



# e-Network Forum

## CALIFORNIA BLOOD BANK SOCIETY

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### ***Are single unit red cell transfusions still considered 'suboptimal care'?***

A blood bank physician asks if the transfusion of a single unit of packed red cells into an adult male is sub-optimal care as it was considered to be in the 1980s and early 1990s? He wants to know if there is current literature to support such position? He reports having done a review of the recent literature, and he could not find any current guidelines to address this issue.

In reply to the above question, the following opinions were submitted:

1. **A transfusion medicine physician in Baltimore** reports that single unit transfusions were regarded as bad practice in the past, and that JCAHO would often ask for audits of single unit transfusions as an indicator of inappropriate practice. There has not been much in the literature about the topic recently. For elective surgery, many patients use pre-deposit autologous units, so audits of single units are not conducted very frequently. The last time the reporting Baltimore physician's institution audited single unit transfusion use, most cases were probably justified. They found that the patients who received single unit transfusions needed blood for symptoms of ischemia or hypotension with anemia that resolved with the transfusion of a single RBC unit, or other conditions such as renal failure or heart failure for which additional units were contraindicated. The concerns about single unit transfusions and audits have **largely been replaced with concerns over the use of appropriate transfusion triggers**. The issue of when to transfuse remains somewhat cloudy, with few randomized trials and most of the literature consisting of consensus statements. Two recent NEJM articles add to the confusion. The first by Hebert (NEJM 1999; volume 340, P 409-17) suggests that ICU patients may do better with lower hemoglobin levels of 7-8 g/dL, rather than with levels of 9-10 g/dL. A second article by Wu (NEJM 2001; 345: 1230-1236) suggests that myocardial infarction patients do worse if their hematocrit falls below 33% without transfusions. An editorial by Goodnough accompanies the Wu article and would be a good reference for residents/students.
2. **A transfusion medicine physician in Los Angeles** reports that at his institution the decision to transfuse is based on medical need. Once the decision is made to transfuse, the next step is to determine the appropriate dose. **The dose (1 unit versus more than 1 unit) should be determined by how much the patient needs**, once a medical need for transfusion has been established. A good example is transfusion of a patient with severe autoimmune hemolytic anemia, who may only need a single unit of RBC.

**ADDENDA** April 17, 2002

3. **A blood banker from Texas** says that he agrees with the Los Angeles blood banker that a single unit transfusion is often sufficient to treat the symptoms of a patient suffering from warm antibody autoimmune hemolytic anemia. His hospital does **not** audit for single unit transfusion. Rather, they audit according to a transfusion trigger. He concluded by saying that if a patient actually only needed a single unit of RBCs, but received a **second** unit, he would hope that such an inappropriate transfusion would trigger a chart being reviewed.

Please submit comments to the [e-Network Forum](#).

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CBBS e-Network Forum Editor & Moderator



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**Posted:** April 16, 2002

**Addenda:** April 17, 2002