



General Order

Department of Fire & EMS

G.O. 5-2-25

Subject: Whole Blood Program

Date: May 09, 2025

Authority: Assistant Chief Eric Zaney/*EJZ*

On the morning of 05/09/2025, The Carroll County Department of Fire & EMS placed in service its Whole Blood Program. This outstanding achievement is a result of months of hard work and greatly enhances care to trauma patients in Carroll County. Carroll County joins an elite group of 4 other EMS services in Maryland providing Whole Blood in the field with Carroll County Department of Fire & EMS being the 5th EMS service in Maryland to do so.

Each EMS chase car (EMS 101, EMS 102, EMS 103) has been equipped with 1 unit of whole blood, a temperature-monitored Delta Ice 2L cooler, as well as all of the necessary whole blood administration equipment in a new "Critical Intervention Bag." This administration equipment includes a LifeFlow rapid infuser, QinFlow fluid warmer, and pre-made kits with medications necessary for whole blood administration and treatment of a transfusion reaction.

The Whole Blood Standard Operating Procedure will outline procedures related to the safe storage and administration of whole blood in the field. The SOP also outlines documentation procedures for daily checks, use, and bi-weekly exchanges of whole blood. Whole blood that is not used in the field will be returned to a hospital setting for use in order to ensure that no whole blood goes to waste.

Any questions regarding the Whole Blood Program can be directed to Assistant Chief of EMS Eric Zaney.

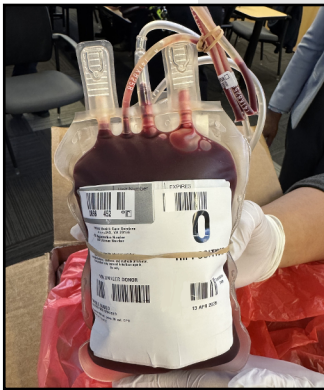


Carroll County Department of Fire & EMS INFORMATIONAL BULLETIN

Carroll County Department of Fire & EMS Launches Life-Saving Whole Blood Program

Beginning May 9, 2025, the Carroll County Department of Fire & EMS (DFEMS) will place Low-Titer O Positive Whole Blood (LTO+WB) into service aboard three Advanced Life Support (ALS) Chase Cars, marking a significant advancement in the county's pre-hospital trauma and medical emergency care capabilities.

This initiative is fully funded by the Board of County Commissioners and implemented in accordance with Maryland State EMS Protocols, in partnership with Inova Blood Donor Services.



Why Whole Blood Matters

LTO+WB has emerged as a gold standard in emergency medical therapy. Whole blood delivers oxygen-carrying cells, clotting factors, and volume in a single, rapid infusion—providing the most effective resuscitation for patients in hemorrhagic shock.

Clinical studies show up to a 34% reduction in 30-day mortality when whole blood is administered in the field.

Whether the cause is trauma, gastrointestinal bleeding, obstetric emergency, or other catastrophic blood loss, early whole blood transfusion can mean the difference between life and death.

Specialize Equipment in each Chase Car

To ensure safe and effective field administration, each unit is outfitted with:

- **LifeFlow Plus Rapid Infuser** with specialized filtered tubing for controlled high-speed delivery
- **QinFlow Warrior Lite Blood Warmer** to ensure blood is administered at safe body temperature
- **Delta 2L Cold Storage Cooler** for strict temperature regulation and safe transport
- Premade adjunct kits, including:
 - **TXA (Tranexamic Acid)** for clot stabilization
 - **Reaction management supplies** for safe transfusion monitoring

All EMS clinicians operating these units have received targeted training in transfusion procedures and management of critical blood loss.

About the Blood Product

About the Blood Product

- Low-Titer O+ Whole Blood **contains low levels of antibodies**, making it **safe for transfusion** in nearly all patients regardless of blood type.
- **O+ (Positive) is significantly more available** than O Negative, supporting a more sustainable and scalable program.
- Whole blood is stored under precise temperature controls and is **shelf-stable for rapid deployment in emergency response vehicles**.

A Milestone in Emergency Care

"This program reflects our commitment to progressive, evidence-based care," said DFEMS Chief Michael Robinson. "By putting whole blood directly in the hands of our medics, we're giving patients a fighting chance before they ever reach the hospital."

The Whole Blood Program represents a forward-thinking investment in survivability, system readiness, and clinical excellence, reinforcing Carroll County's pursuit to be a leader in modern EMS delivery.

