# Considerations for Using Type O Red Blood Cells

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**Julie McDowell:**

"Pathologists are responsible for developing safe and efficient blood selection policies for routine and emergency bleeding situations in a variety of clinical scenarios and in different practice settings," explains Dr. Monica Pagano in this CAPcast interview. Dr. Pagano is medical director of Transfusion Service Laboratory at the University of Washington Medical Center, and she also led the development of a Clinical Pathology Improvement Program case-based course on this topic. Here's our discussion.

Dr. Pagano, this new Clinical Pathology Improvement Program or CPIP case indicates concerns about the blood supply in particular group O red blood cell units. How widespread is this situation in the United States?

**Dr. Pagano:**

Thank you, Julie, for this important question. There has been a steady decline in the use of red blood cells in United States. This is in part to the fact that providers do follow transfusion guidelines that are based on clinical trials demonstrating improved safety and clinical outcomes when lower hemoglobin thresholds are used for transfusion. But despite this decline in blood utilization, red blood cell shortages, mainly group O Rh-positive and Rh-negative, persist. And over the last year, these shortages have been more frequent and more severe. Group O is considered the universal blood type, but only 45% of the donor population is group O, far from being universal. These shortages are affecting the entire country.

**Julie McDowell:**

How does this impact pathologists and their work?

**Dr. Pagano:**

Pathologists have a critical role in the vein-to-vein chain of blood transfusions. One of the major tasks in transfusion medicine is ensuring adequate availability of blood products. For collectors, this means developing appropriate recruitment and collection strategies for volunteer blood donors. For transfusion services, involves developing and enforcing guidelines for appropriate use of blood products.

**Julie McDowell:**

And what can pathologists do to address this issue?

**Dr. Pagano:**

Group O patients can only receive group O red blood cells, but group O red blood cells are also used for non-group O patients in particular during bleeding emergencies. And group O Rh-negative units are preferred for bleeding emergencies occurring in people of childbearing potential. Other situations in which group O units are used for non-group O patients is for neonates and bone marrow transplant patients receiving ABO-incompatible transplants. But as I mentioned before, the availability of this unit is typically limited. And it is imperative that pathologists responsible for transfusion services develop safe and efficient blood selection policies for routine and emergency bleeding situations.

**Julie McDowell:**

So regarding the CPIP case, how will this course help pathologists and what can they learn from this case to apply to their practice?

**Dr. Pagano:**

In this CPIP, we briefly review some of the most relevant and updated literature to discuss the principles of trauma resuscitation, alloimmunization risks, and patient blood management. It is important that pathologists are up-to-date with the current evidence to make sound, clinically-driven decisions for appropriate use of group O red blood cells.

**Julie McDowell:**

Well, thank you, Dr. Pagano, for sharing this information. Any parting thoughts you'd like to share before we conclude?

**Dr. Pagano:**

Thank you for listening. Spread the voice. And if you are eligible, please consider being a blood donor.

**Julie McDowell:**

Well, thank you again, Dr. Pagano. As mentioned at the beginning of this episode, Dr. Pagano led the development of a CPIP case-based course on this topic. The course is entitled Considerations for Using Type O Red Blood Cells and can be found on the CAP's learning site by visiting learn.cap.org/lms/case-based.

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