EMS Webinar Q&A: Where Do We Start? Prehospital Blood Transfusion Guidelines

September 30, 2025

The following answers are provided by:

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Q: Our department uses packed red blood cells and liquid plasma currently. We've had great response, especially with warming — about 8% of those products have been warmed. What would be the greatest reason to push for whole blood? Or would you make that push at all? What's the biggest downfall or challenge with whole blood versus packed red blood cells and plasma?

A: If you have access to plasma and PRBCs and that's working, that's great. The guidelines acknowledge it may not be possible to get low-titer O-positive whole blood, and switching really depends on your EMS system and transport duration.

What your system is doing—using plasma and PRBCs to deliver all the components that repair damaged endothelial cells—is ideal. For short transport times, there's little reason to switch. For systems with longer transports, a tiered system may be considered.

Early in hemorrhagic shock, what you're doing is excellent.

Q: What type of data are agencies collecting at the beginning of the pilot to determine success and sustainability?

A: Great question. There are two parts:

1. Conduct a needs assessment to estimate how much blood you'll use — cost and budgeting are key.

2. Determine which data elements to track.

Most EMS systems collect 20–40 data points per patient, such as how much blood was given, why, initial vitals, and outcome data. Some systems collect hundreds, but that's rare.

The Semstar project is working on consensus-based outcomes to guide which elements should be tracked. At minimum, track who gave blood, who received it, how much, and why.

Q: What are one or two of the biggest takeaways you want EMS clinicians to walk away with after reading the guidelines?

A: Even if you're not giving blood, you can still optimize trauma care and resuscitation—don't let lack of blood access be the reason outcomes suffer. Administering blood is relatively easy; building the system around it is the challenge. It takes a team and thoughtful infrastructure.

Q: How do the guidelines support EMS clinicians in the field when they're making quick decisions for trauma patients?

A: The guidelines are designed to be concrete and give clear parameters. They serve as a roadmap for local implementation through protocols and procedures.

Clinicians and medical directors share responsibility—mutual understanding of indications, risk tolerance, and when to follow or deviate from them is key. It's ultimately a local implementation issue.

Q: Could you share an example of how prehospital blood transfusion has already made a difference in patient survival?

A:

- A 19-year-old with a severe neck laceration received blood, regained stability, and was discharged a day and a half later.
- A motorcyclist with lower-extremity trauma and a pelvic fracture received prehospital blood, binder, and was stabilized before surgery—ultimately surviving after multiple transfusions.
- A patient on blood thinners with GI bleeding and severe hypotension received prehospital blood and described the transfusion as life-saving and humbling to witness.

Q: Can you use a smaller-gauge needle for pediatric patients?

A: Yes. You can use a smaller-gauge needle, but expect more resistance when pushing blood.

Q: What about patients with traumatic brain injury (TBI)?

A: Maintaining perfusion is crucial in TBI patients—ensure adequate blood flow and oxygen delivery at all times.