
INFORMATION ONLY

O Rh negative Red Blood Cell Utilization and Inventory Management Best Practices

Customer Letter # 2014-14

2014-09-22

Dear Customer:

In July 2014, the Hospital Liaison Specialists contacted the Top 20 group O Rh negative red blood cell users and asked for their assistance by sharing what they consider to be their hospital's best practices for effectively managing the utilization of this precious and finite resource. Thank you to all that provided a response. We are pleased to share below the collected responses with all hospital customers.

Restate the challenge:

- General population – approximately **6-7%** are group O Rh negative
- CBS whole blood donors – approximately **10%** are group O Rh negative
- Hospital demand – approximately **12%** of all RBCs issued are group O Rh negative

As previously communicated, we have noted a decrease in demand since the first *BloodBrief – An Update on O Neg*, was sent in 2013. Of the top 50 hospitals in the 2013-2014 list, 47 received an O Rh negative BloodBrief last year.

- 25 of 47 decreased O Rh negative red blood cell as a % of all blood groups (0.02 to 3.34%)
- 31 of 47 decreased total O Rh negative red blood cell issues
- 32 of 47 decreased total red blood cells (all blood groups) issues

However, in spite of this progress, O Rh negative red blood cell inventory remains a national challenge, and we continue to reduce routine hospital orders by approximately 20%.

Below are the O Rh negative red blood cell utilization and inventory management best practices provided by your peer hospitals from right across Canada. We encourage all hospitals to consider implementing any best practices listed that your hospital does not already employ.

1. Develop and implement a policy for hemorrhaging patients whose blood group is not known.

- a. Immediately collect a blood sample for ABO/Rh from all trauma patients upon admission to the Emergency Department.
- b. Transfuse male trauma or hemorrhaging patients regardless of age with group O Rh positive red blood cells until their blood group can be determined or unless known to have anti-D.
- c. Determine the optimal maternal age restriction for women served by your hospital¹, and transfuse female trauma or hemorrhaging patients above the optimal child bearing age with group O Rh positive red blood cells until their blood group can be determined or unless known to have anti-D.



- d. Have a policy to switch patients to their own blood group once known.
- e. Have a policy for switching known Rh negative hemorrhaging patients to Rh positive red blood cells unless known to have anti-D. Define the trigger at which point the patient will be switched, and if medical director consultation is required each time.

2. Develop and implement policies for optimal inventory management.

- a. Small rural hospitals should stock a mix of O Rh positive and Rh negative red blood cells.
- b. Reevaluate optimal inventory levels on a regular basis, or after hospital organizational/clinical program changes, especially those that will reduce red blood cells demand. Promptly notify your local Canadian Blood Services of any adjustments.
- c. Transfuse oldest units first unless there are other clinical considerations.
- d. Always request group specific units for patients with red blood cell antibodies. Only use Rh negative substitutions if group specific is not available for the scheduled transfusion date. Notify your local Canadian Blood Services immediately for any difficult to fill antigen negative requests, especially those that will require ongoing transfusions.
- e. Reduce inventory tagged for specific patient use, using strategies such as crossmatch on demand/electronic crossmatch, type and screen, and a maximum surgical blood order schedule (MSBOS).
- f. Cancel inventory tagged for specific patients after 24 hours or immediately after imminent need has passed, and make allowances for patients with red blood cell antibodies.
- g. Share inventory between affiliated hospital sites.
- h. Track Rh negative transfusions to Rh positive patients.
- i. Monitor soon to outdate units and as a last resort, transfuse to Rh positive patients to avoid wastage or redistribute to larger nearby hospitals where they are less likely to expire. Track and review redistribution data, and adjust ordering practices from Canadian Blood Services if redistribution frequency is excessive.

This Customer Letter can also be viewed at www.blood.ca in the “Hospitals” section. If you have questions about this Customer Letter, please contact your local Hospital Liaison Specialist.

Sincerely,

Dana Devine, Ph.D.
Chief Medical & Scientific Officer

1. Bhella S, Gerard L, Lin Y, Rizoli S, Callum J., Obstetric and trauma database review at a single institution finds the optimal maternal age restriction for the transfusion of O- blood to women involved in trauma to be 45 years. *Transfusion* 2012;52:2488-9