



# e-Network Forum

## CALIFORNIA BLOOD BANK SOCIETY

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### ***Implications of Sickle Trait Blood for Leukocyte Reduction and Transfusion***

As you may recall, an e-Network member requested clarification regarding **AABB standard 5.15.3**. This standard states that "The **blood bank or transfusion service shall have a policy regarding the transfusion of components known to lack hemoglobin S**". The inquiring member was confused as to the intent of this standard, and wanted to know if it meant blood banks are required to transfuse Hgb S negative blood in certain instances. The member also inquired if there was enough information about leukocyte reduced blood to show that Hgb AS blood was able to pass through a leukocyte reduction filter and be adequately leukocyte reduced? This member's institution uses 100% leukocyte reduced blood and would prefer not to have to test blood for Hgb S if it is not necessary.

The following replies were received in response to the above:

1. A **representative of the AABB** said that in the 19th edition of the Standards, the wording of the corresponding Standard, I7.100 was: In the case of **massive or exchange transfusion of infants under 4 months of age**, only blood known to lack hemoglobin S should be transfused. The Standard was made more general in the 20th edition. **Anyone MAY** receive blood known to LACK hemoglobin S. The Standard's intent is to require a policy to determine **which patients MUST only** receive components that LACK hemoglobin S.

**Suggested wording to clarify the Standard** follows: "The blood bank or transfusion service shall have a policy specifying which patients must receive red cells or whole blood known to lack hemoglobin S." This suggested new wording is to be forwarded to the appropriate working group chair for consideration before the 21st edition of the AABB Standards is finalized.

2. **Another** member of the AABB Standards Committee wrote, "I have been tracking the e-mail of the e-network regarding Standard 5.15.3 and I was able to submit a revised wording for the proposed 21st edition in time for distribution to the membership. I believe the comment period for (all of the) proposed changes will be from **May 1 to July 1**. If you have any other comments, please "keep them coming" as we look at each one of them very seriously."
3. An e-network member (and a **past** member of the Standards Committee!) wrote that the experience in the literature (as well as at his own institution) was that donor blood obtained from a patient with sickle cell trait either will clog up leukoreduction filters or will not be adequately leukoreduced if the product makes it through the filter. This member was concerned that the use of sickle cell trait units would be a problem in the event the blood supply goes to 100% leukocyte reduction. This member was concerned that **donors with sickle cell trait might be needed as a source of blood for alloimmunized SS patients, yet such donors might need to be used without leukocyte reduction, since leukocyte reduction would ruin the donated units**. Alternatively, such donors could be used if a method to reduce leukocytes from blood products, other than leukocyte reduction filters, was developed. According to this member, the FDA did not fully think this issue through when developing its "Guidance Document for Leukocyte Reduction". This member challenges the e-network membership to **comment on the FDA "Guidance Document for Leukocyte Reduction"**. The FDA has suggested that blood bankers should perform sickle Hgb screening on ALL donors so that sickle trait units are not drawn and then leukoreduced. The reporting member is concerned that such a policy is going to further reduce the US blood supply and cause potential problems with the African American community, not to mention the donors with AS that are already regular donors.
4. Another e-network member's institution has established **policy for selecting blood for certain patients that is negative for Hgb S**. This policy includes patients with sickle anemia and other hemoglobinopathies that are acutely or chronically transfused, infants who are hypoxic and receiving transfusion and all children who undergo massive transfusion or exchange transfusion or open heart cases. Each of these patient groups are included based on different physiological principles. For example, the infant assigned to one unit of blood for the duration of stay, who is likely transfused for hypoxia, apnea, bradycardia, blood with the best possible oxygen carrying capacity and no chance of intravascular sickling is needed. In the case of the sickle cell patient, this member's institution monitors % S hgb, so that the transfusion with sickle trait blood would not be appropriate.

Furthermore, one of the goals of transfusion in that population is to decrease the percent hemoglobin S to avoid stroke, acute chest, etc.

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



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CBBS e-Network Forum Editor & Moderator

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