

## **SWITCHING FROM O-NEGATIVE RED BLOOD CELLS TO O-POSITIVE RED BLOOD CELLS**

Based on *AABB Association Bulletin #19-02: Recommendations on the Use of Groups O Red Blood Cells*,  
<http://www.aabb.org/programs/publications/bulletins/Documents/ab19-02.pdf>

### **Background**

- Only about 7% of donors are O-negative, yet 11% of RBC transfusion are O-negative. This is an unsustainable ratio that threatens the stability of the nation's blood supply
- Although overall demand for RBCs have decreased, the pressure to maintain O-negative inventories continues to grow
- O-negative RBCs are often used for non-O-negative patients because it is safe and convenient
- Blood collection facilities and hospital transfusion services must work together to develop a mutually beneficial program that safely reduces O-negative wastage
- Applying the recommendations in this document can reduce O-negative use and potentially prevent O-negative shortages that affects patient safety in other medical facilities

### **Key Recommendations**

- O-negative RBCs may be reserved for the three cohorts of females of childbearing potential listed below:
  1. O-negative
  2. Rh-negative and require a transfusion when type-specific blood is not available
  3. Unknown blood type and require a RBC transfusion before completion of pretransfusion testing
- Hospital transfusion services should closely monitor utilization of O-negative inventories, especially during bleeding emergencies and O-negative shortages
- Hospital transfusion services should develop policies for when patients should be switched from O-negative to O-positive RBCs
- Hospitals should have protocols to expedite sample collection to quickly switch patients to type-specific blood upon completion of pretransfusion testing

### Patients who should Always Receive O-Negative RBCs

- Intrauterine
- Neonates

### Risks

- Risk of anti-D formation in a Rh-negative patient after transfusion of at least one Rh-positive RBC:
  - Hemorrhaging patient: 21-26%
  - Marrow and solid-organ transplant on immunosuppressives: 10%
  - Emergency room patient with unknown blood type: 3-6%
- Risk of acute hemolytic transfusion reaction after RhD-incompatible RBC transfusion during an emergency setting: < 1%, usually mild
- Anti-D antibodies cause extravascular hemolysis which is usually not associated with severe complications

*If you have additional questions or concerns, please contact the LifeServe Blood Center Medical Department by calling 515.309.4840 or email: [physician@lifeservebloodcenter.org](mailto:physician@lifeservebloodcenter.org)*