

Expert panel issues updated guidelines for red blood cell storage time and transfusion use

October 12 2016

For most stable hospitalized patients, transfusions of red blood cells stored for any time point within their licensed dating period—so-called standard issue—are as safe as transfusions with blood stored 10 days or less, or "fresh," according to updated clinical guidelines issued by an expert panel convened by a national organization that has long set standards for blood banking and transfusion practices.

The new storage recommendation, from the AABB, previously known as the American Association of Blood Banks, was one of two major recommendations included in a report, "Clinical Practice Guidelines from the AABB: Red Blood Cell Transfusion Thresholds and Storage," published online on Oct. 12 in *JAMA*.

The recommendation, which essentially affirms what many blood banks do in practice, is based, the experts say, on a "comprehensive literature search" and analysis of 13 randomized clinical trials that included more than 5,000 patients between 1948 and 2016. The results showed that patients, including neonates, who received standard-issue red blood cells faced no higher risk of complications than those who received fresh red blood cells.

"One of the biggest controversies concerning transfusion therapy is whether older blood is harmful compared to fresher blood. Now we have information that can accurately inform guidelines about red blood cell

storage duration," says Aaron Tobian, M.D., Ph.D., associate professor of pathology at the Johns Hopkins University School of Medicine and chair of AABB's Clinical Transfusion Medicine Committee.

"If data suggest no harm from the use of standard-issue blood and fresher blood would only constrain the use of a limited resource, continuing with standard practice of using older blood is appropriate. The newly released guidelines now clearly inform the community," says Tobian, who also serves as associate director of transfusion medicine for Johns Hopkins.

It had been previously suggested that red blood cells stored for longer periods of time have decreased ability to deliver oxygen. In addition, inflammatory mediators may accumulate in the storage solution and lead to more adverse outcomes.

The updated guidelines also recommend 7 grams per deciliter as the threshold for transfusing adult patients with stable blood circulation (hemodynamically stable), even if they are in critical care, and 8 grams per deciliter for patients with pre-existing cardiovascular disease, or those undergoing cardiac or orthopaedic surgery. The previous threshold was 10 grams per deciliter.

"While the recommended threshold of 7 grams per deciliter is consistent with previous AABB guidelines, the strength of the new recommendation reflects the quality and quantity of the new data, much of which was generated since 2012," says Jeffrey Carson, M.D., of the Rutgers Robert Wood Johnson Medical School and lead author of the report.

The data have also allowed for "clearer statements" about groups of patients who need fresher blood, says Carson. The threshold recommendations, for instance, based on analysis of 31 randomized

clinical trials that included more than 12,000 patients treated between 1950 and 2016, do not apply to patients with acute coronary syndrome, people with blood diseases and cancer who are at risk of bleeding, and those with chronic, transfusion-dependent anemia.

"Good guidelines gather all relevant data and really change medical practice," says Tobian. "Because so much more data are now available, we were able to make recommendations that are more specific with more confidence and are overall stronger."

More information: *JAMA*, [DOI: 10.1001/jama.2016.9185](https://doi.org/10.1001/jama.2016.9185)

Provided by Johns Hopkins University School of Medicine

Citation: Expert panel issues updated guidelines for red blood cell storage time and transfusion use (2016, October 12) retrieved 15 May 2024 from <https://medicalxpress.com/news/2016-10-aabb-guidelines-red-blood-cell.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.