

Prehospital Blood Transfusion in Practice — Defining Prehospital Blood Transfusion

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Administrator Jonathan Morrison: I'm Jonathan Morrison, Administrator of the National Highway Traffic Safety Administration and Chair of the Federal Interagency Committee on EMS.

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Administrator Jonathan Morrison: Welcome to the first installment of NHTSA's EMS-focused Prehospital Blood Transfusion in Practice webinar series.

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Administrator Jonathan Morrison: Thank you for joining, and for your interest in prehospital blood transfusion and improving outcomes for patients experiencing life-threatening injuries.

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Administrator Jonathan Morrison: Every day, EMS professionals are called upon to make life-saving decisions under extraordinary circumstances.

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00:00:42.170 --> 00:00:49.070

Administrator Jonathan Morrison: We appreciate the dedication of everyone working to strengthen our nation's emergency medical services system.

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Administrator Jonathan Morrison: At NHTSA, our mission is not only to prevent crashes, but also to improve what happens after a crash occurs.

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Administrator Jonathan Morrison: Between 2019 and 2023, 43% of our nation's highway fatalities were still alive when EMS arrived at the scene.

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Administrator Jonathan Morrison: That is why reducing roadway fatalities requires a strong post-crash care system that delivers the right care to the right patient at the right time.

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Administrator Jonathan Morrison: One of the most promising advancements in post-crash care is the ability to provide blood transfusions before a patient reaches the hospital.

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00:01:28.190 --> 00:01:31.619

Administrator Jonathan Morrison: For patients with severe hemorrhage, minutes matter.

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00:01:32.040 --> 00:01:40.429

Administrator Jonathan Morrison: Research shows that prehospital blood transfusions can reduce injury mortality by as much as 37%.

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Administrator Jonathan Morrison: Earlier access to blood improves survival and saves lives when every second counts.

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Administrator Jonathan Morrison: Across the country, more than 400 EMS agencies are demonstrating that prehospital blood transfusion can be safely and effectively integrated into trauma care.

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Administrator Jonathan Morrison: And as interest continues to grow, there is also a growing need for practical education, collaboration, and the sharing of real-world experience.

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Administrator Jonathan Morrison: This is why NHTSA launched this webinar series: to bring together national experts who can help EMS systems better understand the clinical foundations of prehospital blood transfusion, learn from agencies already operating successful programs, and explore the opportunities and challenges involved in implementation.

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Administrator Jonathan Morrison: This first session lays the foundation for the series by introducing the fundamentals of prehospital blood transfusion, and why it has become such an important advancement in trauma care.

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Administrator Jonathan Morrison: In the months ahead, the series will continue to examine the operational, clinical, logistical, and partnership considerations involved in building sustainable prehospital programs, with the goal of providing resources that EMS agencies of all sizes can use as they evaluate these capabilities.

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Administrator Jonathan Morrison: NHTSA, and I personally, as Administrator, remain committed to supporting this work through partnerships, education, technical assistance, and initiatives that strengthen post-crash care as part of our broader effort to save more lives on America's roadways.

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Administrator Jonathan Morrison: So thank you again for joining us today, and for your continued dedication to advancing EMS and improving patient outcomes.

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Administrator Jonathan Morrison: I hope you find today's discussion informative and valuable as we begin this important series.

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Administrator Jonathan Morrison: It is now my pleasure to turn the program over to the Director of NHTSA's Office of EMS, Gam Wijetunge, who will moderate today's discussion and introduce our distinguished panel. Thank you.

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Gam Wijetunge: Thank you so much, Administrator Morrison, and thank you for your continued leadership in this area. And of course, thanks to everyone who has joined us for this first installment in our special prehospital blood webinar series.

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Gam Wijetunge: As Administrator Morrison mentioned, I'm Gam, and I'll be moderating the panel today.

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Gam Wijetunge: Through our EMS Focus webinars, we've addressed a number of EMS issues over the years, and now I'm excited—I think all of us are excited—to kick off

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Gam Wijetunge: a very special six-month series that will focus on prehospital blood transfusion in practice.

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Gam Wijetunge: On your screen, you see a list of the next five topics the series will address, and there's a QR code you can scan to register for the remaining five installments.

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Gam Wijetunge: We're really looking forward to bringing you a variety of experts across different agency structures and geographies around the country,

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Gam Wijetunge: to share information and to inspire you and others to pursue a blood program in your community.

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Gam Wijetunge: You'll also see on the screen an email address—feel free to send us any follow-up questions.

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Gam Wijetunge: Just two quick housekeeping items. If we can go back one slide.

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00:05:27.960 --> 00:05:43.590

Gam Wijetunge: We're doing this via Zoom, so use the Q&A button on your Zoom control panel to send in questions at any time. We'll get to them in the last 15 minutes.

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00:05:43.830 --> 00:05:52.489

Gam Wijetunge: Captions are also available. There's a button for that, so if you want captions, just click on Show Captions.

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00:05:55.510 --> 00:06:04.740

Gam Wijetunge: Okay. The Administrator spoke to NHTSA's mission: reducing death and disability on our nation's roadways.

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Gam Wijetunge: I just want to provide a quick word on where the Office of EMS sits within NHTSA and what our focus is. We strive to improve patient outcomes in the prehospital setting, focusing on a systems approach to EMS improvement.

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Gam Wijetunge: This ensures that for any patient experiencing an emergency—whether it's motor vehicle crash trauma, cardiac arrest, or anything else—our goal, working closely with our federal partners on FICEMS,

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Gam Wijetunge: is to improve EMS systems and make sure clinicians are prepared to provide effective clinical care to reduce injury and save lives.

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Gam Wijetunge: So our job is to support you

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Gam Wijetunge: and our partners. To do that, we focus on bringing together data and experts to identify critical issues, partnering across federal agencies, such as through the Federal Interagency Committee on EMS,

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Gam Wijetunge: and national EMS organizations, and then promoting best practices and evidence-based medicine.

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Gam Wijetunge: So if you haven't been to EMS.gov lately, I encourage you to do that.

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Gam Wijetunge: We have a resources hub on EMS.gov. You'll find a slew of reports, guidelines, and great information, not only from NHTSA's Office of EMS, but also from our partners on FICEMS.

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Gam Wijetunge: And if you scan the QR code we have up on the screen right now, it will take you to EMS.gov. Or you can just type in the URL, which is EMS.gov—

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Gam Wijetunge: that's E-M-S dot G-O-V.

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00:07:58.760 --> 00:08:11.450

Gam Wijetunge: So today's panel session, Defining Prehospital Blood Transfusion, will cover a number of things: the role prehospital blood plays in improving trauma outcomes;

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Gam Wijetunge: the blood products—whole blood versus component therapy—and how these work in the field;

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Gam Wijetunge: and what a successful prehospital blood program takes, including the challenges and lessons learned, and some practical guidance if you're starting or expanding a program.

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Gam Wijetunge: I am thrilled to welcome our expert panelists today. They are colleagues and friends,

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Gam Wijetunge: and I know many of you know them. First, Dr. Jon Krohmer, who is chair of the Prehospital Blood Transfusion Coalition.

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Gam Wijetunge: And Chief Eric Bank, who is Assistant Chief of EMS in Harris County ESD 48 in Texas. Chief Bank also serves as the Blood Program Manager with the Prehospital Blood Transfusion Coalition.

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Gam Wijetunge: So before we dive in, Dr. Krohmer, Chief Bank, could you please introduce yourselves and share any disclosures or conflicts of interest you may have?

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Dr. Jon Krohmer: Happy to start. As Gam mentioned, I'm Jon Krohmer. I'm an emergency and EMS physician,

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Dr. Jon Krohmer: and I serve as chair of the Prehospital Blood Transfusion Coalition. The only real conflict I have is that I serve on the board of directors and as a consultant for Velico Medical, but we're not going to be talking about anything involving them during today's presentation.

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Dr. Jon Krohmer: I also have to acknowledge that I had the wonderful opportunity of working with the folks in the NHTSA Office of EMS for about five and a half years. I'm very proud of that, and very proud of what NHTSA is doing to move blood transfusion programs

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Dr. Jon Krohmer: in the prehospital environment forward. Thank you.

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Chief Eric Bank: So, as Gam said, my name is Eric Bank. I'm the Assistant Chief of EMS for Harris County ESD 48 Fire Department, a western suburb of the city of Houston.

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Chief Eric Bank: I appreciate the opportunity to speak with you all today, thanks to NHTSA,

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Chief Eric Bank: and to Gam and Administrator Morrison.

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Chief Eric Bank: I also serve as Vice President of the Prehospital Blood Coalition,

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Chief Eric Bank: and I sit on the Texas Blood Task Force, as we're trying to get blood in every county in the state of Texas.

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Chief Eric Bank: And I'm one of the authors, or participants, in the AABB prehospital blood standards. We're getting ready to kick off our second edition, which is kind of hard to believe. I'm happy to be here and appreciate the opportunity to speak today.

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Gam Wijetunge: Thank you both. And Jon, of course, is always very humble. He was Director of the Office of EMS and my supervisor for

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Gam Wijetunge: many years.

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Gam Wijetunge: And Jon, honestly, when you retired, I thought I wouldn't be seeing too much of you, but here we are.

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Gam Wijetunge: It's absolutely thrilling to be able to work with both of you, and to learn from your leadership on this topic.

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Gam Wijetunge: Oh, boy.

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00:11:44.620 --> 00:11:45.270

Dr. Jon Krohmer: Okay.

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Gam Wijetunge: So,

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Gam Wijetunge: this is going to be an informal conversation. I'll just be throwing some questions at you, and I think we're all waiting to hear the lessons learned that you can provide.

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Gam Wijetunge: Feel free to jump in if you have things to add as the conversation goes.

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Gam Wijetunge: So I'll kick it off now.

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Gam Wijetunge: The first question is: can you tell us about how prehospital blood transfusion has evolved over time, and why it is becoming so important now in trauma care?

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Dr. Jon Krohmer: Well, to lead into the civilian aspect, I want to acknowledge, very early on, that as with many things in civilian EMS, we have taken lessons learned from the military

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Dr. Jon Krohmer: and started to implement them in non-military settings. I think folks probably don't realize that blood transfusions in the military actually started during the Civil War,

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Dr. Jon Krohmer: where they were transfusing blood

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Dr. Jon Krohmer: from one soldier to another when they needed to be resuscitated. It continued throughout military experience—since the Civil War, World War I, World War II, Korea, and all subsequent engagements.

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Dr. Jon Krohmer: The military used whole blood for a period of time, and then used almost exclusively plasma.

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Dr. Jon Krohmer: And then during the Iraq and Afghanistan engagements, they again learned that whole blood was the ideal resuscitative fluid to use when patients were in hemorrhagic shock.

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Dr. Jon Krohmer: As a result of the experience in the military, and very proactive

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Dr. Jon Krohmer: engagement by a number of military surgeons—several of whom you'll have on future webinars—

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Dr. Jon Krohmer: we were able to start in the civilian community just about ten years ago. I'm going to turn to Eric in just a second, because they started the first program.

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Dr. Jon Krohmer: Over the subsequent ten years, as the Administrator alluded to, we now have about 430 programs, and the number of programs is growing very rapidly. So, Eric, talk a little bit about what you started a little over ten years ago, and

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Dr. Jon Krohmer: we'll talk about the evolution from there.

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Chief Eric Bank: Yeah, so we started with component therapy in February of 2016, but that was about a two-year process, because there was absolutely nothing in the space. We were very fortunate that Dr. John Holcomb, when he retired from the military, was in Houston to help get this off the ground.

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Chief Eric Bank: We had two subsequent back-to-back calls. The first was a patient involved in a motor vehicle accident who had

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Chief Eric Bank: an impaled object through his lower leg that was actively bleeding.

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Chief Eric Bank: Fortunately, the helicopter program had added blood about six months earlier.

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Chief Eric Bank: And a couple of weeks after that, we had

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Chief Eric Bank: a home invasion with some penetrating trauma. I picked up the phone, called Dr. Holcomb, and said,

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Chief Eric Bank: "Why can't we do this on the ground?" And instead of the typical "oh, it's really complicated," he said, "Why can't we?"

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Chief Eric Bank: That started a two-year process of working through it, like what Dr. Krohmer alluded to.

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Chief Eric Bank: We were having phone calls with folks downrange, right? There wasn't really a footprint for this inside the United States.

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Chief Eric Bank: What coolers were they using? What heaters were they using? What types of patients were they treating?

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Chief Eric Bank: How did they determine how to do the transfusion? So this was truly born

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Chief Eric Bank: from a true blend of civilian and military.

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Chief Eric Bank: With a flag of one in 2016, and now, daily, we're seeing social media posts of folks kicking off their programs.

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Chief Eric Bank: Merging two very different practices of medicine—transfusion medicine and EMS are very different—but learning how to work with each other, and seeing this massive growth,

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Chief Eric Bank: and the life-saving potential, and the data that you all have provided,

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Chief Eric Bank: like Administrator Morrison was talking about at the very beginning, with the number of patients who are alive at EMS contact

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Chief Eric Bank: prior to becoming deceased—that has really helped drive this forward across the country.

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Dr. Jon Krohmer: You know, Gam, I think the biggest impetus on the civilian side

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Dr. Jon Krohmer: has been the fact that this is an intervention that is truly life-saving

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Dr. Jon Krohmer: and can be started early on. The goal, when you identify a patient in hemorrhagic shock,

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Dr. Jon Krohmer: is to provide some treatment to stabilize them. Historically in EMS, that's been the use of

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Dr. Jon Krohmer: crystalloid solutions to expand their intravascular volume

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Dr. Jon Krohmer: to help resuscitate them. We now know, without a question of a doubt, that crystalloids are not helpful. They don't stay in the intravascular

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Dr. Jon Krohmer: space. They leak out, cause edema, don't successfully resuscitate patients, and are actually dangerous when

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Dr. Jon Krohmer: trying to resuscitate someone in hemorrhagic shock. So the use of blood components

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Dr. Jon Krohmer: offers the EMS community an opportunity to start treating and resuscitating that patient

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Dr. Jon Krohmer: as soon as the condition is identified.

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Dr. Jon Krohmer: We don't wait to defibrillate somebody in ventricular fibrillation until they get to the hospital.

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Dr. Jon Krohmer: We shouldn't wait to start resuscitating someone in hemorrhagic shock until they get to the emergency department or the trauma center.

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Gam Wijetunge: Great. Yeah, Jon, you used the word "blood components."

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Gam Wijetunge: And I'm still very much a novice in this area clinically. Could you talk about the difference between whole blood

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Gam Wijetunge: and component therapy? And what do you think, as an EMS physician, EMS clinicians should understand about the difference between those products?

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Dr. Jon Krohmer: Well, that's a great question. I think it's important that EMS understands the basics, but we need to keep it in the context of what's important for EMS clinicians. The transfusion medicine folks we engage with

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Dr. Jon Krohmer: are so much more knowledgeable about the various components and the various indications for all of them. When we look at it from an EMS perspective, we typically think in terms of whole blood,

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Dr. Jon Krohmer: red cells, and plasma. And that's really where I think we need to focus. Whole blood, obviously, is the

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00:19:19.590 --> 00:19:24.200

Dr. Jon Krohmer: solution that contains all of

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Dr. Jon Krohmer: the various factors that folks are bleeding out. It contains red cells, plasma, the clotting factors that we need, and many of the other proteins that are important in blood.

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Dr. Jon Krohmer: The challenge with whole blood is that it is a relatively rare commodity, so we have to make sure it is used appropriately.

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Dr. Jon Krohmer: The components we get from whole blood are really packed red cells and plasma. The packed red cells contain the hemoglobin, which allows for

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Dr. Jon Krohmer: oxygen transport throughout the body, and a little bit of removing carbon dioxide from the body, though most of that occurs with plasma. So the advantage of transfusing red cells

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Dr. Jon Krohmer: is that we're transfusing the oxygen-carrying capacity of the blood to the patient.

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Dr. Jon Krohmer: Plasma is the liquid portion that remains when the red cells are removed.

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Dr. Jon Krohmer: Well, red cells and white cells—but white cells

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Dr. Jon Krohmer: fight infection, and we're not concerned about that during hemorrhagic shock, for the most part. So the plasma contains the blood proteins that are important,

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Dr. Jon Krohmer: and more importantly, the clotting factors that help the blood itself clot.

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00:21:00.810 --> 00:21:07.510

Dr. Jon Krohmer: And it restores volume that tends to stay in the intravascular space

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Dr. Jon Krohmer: more reliably. So whole blood provides all of the components for resuscitation; red cells provide the oxygen-carrying capacity; and plasma provides the clotting factors and other proteins the body needs.

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Chief Eric Bank: So I would lead off by saying, first of all, whole blood is great.

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Chief Eric Bank: Of all the blood products, it's the easiest to use. But what I tell folks—since our focus is on getting programs started—is: whatever you can get.

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Chief Eric Bank: Any of those products is better than a crystalloid for a patient.

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Chief Eric Bank: Whole blood is fantastic, and we've been using it since 2017, but it's not available everywhere.

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Chief Eric Bank: So the playbook we hand out is: whole blood is great. If you can get whole blood, fantastic. If not,

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Chief Eric Bank: we follow the TCCC, or military, guidelines. So the next fluid level we look at is plasma and red cells.

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Chief Eric Bank: The third component is platelets. Platelets are important, but they are very hard to manage.

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Chief Eric Bank: They have about a five-to-seven-day shelf life, they have to be agitated, and cold-stored platelets are just now moving into the arena, so platelets are really not in the playbook for EMS.

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Chief Eric Bank: So typically, number two on the list is liquid plasma and packed red cells.

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Chief Eric Bank: Number three would be plasma, and number four would be red cells by themselves. Now, I would say that as time develops, plasma is really becoming the fluid

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Chief Eric Bank: that's easiest and most economical.

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Chief Eric Bank: Really, without trying to sound derogatory, it's the training wheels.

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00:22:48.770 --> 00:22:53.310

Chief Eric Bank: There's no difference in cold chain between plasma and whole blood.

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Chief Eric Bank: So I would recommend that anybody starting a program—if they can get started with plasma—that's a fantastic choice. It also has great potential for other uses in EMS.

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Chief Eric Bank: Since we're trauma-focused, we'll talk about TBI: plasma has an amazing result with stand-alone traumatic brain injury.

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Chief Eric Bank: Don't get caught up in the fact that—when I look at my blood bank menu, for lack of a better word, there are probably 100 products on there. Really, the main blood products for prehospital would be whole blood,

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00:23:27.520 --> 00:23:29.219

Chief Eric Bank: plasma, and red cells.

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00:23:29.480 --> 00:23:35.140

Chief Eric Bank: Cryo and platelets—and don't worry about all the other super-scientific

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00:23:35.400 --> 00:23:40.530

Chief Eric Bank: products. There are specialized red cells, there are specialized products.

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Chief Eric Bank: Now, what I will say is that with plasma, there are a couple of different formats.

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Chief Eric Bank: There's what's called FFP, which is what most folks are used to—fresh frozen plasma. That's not really the ideal choice for EMS, because it has to be thawed.

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00:23:54.900 --> 00:24:00.489

Chief Eric Bank: Then there's fresh thawed plasma, which only has a six-day shelf life, so again, not the best for EMS.

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00:24:00.890 --> 00:24:11.009

Chief Eric Bank: So we tell folks to ask their blood provider—which could be a hospital blood bank, or a national blood collector like the American Red Cross, or your local blood collector—

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00:24:11.440 --> 00:24:15.319

Chief Eric Bank: to focus on liquid plasma, which has about a 26-day shelf life.

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Chief Eric Bank: And again, if you're just in the weeds and looking to start a program,

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Chief Eric Bank: plasma is a really good step forward.

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00:24:25.280 --> 00:24:34.030

Chief Eric Bank: But please don't wait if whole blood is not available in your region, because any of the products we just mentioned are life-saving and life-altering for patients.

157

00:24:34.220 --> 00:24:45.300

Chief Eric Bank: Post-crash care is where we're focused, but also multiple facets of trauma and medicine as well. So, again, please don't let the fact that you can't get whole blood stop you from developing a program.

158

00:24:46.880 --> 00:25:03.799

Dr. Jon Krohmer: Yeah, this is a little bit beyond the hemorrhagic shock model we're talking about, but Eric alluded to plasma being used in traumatic brain injuries, and there are a number of prehospital studies currently being conducted

159

00:25:03.800 --> 00:25:07.730

Dr. Jon Krohmer: with EMS agencies on that particular indication.

160

00:25:07.730 --> 00:25:21.019

Dr. Jon Krohmer: I think we'll also find in the future that plasma will find good use in EMS for burn patients, sepsis patients, and potentially anaphylactic shock patients.

161

00:25:21.070 --> 00:25:33.299

Dr. Jon Krohmer: So there are a number of indications coming down the pike, but it is unbelievably helpful in the treatment of hemorrhagic shock.

162

00:25:35.290 --> 00:25:38.900

Gam Wijetunge: Wow. This is just exciting. And I'm—you know, I'm a

163

00:25:39.390 --> 00:25:50.409

Gam Wijetunge: I've been a medic for a few decades now, and I think, like most medics, I hear both of you speaking and I'm like, "All right,

164

00:25:50.710 --> 00:26:08.839

Gam Wijetunge: give me these products, let's go—I want to get them to the patients." But you've mentioned some of the stakeholders involved, and there's work you've got to do before you can get the product deployed.

165

00:26:08.910 --> 00:26:22.100

Gam Wijetunge: So maybe—the two of you have a lot of experience in building partnerships, and the partnerships needed between EMS agencies, hospitals,

166

00:26:22.170 --> 00:26:34.440

Gam Wijetunge: blood centers, and—we have something up on the screen, but can you talk about what it takes to make this program work, to get it off the ground, and to keep it going?

167

00:26:36.690 --> 00:26:40.739

Chief Eric Bank: So it's definitely a team sport, right? We all have to learn to work together.

168

00:26:41.830 --> 00:26:55.009

Chief Eric Bank: I think most people have heard me say this—and I know Dr. Krohmer just said it, and appropriately credited it—the blood banking and blood collector industry, transfusion medicine, is an absolutely

169

00:26:55.210 --> 00:27:04.310

Chief Eric Bank: over-standardized, black-and-white world. There is no steering the ship; the ship goes straight, and straight is the only answer.

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00:27:06.460 --> 00:27:15.260

Chief Eric Bank: We're not uninhibited cowboys, but at the end of the day, we kind of hang out in the charcoal gray, right? A car flipped over with a patient is a whole lot different from a patient

171

00:27:15.440 --> 00:27:18.780

Chief Eric Bank: in a hospital bed with a GI bleed who needs a transfusion.

172

00:27:19.060 --> 00:27:21.930

Chief Eric Bank: And we had to learn how to work together.

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00:27:22.080 --> 00:27:32.650

Chief Eric Bank: We had to merge two very different forms of medicine, so you have to have everybody at the table. You need your hospital blood bank folks—excuse me—

174

00:27:32.880 --> 00:27:34.739

Chief Eric Bank: your transfusion medicine folks,

175

00:27:34.780 --> 00:27:46.729

Chief Eric Bank: your EMS medical director. And you need to follow what your state dictates. Texas is delegated practice, so we just brought this to our doc, and he said, "Hey, this sounds like a great plan, let's move forward."

176

00:27:46.730 --> 00:27:54.879

Chief Eric Bank: Other states have state guidelines, and other states adopt the NASEMSO guidelines, so you need to make sure you're operating within the scope of practice. But

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00:27:54.880 --> 00:28:08.530

Chief Eric Bank: you've also got to have folks you're not used to seeing, right? You're not used to seeing a transfusion medicine physician, and you're not used to seeing a blood collector. When we say collector, we're talking about an independent blood bank—for me, that's Gulf Coast Regional Blood Center.

178

00:28:08.860 --> 00:28:15.630

Chief Eric Bank: Then there's the hospital blood bank itself, because they do play a role, as we follow this.

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00:28:15.980 --> 00:28:24.589

Chief Eric Bank: And how do we roll out this program, from getting patients to roll up their sleeves to the actual distribution of the product into the ambulance?

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00:28:24.850 --> 00:28:28.869

Chief Eric Bank: How do we rotate it? There are FDA guidelines, there are

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00:28:29.170 --> 00:28:34.340

Chief Eric Bank: —excuse me—AABB guidelines, which is the Association for the Advancement of

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00:28:34.450 --> 00:28:38.150

Chief Eric Bank: Blood and Biotherapies, in the space.

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00:28:38.510 --> 00:28:41.250

Chief Eric Bank: There is a guide now that we put together.

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00:28:41.780 --> 00:28:48.170

Chief Eric Bank: As in my disclosures, I'll say again that it was a universal effort with a large group of folks.

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00:28:48.370 --> 00:28:57.300

Chief Eric Bank: There is a cost to that. I can tell you I get nothing from it, but I would suggest it's a good starting point for folks.

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00:28:57.450 --> 00:29:00.090

Chief Eric Bank: It's available from the AABB.

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00:29:00.280 --> 00:29:10.190

Chief Eric Bank: So some of these folks you're used to seeing—your medical director, your ER folks, your trauma folks—but you're not used to seeing transfusion medicine and blood bankers,

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00:29:11.280 --> 00:29:19.850

Chief Eric Bank: folks of that nature, in the room. And if you don't have everybody in the same room—as we're saving money here with my light switch that just goes off in the middle of calls—

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00:29:22.030 --> 00:29:27.829

Chief Eric Bank: you've got to have everybody in the same room. You can't start this without having those folks in the room.

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00:29:28.720 --> 00:29:33.709

Chief Eric Bank: Again, whether you want to call it a team effort, or say it takes a village,

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00:29:33.960 --> 00:29:39.879

Chief Eric Bank: whatever you want to throw in there—that's truly the definition of the process.

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00:29:40.790 --> 00:29:54.139

Dr. Jon Krohmer: Yeah, I agree completely with Eric. Typically, the EMS community will start their discussions internally, just to say, "We're thinking about this, let's

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00:29:54.450 --> 00:30:08.189

Dr. Jon Krohmer: look into what we need to do." In appropriate states, you may bring the state EMS office or a regional EMS authority into the discussions

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00:30:08.190 --> 00:30:18.770

Dr. Jon Krohmer: almost immediately. But then very soon thereafter, you have to reach out and include the blood community.

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00:30:18.900 --> 00:30:26.570

Dr. Jon Krohmer: It improves the buy-in and it improves the education.

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00:30:26.710 --> 00:30:46.580

Dr. Jon Krohmer: There's still a lot of education that needs to occur between the EMS community—and when I say that, I mean EMS, emergency medicine, and trauma—and the blood community. When we started blood programs in a much larger volume several years ago,

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00:30:46.780 --> 00:30:58.300

Dr. Jon Krohmer: the big concern and misunderstanding among the blood community was the idea that we would have blood components on every ambulance in the country.

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00:30:58.630 --> 00:31:07.110

Dr. Jon Krohmer: And that caused a lot of concern, because from the blood supply perspective, that's not achievable.

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00:31:07.380 --> 00:31:18.619

Dr. Jon Krohmer: From an EMS operations perspective, it would be very difficult. So there are various models that have been developed around the country.

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00:31:18.820 --> 00:31:23.229

Dr. Jon Krohmer: But bringing the blood community in early on

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00:31:23.380 --> 00:31:29.089

Dr. Jon Krohmer: helps allay some of those concerns and misunderstandings.

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00:31:29.280 --> 00:31:31.150

Dr. Jon Krohmer: And, you know,

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00:31:31.400 --> 00:31:41.709

Dr. Jon Krohmer: just as the EMS community doesn't understand everything the blood bankers do, they don't understand everything EMS does.

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00:31:41.880 --> 00:31:44.350

Dr. Jon Krohmer: And there was a concern that

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00:31:44.650 --> 00:31:50.799

Dr. Jon Krohmer: EMS wouldn't be able to maintain the cold chain storage requirements

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00:31:50.930 --> 00:32:04.770

Dr. Jon Krohmer: that are, as Eric alluded to, uncompromising in the blood community—and they shouldn't be compromised. I think EMS has proven to the blood community,

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00:32:04.900 --> 00:32:20.910

Dr. Jon Krohmer: almost without a shadow of a doubt, that the cold chain storage can be maintained and the integrity of the blood is not compromised when it's outside the hospital. The other group I'll throw in

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00:32:21.580 --> 00:32:24.239

Dr. Jon Krohmer: that needs to be included very early on

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00:32:24.400 --> 00:32:33.859

Dr. Jon Krohmer: is the 911 community—PSAP telecommunicators and folks doing organized emergency medical dispatch.

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00:32:34.100 --> 00:32:39.839

Dr. Jon Krohmer: Folks have been looking at the prehospital

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00:32:40.110 --> 00:32:50.120

Dr. Jon Krohmer: dispatch determinants to figure out whether they need to be modified or tweaked a little bit to help identify those patients

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00:32:50.120 --> 00:33:01.320

Dr. Jon Krohmer: in hemorrhagic shock, for whom we want to make sure blood resources are dispatched. And Gam, as you know well, the National 911 Program Office

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00:33:01.320 --> 00:33:21.170

Dr. Jon Krohmer: is working with EMD programs and telecommunicator organizations to look at those and figure out how we can most appropriately address them as well. Eric, in his system, has made modifications to their dispatch

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00:33:21.250 --> 00:33:26.419

Dr. Jon Krohmer: protocol. So those folks need to be brought into the conversation early on as well.

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00:33:27.000 --> 00:33:28.970

Gam Wijetunge: Right, right. And

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00:33:29.150 --> 00:33:44.249

Gam Wijetunge: yeah, Jon, I'm glad you bring that up—the important role of dispatch. Chief Bank, you spoke earlier about that early call you ran, where it was a motor vehicle entrapment with a patient impaled.

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00:33:44.400 --> 00:33:50.659

Gam Wijetunge: That's probably an instance where it's very apparent that blood is needed. But there are other

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00:33:51.010 --> 00:34:06.890

Gam Wijetunge: types of patients, right? It's not just trauma where blood is being applied. For both of you, maybe you can talk a little bit about what you've learned over time about those patients.

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00:34:07.600 --> 00:34:20.339

Dr. Jon Krohmer: Yeah. Obviously, the focus of NHTSA and this webinar series is on victims of motor vehicle crashes. As you appropriately alluded to,

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00:34:20.570 --> 00:34:22.850

Dr. Jon Krohmer: about 40 percent

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00:34:23.050 --> 00:34:41.089

Dr. Jon Krohmer: are alive when EMS arrives. Now, a blood transfusion in the field is not going to save all of those victims, because some will have catastrophic injuries, but there is a significant percentage—in the high 30s—who could potentially be saved.

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00:34:41.199 --> 00:35:00.699

Dr. Jon Krohmer: The other populations we're finding that EMS can help are geriatric patients with GI bleeds who are in hemorrhagic shock when EMS arrives. And there are a lot of women who suffer peripartum hemorrhages,

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00:35:00.790 --> 00:35:05.239

Dr. Jon Krohmer: which are significant. One of the

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00:35:06.620 --> 00:35:22.960

Dr. Jon Krohmer: most talked-about cases we've had in the EMS field—it was demonstrated on an MSNBC series—was a seven-year-old girl who had a post-tonsillectomy bleed two days after she had her tonsils taken out.

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00:35:23.110 --> 00:35:28.950

Dr. Jon Krohmer: There are also examples of catastrophic dialysis failures.

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00:35:29.060 --> 00:35:34.269

Dr. Jon Krohmer: And I'm sure there are more examples that we're not even aware of right now.

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00:35:34.450 --> 00:35:35.390

Dr. Jon Krohmer: Eric?

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00:35:36.260 --> 00:35:44.789

Chief Eric Bank: Yeah, so I would also focus on this being a universal product. It's not restricted to adults, it's not restricted to

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00:35:45.050 --> 00:35:55.089

Chief Eric Bank: folks over 18. So, as Dr. Krohmer alluded to, the geriatric population—we have a high number of those folks who, even with a simple fall,

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00:35:55.370 --> 00:36:01.799

Chief Eric Bank: are critically injured because they're taking some type of blood thinner, especially some of the factor Xa inhibitors, like Eliquis.

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00:36:01.980 --> 00:36:05.609

Chief Eric Bank: And then the pediatric population—let's not forget that

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00:36:05.820 --> 00:36:08.729

Chief Eric Bank: our smallest folks are still

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00:36:08.910 --> 00:36:11.779

Chief Eric Bank: —there's no change in the anatomy. As a matter of fact,

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00:36:11.960 --> 00:36:18.069

Chief Eric Bank: their blood volume is obviously much lower and needs to be addressed much quicker, because we know that they,

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00:36:18.200 --> 00:36:25.310

Chief Eric Bank: when catastrophically injured, will look like they're great and then just fall off the curve very quickly. So

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00:36:25.600 --> 00:36:30.330

Chief Eric Bank: it should be involved with every patient class. And just a

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00:36:30.750 --> 00:36:44.579

Chief Eric Bank: humorous, non-humorous story: when we started this, we wrote a medicine protocol. This was born out of trauma, but we felt we'd look really silly if we didn't have a medicine guideline, and that was our first administration.

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00:36:44.980 --> 00:36:55.799

Chief Eric Bank: So, again, it branches into all aspects of EMS. I know we're focusing on crash care, but don't forget to work your full span of population.

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00:36:55.980 --> 00:37:01.999

Chief Eric Bank: This isn't just for men—this includes females, this includes pediatric patients, this includes elderly patients.

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00:37:02.220 --> 00:37:06.280

Chief Eric Bank: The safety factor is incredibly high.

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00:37:06.920 --> 00:37:13.580

Chief Eric Bank: There are some concerns about females getting RhD-positive blood products, but there's a lot of

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00:37:14.020 --> 00:37:21.470

Chief Eric Bank: help with that. Dr. Mark Yazer has written a lot of articles. There's a recent article in Transfusion that we all recently did.

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00:37:21.680 --> 00:37:26.900

Chief Eric Bank: The Allo Hope Foundation, which strictly deals with that, is behind this 100%.

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00:37:27.260 --> 00:37:35.059

Chief Eric Bank: The actual expert request through social media that Dr. Yazer and Dr. Holcomb did—

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00:37:35.540 --> 00:37:44.170

Chief Eric Bank: over 86% of the women surveyed, which was in the millions, said, "Give me blood and let me live, and I'll deal with the rest of it down the road." So,

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00:37:44.530 --> 00:37:49.240

Chief Eric Bank: if I could really say anything, it's: don't forget all aspects

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00:37:49.590 --> 00:37:52.799

Chief Eric Bank: of the population you serve. This is not an isolated product.

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00:37:54.500 --> 00:38:00.590

Dr. Jon Krohmer: Yeah, the advances in transfusion medicine that have occurred in recent years

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00:38:00.610 --> 00:38:14.589

Dr. Jon Krohmer: really reduce the risk to women of childbearing potential. It's not zero, but it's really close—certainly less than 1% in most cases. So,

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00:38:18.100 --> 00:38:19.600

Gam Wijetunge: that's great.

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00:38:20.230 --> 00:38:36.979

Gam Wijetunge: So maybe, if we could advance the slide—in the introductions, I mentioned that both of you are in leadership roles with the Prehospital Blood Transfusion Coalition and are helping to advance this work nationally.

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00:38:38.360 --> 00:38:47.310

Gam Wijetunge: Jon, maybe you could tell us about the Coalition's work and some of the resources that are out there.

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00:38:47.610 --> 00:39:04.619

Dr. Jon Krohmer: Happy to. And if you've got the website for the Coalition there on the slide—one of the things we did early on, and this is a tribute to Dr. Randi Schaefer, who's a retired Army

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00:39:04.730 --> 00:39:06.180

Dr. Jon Krohmer: trauma nurse—

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00:39:06.380 --> 00:39:18.060

Dr. Jon Krohmer: you could almost refer to her as a transfusion medicine nurse—she generated this idea of the interactive map, which we have on the website.

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00:39:18.680 --> 00:39:24.470

Dr. Jon Krohmer: And this map, with support from Blood Centers of America,

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00:39:25.090 --> 00:39:34.670

Dr. Jon Krohmer: indicates all of the active EMS transfusion programs—ground programs—that we're aware of right now.

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00:39:34.820 --> 00:39:44.209

Dr. Jon Krohmer: So, as we mentioned earlier, it's about 430. You can go to this map and zoom in on a particular area.

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00:39:44.210 --> 00:39:58.969

Dr. Jon Krohmer: It will break down the programs based on their delivery model—whether it's a fire-based program, a not-for-profit, a third service, municipal, and things like that.

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00:39:59.530 --> 00:40:10.939

Dr. Jon Krohmer: And you can identify air and ground blood programs in your particular area, or

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00:40:11.820 --> 00:40:25.480

Dr. Jon Krohmer: blood suppliers as well. The map also includes Red Cross regional offices and blood centers affiliated with Blood Centers of America. As you look at the map,

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00:40:25.690 --> 00:40:33.279

Dr. Jon Krohmer: the right side of the country is starting to get very well populated. Obviously, the East Coast,

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00:40:33.320 --> 00:40:47.480

Dr. Jon Krohmer: Florida, and Texas are very well populated. We still have work to do in the western half of the United States, and part of that is just reflective of

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00:40:47.590 --> 00:40:57.450

Dr. Jon Krohmer: folks' ability to find blood suppliers, work with them, and set up the logistics. But

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00:40:57.450 --> 00:41:21.110

Dr. Jon Krohmer: probably most importantly, the financials in supporting a blood program. So we get the map updated about every week or two. If you look at the map and don't see your program on there, there's a link on the website to add your program information, and we'll get you up as quickly as we can.

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00:41:23.650 --> 00:41:39.110

Gam Wijetunge: Great. And, you know, Jon, I've had the opportunity to talk to some of the leaders who have started blood programs. One of the really cool things about this map is that if you're looking at your own state and thinking about a program,

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00:41:39.460 --> 00:41:49.709

Gam Wijetunge: you might have a sister agency nearby that has already done it. I've talked to people who've used the map that way—"Oh, I can just reach out to

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00:41:49.790 --> 00:42:00.070

Gam Wijetunge: this chief or this doc that I know nearby," and they can help walk you through the steps you need to take. So

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00:42:00.210 --> 00:42:07.199

Gam Wijetunge: it's a very powerful tool. I'm logged into that pretty much every day, and it's very—

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00:42:07.200 --> 00:42:07.773

Dr. Jon Krohmer: Yeah, that's—

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00:42:08.580 --> 00:42:18.780

Dr. Jon Krohmer: that's a great point, Gam. As I talked about earlier, the goal is not to have blood components on every ambulance in the country.

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00:42:19.120 --> 00:42:29.049

Dr. Jon Krohmer: It's likely—I'd say probable—that it doesn't make sense for every EMS agency

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00:42:29.230 --> 00:42:31.110

Dr. Jon Krohmer: to have a blood program.

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00:42:31.450 --> 00:42:41.489

Dr. Jon Krohmer: The first thing they need to do is a population assessment and determine how many patients in hemorrhagic shock they actually see.

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00:42:41.900 --> 00:42:58.500

Dr. Jon Krohmer: If it turns out that Agency A may not have the volume, then look around in your immediate area or region to see if there are other agencies you can work with, and either develop a

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00:42:58.860 --> 00:43:12.219

Dr. Jon Krohmer: memorandum of understanding, a mutual aid agreement, or some type of agreement, so that when you identify those patients in hemorrhagic shock, if you don't have the resources,

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00:43:12.730 --> 00:43:18.800

Dr. Jon Krohmer: maybe there's an agency on the way to the hospital that you can rendezvous with

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00:43:19.150 --> 00:43:27.220

Dr. Jon Krohmer: to start a transfusion. So there are a whole bunch of models out there available, and folks are being very creative.

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00:43:29.110 --> 00:43:41.060

Chief Eric Bank: Yeah, we call it R&D—"rip off and duplicate," instead of research. But what I'll tell you is that what works for me in western Harris County, Texas, may not work for you

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00:43:41.210 --> 00:43:54.719

Chief Eric Bank: in Iowa. So when you do R&D—which we don't mind; we have open-access articles available on the Coalition site that have to do with guidelines, coordinators, and education—

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00:43:55.190 --> 00:44:09.789

Chief Eric Bank: you have to adjust it to your area. You don't have to reinvent the wheel, and you have friends you can rely on, but make sure you adjust it to your area. And, like Dr. Krohmer alluded to, make sure you've done the prep work, right? This isn't just

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00:44:10.330 --> 00:44:14.159

Chief Eric Bank: —this is a very precious, steward-driven product that doesn't have

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00:44:14.360 --> 00:44:33.940

Chief Eric Bank: a lot of availability, and we need to drive that as well. So I always tell folks: if you're going to do your prehospital blood program, you also need to do your prehospital donation program, right? We do one here probably at least every other month, unless the blood center or someone calls and says, "Hey, we need help."

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00:44:34.310 --> 00:44:46.380

Chief Eric Bank: "Can we do one earlier?" And we make sure folks know that that blood may go to their neighbor, or to their family member—not just to an anonymous hospital or somewhere around the country. It could be used

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00:44:46.510 --> 00:44:52.229

Chief Eric Bank: for your family member, it could be used for your neighbor. And we usually get a few more people through the door that way. So

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00:44:52.700 --> 00:44:55.669

Chief Eric Bank: you'll also notice on the map there's some very vast

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00:44:56.120 --> 00:45:03.620

Chief Eric Bank: empty space as we move west in the country. It's a lot more challenging, right? There's a lot more land mass and a lot less

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00:45:04.800 --> 00:45:09.730

Chief Eric Bank: industry, for lack of a better word. But those are the problems that need to be worked out.

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00:45:10.350 --> 00:45:17.710

Chief Eric Bank: That's been done on the front side, so that's where—again, like what you're referring to, Gam—knowing that your neighbor

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00:45:18.090 --> 00:45:22.630

Chief Eric Bank: has this program, or even someone in a neighboring area close to you, you can reach out and ask for help

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00:45:22.860 --> 00:45:27.070

Chief Eric Bank: and get your program off the ground.

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00:45:27.210 --> 00:45:34.999

Chief Eric Bank: The blood centers and transfusion medicine folks in the middle and West Coast part of the country are very familiar with what's going on as well.

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00:45:36.650 --> 00:45:45.420

Chief Eric Bank: We'd like to see this a little better. I'm going to steal this from Dr. Jeff Kerby from UAB, the outgoing COT chair.

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00:45:46.450 --> 00:45:52.180

Chief Eric Bank: He said, "If this were your cell phone coverage map, would you be happy?" And I can assure you that most of the country would not be.

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00:45:52.550 --> 00:45:56.880

Chief Eric Bank: So that's something to take into account as well.

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00:45:58.820 --> 00:45:59.350

Dr. Jon Krohmer: Yep.

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00:45:59.780 --> 00:46:00.890

Gam Wijetunge: Yeah, go ahead, Jon.

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00:46:01.100 --> 00:46:09.079

Dr. Jon Krohmer: I was just going to say, I appreciate the questions that are coming in. There are two I'd like to tackle real quickly, if I could.

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00:46:10.220 --> 00:46:28.219

Dr. Jon Krohmer: One has to do with: is NEMSIS involved in these activities, and how does data collection come into play? The simple answer is that NEMSIS is very involved. We've been working with them

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00:46:28.770 --> 00:46:42.579

Dr. Jon Krohmer: for better than two and a half years on aligning the data elements needed for documenting blood transfusion and being able to do appropriate analyses.

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00:46:42.790 --> 00:46:53.840

Dr. Jon Krohmer: The documentation, candidly, is a challenge. When we first looked at NEMSIS data,

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00:46:54.050 --> 00:46:59.200

Dr. Jon Krohmer: the blood component that was most commonly documented

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00:46:59.390 --> 00:47:04.620

Dr. Jon Krohmer: in NEMSIS as being transfused by EMS was cryoprecipitate.

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00:47:05.050 --> 00:47:13.660

Dr. Jon Krohmer: So we knew that was not accurate, because there may be a few cryoprecipitate

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00:47:14.180 --> 00:47:24.770

Dr. Jon Krohmer: infusions that occur, but not the majority of transfusions. So it's important for folks to understand that when you're documenting a transfusion,

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00:47:24.940 --> 00:47:39.010

Dr. Jon Krohmer: there should be two procedures. One is simply transfusion of blood, or blood transfusion, and the other procedure is the route—whether it's IV or IO.

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00:47:39.010 --> 00:47:45.580

Dr. Jon Krohmer: The blood component that's transfused then becomes documented as a medication,

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00:47:45.840 --> 00:47:49.939

Dr. Jon Krohmer: and the associated elements

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00:47:50.160 --> 00:48:07.100

Dr. Jon Krohmer: are the same as for any medication: When did you give it? What were the vital signs before you gave it? What were the vital signs after? What's the patient assessment? So documentation is an issue, but NEMSIS is extremely involved, and we really appreciate that.

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00:48:07.220 --> 00:48:12.340

Dr. Jon Krohmer: The other question that came up very quickly was about

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00:48:13.170 --> 00:48:18.350

Dr. Jon Krohmer: resistance in an urban environment, where you're only

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00:48:18.940 --> 00:48:25.079

Dr. Jon Krohmer: five, seven, or ten minutes away from the emergency department or trauma center.

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00:48:25.320 --> 00:48:31.659

Dr. Jon Krohmer: This will be an editorial comment on my part, but that's a fallacious argument,

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00:48:31.990 --> 00:48:38.910

Dr. Jon Krohmer: because it takes somebody, depending on the type of injury, three to five minutes

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00:48:39.060 --> 00:48:40.690

Dr. Jon Krohmer: to bleed out.

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00:48:41.610 --> 00:48:47.129

Dr. Jon Krohmer: So, again, if we can start the resuscitation when we identify it, that's helpful.

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00:48:47.880 --> 00:48:59.049

Dr. Jon Krohmer: The other misconception is that when you arrive in the emergency department or trauma center, they have blood available, so blood will be immediately given.

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00:48:59.830 --> 00:49:14.659

Dr. Jon Krohmer: The typical time frame from someone arriving in an emergency department until a blood transfusion is started—depending on the data you look at—is 12 to 15 to 17 minutes.

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00:49:14.950 --> 00:49:22.039

Dr. Jon Krohmer: So hitting the door doesn't equate with immediately giving a blood transfusion.

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00:49:22.340 --> 00:49:32.019

Dr. Jon Krohmer: Now, the other argument or concern some folks express is that you're delaying time in the field to get the transfusion started.

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00:49:32.310 --> 00:49:37.910

Dr. Jon Krohmer: In many cases, the transfusion is administered while they're en route.

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00:49:38.640 --> 00:49:47.930

Dr. Jon Krohmer: There may be a short delay of a few minutes to get the transfusion started while they're in the field,

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00:49:47.950 --> 00:49:57.889

Dr. Jon Krohmer: but the net time to transfusion initiation is still less than if you were to wait for

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00:49:57.890 --> 00:50:12.899

Dr. Jon Krohmer: them to arrive at the facility. So I really don't think the fact that you're only five minutes away from the trauma center is a reasonable argument not to start a prehospital transfusion program.

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00:50:13.220 --> 00:50:21.659

Gam Wijetunge: Right. And I've heard stories of patients injured right outside the hospital who are still being transfused in the field, because of

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00:50:21.790 --> 00:50:26.120

Gam Wijetunge: the speed—the ability to get that blood there fast.

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00:50:26.360 --> 00:50:29.409

Gam Wijetunge: It really makes a difference.

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00:50:29.410 --> 00:50:41.260

Dr. Jon Krohmer: I mean, we obviously need to continue to collect much more prehospital transfusion-related data, but we're hearing information from trauma surgeons all the time

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00:50:41.260 --> 00:50:50.490

Dr. Jon Krohmer: asking, "Why did you activate a trauma code? This patient is stable enough now; they don't need any more transfusions"

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00:50:50.810 --> 00:50:52.549

Dr. Jon Krohmer: in the hospital,

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00:50:52.810 --> 00:51:06.840

Dr. Jon Krohmer: when they might presumptively have been taken to the operating room—or were taken to the operating room—because the patient was more critical when they arrived. Some folks don't even need operative therapy

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00:51:06.840 --> 00:51:15.870

Dr. Jon Krohmer: as a result of their transfusions, and it typically results in a lesser number of transfusions in-house.

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00:51:16.410 --> 00:51:16.790

Gam Wijetunge: Right.

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00:51:16.790 --> 00:51:23.539

Chief Eric Bank: I think it goes back to what you said, real quick—and I know we have some more questions—but what other procedure would you delay

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00:51:24.190 --> 00:51:30.609

Chief Eric Bank: on the way to the hospital? Would you delay airway management, defibrillation, glucose administration, pain medicine?

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00:51:30.780 --> 00:51:35.690

Chief Eric Bank: So—excuse me—it's a life-saving procedure, so why would you wait?

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00:51:36.000 --> 00:51:40.800

Chief Eric Bank: And I think that's pretty key across the country,

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00:51:41.170 --> 00:51:42.639

Chief Eric Bank: in our urban—

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00:51:42.640 --> 00:51:46.309

Dr. Jon Krohmer: Do you want to address the question about blood rotation?

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00:51:46.310 --> 00:51:48.230

Chief Eric Bank: Sure.

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00:51:48.780 --> 00:51:50.009

Dr. Jon Krohmer: While you're choking there?

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00:51:50.010 --> 00:51:53.640

Chief Eric Bank: Yeah, well, I need to know what the question is, though, because I haven't seen it, but—

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00:51:54.200 --> 00:51:54.700

Gam Wijetunge: I agree.

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00:51:54.700 --> 00:51:55.650

Dr. Jon Krohmer: That question's for you.

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00:51:55.650 --> 00:52:07.699

Gam Wijetunge: Yeah, there's a question that came in from Dan Gerard. I think it's alluding to the zero-waste approach and the importance of circulating blood with the blood bank.

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00:52:07.700 --> 00:52:19.210

Chief Eric Bank: So this is a large challenge. There are still some blood collectors and blood bankers who have some hesitation to take that blood back. We're working through that process.

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00:52:19.490 --> 00:52:21.880

Chief Eric Bank: We're fortunate to be part of a rotation program.

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00:52:22.100 --> 00:52:28.980

Chief Eric Bank: 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

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00:52:29.420 --> 00:52:31.460

Chief Eric Bank: to get that rotation done.

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00:52:32.780 --> 00:52:46.760

Chief Eric Bank: We don't have enough blood in the country as it is, so why would we waste blood that could go into a center, right? 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.

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00:52:47.140 --> 00:53:00.570

Chief Eric Bank: There's still a lot of myth, tradition, and lore out there that we're working on. And when you look at our 430 number, which is fantastic—I used to have on mine "the roadmap to 400," now it says "the roadmap to 500"—

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00:53:00.750 --> 00:53:05.189

Chief Eric Bank: that only represents about 3.5% of us across the United States.

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00:53:05.330 --> 00:53:11.789

Chief Eric Bank: So it is key, Dan. We're working on it pretty hard.

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00:53:12.680 --> 00:53:19.130

Chief Eric Bank: The West Coast—I'm not going to tell you it's not a challenge for us right now, but it is in progress, and we're working on it.

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00:53:20.380 --> 00:53:21.010

Gam Wijetunge: Great.

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00:53:21.100 --> 00:53:34.129

Dr. Jon Krohmer: There's a question about regional programs, Gam, that I'll just allude to very quickly. It is possible to set up regional programs and still be in compliance with the AABB standards.

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00:53:34.130 --> 00:53:53.269

Dr. Jon Krohmer: I'll refer folks to the Tidewater EMS Council in southeastern Virginia as a classic example. This is in the Virginia Beach area. They have actually set up an EMS

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00:53:53.330 --> 00:53:55.530

Dr. Jon Krohmer: blood storage

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00:53:55.620 --> 00:53:57.010

Dr. Jon Krohmer: facility

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00:53:57.470 --> 00:54:02.500

Dr. Jon Krohmer: that receives the blood from the blood center and then is able to

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00:54:02.690 --> 00:54:15.149

Dr. Jon Krohmer: send it out to the EMS agencies in their region. That facilitates things a whole lot, and it's completely in compliance with AABB standards.

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00:54:15.870 --> 00:54:35.690

Gam Wijetunge: Thank you, Jon. And as a data geek, let me plug NEMSIS again. The documentation here is so critical. When we give blood—again, in the NEMSIS data standard—you need to make sure you fill in e-Medications

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00:54:35.840 --> 00:54:50.189

Gam Wijetunge: and also e-Procedures. So it's a procedure, and then you need to document the blood product you used. We are really pushing up against time. There are so many great questions coming in. We're, of course, going to compile those, and

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00:54:50.190 --> 00:55:01.950

Gam Wijetunge: definitely in future webinars, I'm confident we'll get to a lot of these great questions. Maybe if we could advance to the next slide—I just want to run through a few things during the time we have

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00:55:01.980 --> 00:55:06.959

Gam Wijetunge: left. As you heard from Administrator Morrison at the top of the hour,

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00:55:06.960 --> 00:55:26.810

Gam Wijetunge: prehospital blood transfusion is a priority for NHTSA and our partners on the Federal Interagency Committee on EMS. Earlier this year, the Administrator released Pathways to Safer Streets, which is our comprehensive plan focused on improving motor vehicle crash survival.

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00:55:26.810 --> 00:55:35.169

Gam Wijetunge: And prehospital blood transfusion is identified as one of the priorities in the Pathways to Safer Streets plan.

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00:55:35.300 --> 00:55:37.930

Gam Wijetunge: Next slide.

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00:55:40.460 --> 00:56:00.189

Gam Wijetunge: As we mentioned at the top of the hour, we're doing a number of things, working closely with our partners like the Coalition and other national organizations, to support this effort. We're focused on raising visibility, not only among our public safety and healthcare partners, but also the broader highway safety community

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00:56:00.190 --> 00:56:03.440

Gam Wijetunge: and elected officials.

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00:56:03.490 --> 00:56:13.670

Gam Wijetunge: And we have a number of best practices and other resources that we're putting up on EMS.gov in partnership with the national community.

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00:56:13.730 --> 00:56:29.380

Gam Wijetunge: And we are also focused on steering federal funding to help scale up prehospital blood transfusion around the country. Many folks have heard about the Safe Streets and Roads for All grant program, SS4A.

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00:56:29.380 --> 00:56:38.259

Gam Wijetunge: The notice of funding opportunity that was posted by the administration earlier this year identified prehospital blood transfusion as a priority for funding

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00:56:38.310 --> 00:56:54.910

Gam Wijetunge: during the last year of that particular grant program, with just shy of \$1 billion available. So those applications—that grant application period has closed, and those are being evaluated by the Department of Transportation as we speak.

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00:56:55.180 --> 00:56:56.960

Gam Wijetunge: And next slide.

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00:56:57.990 --> 00:57:13.110

Gam Wijetunge: I'll plug it again: lots of resources are available on EMS.gov. There's a QR code that will take you to several infographics we've developed with our partners to help communicate the importance of prehospital blood

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00:57:13.370 --> 00:57:19.210

Gam Wijetunge: and post-crash care to your community and leadership.

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00:57:20.630 --> 00:57:35.619

Gam Wijetunge: And of course, Jon and Eric mentioned the Prehospital Blood Coalition website as well. I'll just say there was one comment—a question that came in—about a program that isn't up on that map.

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00:57:35.620 --> 00:57:44.609

Gam Wijetunge: There's contact information on the Coalition website. You can send an email, and they will get it up on their map very, very quickly. So

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00:57:44.610 --> 00:57:49.279

Gam Wijetunge: please spread the word. We want to know where these programs exist.

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00:57:51.530 --> 00:58:00.399

Gam Wijetunge: All right, so we are two minutes out from the hour. I feel like we could have gone on all day. This has been a

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00:58:00.600 --> 00:58:17.950

Gam Wijetunge: great conversation. It makes me really excited for the upcoming webinars, because I'm confident that a lot of the questions we didn't get to today will be answered.

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00:58:17.990 --> 00:58:20.299

Gam Wijetunge: So,

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00:58:20.320 --> 00:58:28.850

Gam Wijetunge: on that—we're really pushing up against time, so we won't be able to get to all the questions today.

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00:58:28.850 --> 00:58:44.739

Gam Wijetunge: Jon, Eric, I want to thank you for your time and all the expertise you've shared with us today. And of course, thank you, Administrator Morrison as well, who was able to pop in at the top of the hour.

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00:58:44.790 --> 00:59:04.679

Gam Wijetunge: As the Administrator mentioned, this is the kickoff of six webinars in the whole series. And in the sessions ahead, we're going to go deeper on the operational, clinical, and logistical sides of prehospital blood transfusion.

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00:59:04.680 --> 00:59:08.799

Gam Wijetunge: You can register for the rest of the series on EMS.gov.

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00:59:08.800 --> 00:59:12.489

Gam Wijetunge: Our next session is coming up on August 18th,

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00:59:12.620 --> 00:59:17.159

Gam Wijetunge: on establishing a prehospital blood program.

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00:59:17.320 --> 00:59:36.580

Gam Wijetunge: So please register for that—register for the whole series—and we encourage you to pass this series along to your leadership, your medical directors, your training officers, and all your partners, so they can learn more about this topic. Today's recording will be posted on EMS.gov

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00:59:36.620 --> 00:59:43.790

Gam Wijetunge: soon, so you can watch it again and share it with folks who weren't able to make the live session today.

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00:59:44.160 --> 00:59:50.340

Gam Wijetunge: Again, Jon, Eric, thank you for

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00:59:50.450 --> 00:59:54.059

Gam Wijetunge: hopping on the webinar today. It's been a great conversation.

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00:59:54.820 --> 00:59:56.170

Dr. Jon Krohmer: Our pleasure. Thank you.

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00:59:56.340 --> 01:00:04.170

Gam Wijetunge: For everyone who logged in, I want to thank you for joining us as well, and we'll see you all at the next one.

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01:00:04.410 --> 01:00:05.380

Gam Wijetunge: Thank you.