



The BloodTrack® HemoNine™ refrigerator reduces stress when we have major bleeders. Our nurses just go to the fridge, enter the patient's hospital number and get blood... it cuts the workload for our OR staff in half.”

Dr. Jeannie Callum

Director of Transfusion Medicine and Tissue Banks
Sunnybrook Health Sciences Centre

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CASE STUDY | USA

Sunnybrook Health Sciences Centre is a world leader in efficient blood management at the point of care

Introduction

With a red blood cell crossmatch-to-transfusion (C/T) ratio of 1.37, and an average time of less than two minutes to have blood crossmatched and available in the operating room (OR) for transfusion once testing is complete, Sunnybrook Health Sciences Centre in Toronto is one of the world's leaders in efficient blood management.

Dr. Jeannie Callum, Director of Transfusion Medicine and Tissue Banks, explains that much of Sunnybrook's success can be attributed to a culture that embraces technological innovations that improve clinical practice. She points to the Haemonetics® BloodTrack® HemoNine™ Remote Blood Dispensing Refrigerator as a perfect example of how Sunnybrook does this.

Challenge

Prior to implementing the HemoNine, Sunnybrook's blood bank staff indicated that surgeons typically ordered more blood than they actually needed to ensure that if their patients in the OR required multiple transfusions, they would have the blood available. This led to an increased workload for the blood bank staff as they had to prepare, type, crossmatch and issue all of these extra units.

It also meant that the blood bank staff had to not only manage the return and reissue of multiple units, but the hospital had to order and store far more blood than it actually needed to transfuse. Additionally, Sunnybrook's blood bank is located more than 600 feet from the OR, so the staff spent significant time going back and forth to transport the blood.

Solution

Recognizing the importance of overcoming these challenges, Sunnybrook was awarded a grant from the Ontario Ministry of Health and Long Term Care to acquire the Haemonetics BloodTrack system on the basis of increasing OR transfusion efficiency. This was achieved by storing unallocated type-specific blood in the secured HemoNine refrigerator and crossmatching just in time at the point of care and only when a patient needed a transfusion, instead of preparing and crossmatching multiple units just in case.

To measure the impact of the BloodTrack HemoNine system, a baseline data set comprising one month of clinical performance prior to implementing the system was collected. After implementation, another month's worth of data was collected for comparison.

Results

Compared to the baseline period, the month after the BloodTrack HemoNine went live, the data showed a 27% reduction in transfused units, an 18% reduction in crossmatch-to-transfusion (C/T) ratio, and a 90% reduction in average delivery time of blood to the OR. Moreover, the OR staff has found the convenient placement of the HemoNine fridge and its ease of use to be vastly preferable to prior practice.

IMPACT® Program performance summary

Reduction in transfused units	27%
Reduction in crossmatch-to-transfused (C/T) ratio	18%
Reduction in average delivery time of blood to the OR	90%

Future

Asked where Sunnybrook goes from here, Dr. Callum suggests that an even greater role for the BloodTrack HemoNine system may be on the way. Sunnybrook has had requests from its critical care unit and from a sister hospital's OR for an expansion of the BloodTrack system to include HemoNine refrigerators of their own. They realize that having easy access to blood closer to the point of care reduces stress when major bleeds occur. Having recently celebrated the 5000th unit successfully dispensed by the HemoNine refrigerator and transfused in the OR, Dr. Callum summarizes Sunnybrook's position on the BloodTrack system:

“ It's faster. It's more convenient. It's just a part of how we work at Sunnybrook and we can't function without it.”

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