a pilot project and began testing the Bloodloc™ safety device. This mechanism is a plastic locking device that is attached to a bag containing any blood product. The lock cannot be opened unless it is programmed with a three-letter code from a patient's wristband, confirming that the blood product is intended for that patient and has been correctly matched.

While the Bloodloc system ensures safety at the point of administration, our efforts to reduce error begin at the point the patient's blood is drawn for the first time. Before the blood specimen is sent to our laboratory, a unique, three-letter code is affixed to each patient's wristband as well as to the specimen, which then is labeled with a barcode for laboratory processing.

If a patient needs blood products during the hospital stay, the blood bank issues the product and then locks it inside a bag protected by a Bloodloc programmed with the patient's three-letter code. The locked bag then is sent through the hospital's pneumatic tube system.

When the blood product arrives at the bedside or in the operating room, a strict protocol requires that two nurses separately confirm that they have received the correct blood for the intended patient. Then, only by turning the dial to reflect the three-letter code on the patient's wristband, can the bag be unlocked. If for any reason the lock does not open, the unused blood is sent back to the blood bank for resolution.

In industry terms, this method is known as a "forcing function," which is a way of mistake-proofing a process. This project is a good example of our ongoing commitment to develop practices that enhance patient safety until new



When a blood product is ordered for a patient, the patient's unique three-letter code is obtained from the barcoded specimen. Above: The Bloodloc is programmed with that code and affixed to the bag, which is sent through the pneumatic tube system.

technology such as a universal barcoding system for patient identification and blood administration is available.

"By implementing Bloodloc, we are ensuring not only the safety of our patients but also supporting caregivers across the organization, from the blood bank to the operating room to the nursing unit," says John R. Warren, MD, associate chairman of clinical affairs for Pathology at Northwestern Memorial Hospital and vice chairman of Pathology at Northwestern University's Feinberg School of Medicine.

Thus far, nearly 3,000 of our nurses, physicians, phlebotomists and laboratory personnel have been trained in the use of the Bloodloc device.

"This project has helped us understand human behavior and how our processes can support our caregivers and prevent error," says Ken Hedley, a quality leader with Operations and Quality, who managed the project. "We recognize that blood administration is an inherently risky process and we want to take every precaution possible so that the appropriate blood product is administered to the right person every time."

Nationally, the Food and Drug Administration receives 10 to 15 reports of deaths caused by patients receiving the wrong blood each year. Implementation of the Bloodloc system has added an additional layer of safety and ensures that patients are correctly matched to a blood product before it is administered.