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What's New in the Patient Safety World

June 2025

ACCP Guideline on Transfusion in Critically Ill Patients

There has been a trend now for many years to adopt more restrictive approaches to red blood cell transfusions in a variety of circumstances (see our many prior columns listed below). The American College of Chest Physicians (ACCP) recently published a clinical practice guideline on red blood cell transfusion in critically ill adults (Coz Yataco 2025) supporting a restrictive approach in most critically ill patients.

A panel of critical care experts reviewed 23 studies (22 randomized controlled trials and one cohort study) and formulated two strong and four conditional recommendations. Though hemoglobin thresholds prompting RBC transfusion varied across studies, a restrictive threshold generally was defined as a hemoglobin level of 7 to 8 g/dL and a permissive threshold 8.5 to 10 g/dL.

They concluded that, in most critically ill patients, a restrictive strategy was preferable to a permissive approach because it does not increase the risk of death or complications but does decrease RBC use significantly. A restrictive approach was also supported for critically ill subpopulations, except in patients with acute coronary syndrome (ACS), for whom favoring a restrictive approach could increase adverse outcomes.

Background: The authors note that approximately 25% of critically ill patients receive RBC transfusions. The primary indication is usually low hemoglobin, though other indications include active bleeding and hemodynamic instability. They acknowledge that, although RBC transfusions can be lifesaving, they carry significant risks of adverse effects, including transfusion related acute lung injury, transfusion-associated circulatory overload, and immunomodulating effects that may increase the risk of nosocomial infections.

The authors estimate that adopting a restrictive strategy could decrease the number of patients receiving RBC transfusions by approximately 40%.

The authors do acknowledge, however, that the overall quality of evidence for recommendations ranged from very low to moderate.

Note that the ACCP guideline did not include just published results of a randomized controlled trial comparing restrictive vs liberal transfusion strategy in patients with aneurysmal subarachnoid hemorrhage and anemia (English 2025).

Anemia occurs in more than 50% of patients with subarachnoid hemorrhage and is associated with worse clinical outcomes and some have advocated for a more liberal transfusion strategy in such patients. However, this trial concluded that, in patients with aneurysmal subarachnoid hemorrhage and anemia, a liberal transfusion strategy did not result in a lower risk of an unfavorable neurologic outcome at 12 months than a restrictive strategy.

Prior columns on potential detrimental effects related to red blood cell transfusions:

- March 2011 "Downside of Transfusions in Surgery"
- August 2011 "CPOE Alerts Reduce Blood Transfusions in Children"
- January 2012 "Need for New Transfusion Criteria?"
- April 2012 "New Transfusion Guidelines from the AABB"
- February 2013 "More Evidence Favoring Restriction of Transfusions"
- June 2013 "Hopkins Blood Ordering Initiative"
- May 2014 "Blood Transfusion and Infection Risk"
- June 2015 "Economics and Blood Transfusion"
- November 2016 "AABB Updates Transfusion Guidelines Again"
- December 2017 "Study Confirms Safety of Restrictive Transfusion Policy"
- January 2018 "Transfusion in Cardiac Revision Surgery"
- August 2018 "Thromboembolism: Another Downside of Transfusions"
- August 2021 "New Blood Management Guidelines for Cardiac Surgery"
- January 9, 2024 "Hopkins Blood Management Program 10 Years Later"
- September 2024 "New Tool to Predict Surgical Transfusion Need"

References:

Coz Yataco AO, Soghier I, Hébert PC, et al. Red Blood Cell Transfusion in Critically Ill Adults: An American College of Chest Physicians Clinical Practice Guideline. Chest 2025; 167(2): 477-489
https://linkinghub.elsevier.com/retrieve/pii/S0012-3692(24)05272-3

English SW, Delaney A, Fergusson DA, et al. for the SAHARA Trial Investigators on behalf of the Canadian Critical Care Trials Group. Liberal or Restrictive Transfusion Strategy in Aneurysmal Subarachnoid Hemorrhage. N Engl J Med 2025; 392(11): 1079-1088

https://www.nejm.org/doi/full/10.1056/NEJMoa2410962

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