

REDUCTION IN BLOOD TRANSFUSIONS AFTER CARDIAC SURGERY

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Blood transfusions are associated with adverse events after cardiac surgery. Over the last three years, we have implemented a variety of quality improvement initiatives to reduce our need for allogeneic blood products. We sought to determine the effectiveness of these protocols and their impact on patient outcomes.

Since July 1st, 2005 we have reduced our transfusion triggers in cardiac surgery, begun isovolemic hemodilution, retrograde autologous priming, intraoperative hemofiltration, and retransfusion of scavenged red cells. We retrospectively reviewed the medical records of all cardiac surgery patients during two 6-month periods, from January 1st through June 30th, 2005 and January 1st through June 30th, 2008.

For 2005, 101 patients underwent cardiac surgery in the timeframe studied, versus 74 for 2008. The average age was 65.5 and 63.6, and the percentage of primary coronary bypass grafting alone was 74% and 70% for 2005 and 2008, respectively. In 2005, patients received an average of 5.8 +/-5.0 units of packed red cells and 5.3 +/-6.8 units of platelets prior to hospital discharge. Patients in 2008 received significantly fewer packed red cells (1.9 +/-3.1 $p < 0.001$) and fewer units of platelets (0.8 +/-2.1 $p < 0.001$). Ninety eight percent of primary coronary bypass grafting patients received blood transfusions in 2005 as compared to only 37% in 2008. Hematocrit at discharge was significantly lower in 2008 (32.8% vs 29.5, $p < 0.001$). Hospital mortality was 2.0% in 2005 and 1.4% in 2008 ($p = NS$). Median post operative hospital length of stay for isolated coronary bypass was 7 days in 2005 and 6 days in 2008 ($p = 0.04$).

A strategy to reduce blood transfusions can be successfully implemented, reducing need for hospital resources. These changes did not appear to adversely alter outcomes, and may reduce the incidence of other adverse events.