EMS Focus: Prehospital Blood Transfusion in Practice Webinar FAQ
Defining Prehospital Blood Transfusion

July 23, 2026

The following answers are provided by:

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1. ***Do urban environments benefit from prehospital blood programs despite having shorter hospital transportation times?***

   Yes. Patients can bleed out in five to seven minutes from catastrophic wounds no matter where they are located. Starting blood in the field addresses the issue as soon as it is identified, improving patient outcomes and the potential for less blood needed at the hospital.

   Another misconception is that when you arrive at the emergency department or trauma center, blood is immediately available and will be immediately given. The typical timeframe from arrival at an emergency department until a blood transfusion is started, depending on the data, is 12 to 15 to 17 minutes. Hitting the door does not equate with immediately giving a blood transfusion.

   In many cases, the transfusion is administered while the patient is en route. There may be a short delay of a few minutes to get the transfusion started while they're in the field, but the net time to transfusion initiation is still less than if you were to wait for them to arrive at the facility.

2. ***What are some best practices or areas to study to get a feel for how often prehospital blood transfusion helps patients?***

   It is essential to review trauma and medical patient care reports for your current population from the previous one to two years and count the number of patients who

would have met the clinical criteria for prehospital blood transfusion. Also count the times tranexamic acid (TXA) was administered prehospitally and the number of patients who received transfusion immediately upon hospital arrival. These findings can be mapped to inform your community's need and deployment model.

3. ***Do we have any data on prehospital programs supplied by blood centers vs. by hospitals?***

   There are a variety of deployment models. Doing your due diligence in researching your needs and how blood is available in your area is a good start. If you are concerned about establishing a rotational program to return EMS blood to facilities before it expires, the best bet is to work with a hospital or trauma center blood bank. Most blood suppliers don't enter into a rotation model because of the operational logistics associated.

4. ***Liquid plasma offers comparable outcomes with dramatic logistical and financial advantages. Why does whole blood seem like the current default for prehospital blood transfusion programs, even though it can be difficult to deploy and sustain?***

   The early emphasis was on whole blood because it provides all the components needed. However, whole blood is not always attainable. There is increasing recognition of the value of plasma, including its cost. As said in the webinar, whichever product you can get is far superior to saline.

5. ***How do outcomes compare for patients who receive blood products vs. tranexamic acid (TXA), and can they be administered in concert?***

   TXA is a great tool, but blood — either whole or components — saves lives and is an essential part of the process. It is best to use both TXA and a blood component. TXA helps prevent the breakdown of clots that have already formed, but it doesn't supply the clotting factors that whole blood or plasma do, or the oxygen carrying capacity that whole blood or red blood cells do. TXA is a step, not a complete solution.

6. ***Where can you purchase freeze-dried plasma from?***

   EZPLAZ freeze-dried plasma was just approved by the FDA for adult patients at the end of July 2026. The product will likely be available in early 2027, but the cost is still unknown and most of the initial release will go to the U.S. military. For now, please look into liquid plasma as an alternative until freeze-dried plasma becomes more available.

7. ***Is there any advantage to giving two units of packed red blood cells (PRBCs) followed by two units of plasma, or is it preferable to continue administering one unit of PRBCs for each unit of plasma throughout the resuscitation?***

   Delivering plasma and red blood cells in a balanced 1-to-1 ratio is the best form of blood administration because it is whole blood minus the platelets. It is generally recommended that plasma be administered first before the red blood cells in order to

expand volume and get the clotting factors on board as soon as possible, giving the red blood cells space to work.

8. ***On the west coast our biggest challenge is the logistics of regionalization and how to build that infrastructure. Can you comment on any tips to regionalize while maintaining program governance in keeping with the Association for the Advancement of Blood & Biotherapies (AABB) guidelines?***

   Working with other EMS agencies and partners to set up a regional program can be a very valuable model for operational efficiency for some agencies. The AABB standards and guidelines can serve as a model or template for appropriate regional programs and do not really prohibit or limit regionalization.

   It is important to first get the needs assessment done. What do you need and where does it need to be deployed? You also need to determine what product is available, what deployment strategies are already in place and try to leverage that to try and regionalize instead of creating multiple one-off programs. It is okay to start with liquid plasma as a way to create and improve relationships with other agencies who are following the AABB standards while you get the program off the ground. Look to your regional agencies, including emergency management for friends and partners in the process.

9. ***How does blood rotation work, particularly with circulating blood back to the blood bank to avoid waste?***

   This is a large challenge. There are still some blood collectors and blood bankers who have some hesitation to take that blood back, and we're working through that process.

   At Harris County ESD48, we're fortunate to be part of a rotation program. We're going to focus on this a lot more with the second version of the standards that are coming out and really try to put some pressure to get that rotation done. We don't have enough blood in the country as it is, so why would we waste blood that could go into a center? We certainly use epinephrine until the day it expires, so there's no reason you can't use a blood product until the day it expires.