Letter from Emily E. Volk, MD

Baptist Health System Physicians:

In our continued efforts to enhance patient safety, Baptist Health System seeks to improve our blood utilization and management practices. The information contained on this site provides insights into evidenced based approaches to transfusion and we thank you in advance for reviewing it. The Medical Executive Board of the Baptist Health System has adopted the recommendations of the BHS Blood and Tissue Committee to update the guidelines for blood component transfusion. These guidelines are reflected in the Physician Order for Blood Component Transfusion forms, which are to be used for all non-emergent transfusion occurring outside of the operating room in Baptist facilities. Copies of these new forms are enclosed on this site.

The rationale for our approach for blood component transfusion for adult patients is as follows:

- Multiple studies published in cardiology, internal medicine and critical care literature over the past decade.
- The results of the FOCUS trial (New England Journal of Medicine. 2011;365:2453-62.) demonstrated that in elderly patients with high cardiovascular risk after hip surgery a liberal transfusion strategy (hemoglobin <10 g/dl) as compared to a restrictive strategy (symptoms of anemia or physician discretion with hemoglobin <8 g/dl) did not reduce rates of death or inability to walk independently on 60 day follow up or reduce in-hospital morbidity.
- A study of particular relevance to our present situation is that by Brandt et al (American Journal of Surgery; 2009; 197:279-283.) In this article, the authors describe their experience, in the critical care setting, of implementing evidence-based recommendations to lower the threshold of red blood cell transfusion in critically ill patients from 10g/dl to 8g/dl. They analyzed 2,138 patients who had a total of 5,130 transfusions. The found that every unit of blood transfused increased mortality risk by 14%. Notably, they also concluded that the implementation of an evidenced based transfusion guideline reduced the number of infused units and the number patients transfused, without an increase in mortality.
- A Clinical Practice Guideline published by the Society of Critical Care Medicine, the only national guideline recently published in light of the findings of the past decade, has the following recommendations, among others:
  - A ‘restrictive’ strategy of RBC transfusion (transfuse when Hb is <7 g/dL) is as effective as ‘liberal’ transfusion strategy (transfusion when Hb is <10 g/dL) in critically ill patients with hemodynamically stable anemia, except in patients with acute myocardial infarction or unstable myocardial ischemia.
  - In the absence of acute hemorrhage, RBC transfusion should be given as single units, with re-evaluation of the patient before subsequent units given.
  - Consider transfusion if Hb is <7 g/dL in critically ill patients with stable cardiac disease. No benefit of ‘liberal’ transfusion strategy in critically ill patients with stable cardiac disease.
  - RBC transfusion is associated with increased nosocomial infection rates, independent of other factors.
  - RBC transfusion is an independent risk factor for multi-organ failure and systemic immune response syndrome.
  - RBC transfusions are independently associated with longer ICU and hospital lengths of stay, increased complications, and increased mortality.

As you know, transfusions can serve as life-saving procedures, but they are often sources of risks and complications. Proper blood management can greatly reduce risks to patients, while conserving the limited blood supply.

The BHS Blood and Tissue Committee is now dedicated to performing peer-review of blood utilization practices in an attempt to identify specific physician opportunities for enhancing blood management practices for all BHS patients.

Please feel free to contact Dr. Emily Volk with your questions or concerns.

Emily E. Volk, MD
Medical Director of Laboratories
Baptist Health System
Clinical Pathology Associates
(210) 487-9227

References


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