

**WHOLE  
BLOOD**

Affix  
Donation  
Number  
Here

Expiry Date

Warning: enclosed  
contents now available  
on board every PHI Air  
Medical flight may save  
more lives.

ABO and RhD  
Group

Do not vent

Centre Identity



Blood on board.  
24/7/365.

Date Bled

According to the National Trauma Institute, hemorrhage is responsible for over 35% of pre-hospital deaths and over 40% of deaths within the first 24 hours after trauma occurs. That's second only to the rates of death due to severe central nervous system injury. Numerous life-threatening medical problems can occur with the sudden loss of blood associated with severe trauma, including hemorrhage, impaired resuscitation, shock, inflammation, and coagulopathy. The severity of each of these problems is commonly associated with the extent of overall blood loss. Low blood pressure due to blood loss indicates immediate complications, including the incidence of multiple organ failure and life-threatening infections. During life-threatening incidents due to loss of blood, every second counts. That's why PHI Air Medical has begun carrying blood on board every flight. Carrying blood on board allows us to administer life-saving blood and plasma products almost immediately, gives us the ability to begin treating patients faster, helps us stabilize injured and critically ill patients and ultimately leads to better patient outcomes.



## TRAUMA PATIENT FACTS

- 150,000 patients die of trauma in the US each year
- Trauma is the #1 cause of death for patients between the ages of 1 – 44 years old
- Over 40% of trauma fatalities are due to patients bleeding to death
- 84% of trauma patients that die do so in the first 48 hours from the time of injury
- Trauma care costs the U.S. \$400 Billion annually



## BLOOD PRODUCTS AND PLASMA FACTS

- Blood products come from blood donation by blood donors
- Blood products can't be "manufactured or made"
- Whole blood from donations are broken into 3 separate parts
- Packed Red Blood Cells (carry oxygen)
- Plasma (contains factors that help blood clot to stop bleeding)
- Platelets (Play a much smaller role in helping blood to clot)



## GENERAL TRAUMA FACTS

- In the last 10 years major trauma research has demonstrated that:
- IV fluids are not better than nothing, they are worse
  - Trauma patients need blood
  - Trauma research from Iraq and Afghanistan has demonstrated:
  - Patients with massive bleeding need blood as soon as possible
  - Packed red blood cells and plasma need to be given in near equal quantities
  - This is often referred to as 1:1 therapy



## FACTS ABOUT TRAUMA PATIENT MORTALITY

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## STANDARD EMS & EMERGENCY ROOM TRAUMA CARE FACTS

Rapid transport to a trauma center is critical

- Problem - some patients bleed to death on the way to definitive care
- Starting resuscitation with IV fluids which contain water and normal saline
  - Problem - Normal Saline (NS) doesn't carry oxygen
  - Problem - NS causes acidosis
  - Problem - NS doesn't help blood clot, in fact it dilutes clotting factors making it more difficult to clot
  - Problem - if saline is not warm it causes hypothermia
- If that fails, give red blood cells
- After 4-6 units of red blood cells check for clotting issues if present give plasma
  - Problem - by the time a patient receives multiple liters of normal saline, and 4-6 units of red blood cells, then labs are drawn to check clotting factors, the patient blood is so dilute that the ability to clot is totally compromised.



## FACTS

### ABOUT PATIENT MORTALITY DUE TO BLOOD LOSS

- How do we characterize if someone is bleeding to death?
- Patients that are bleeding to death are often characterized by the amount of blood products they require.
- Patients that are bleeding to death are often termed "massive transfusion patients"
- A normal person has about 5 liters of blood
- Massive transfusion typically means the patient requires enough blood products in the first 24 hours from injury requires that their whole blood volume is replaced (i.e. about 5 liters of blood products)



## WHY

### TRANSPORTING BLOOD IS SO CRITICAL

- Blood products are generally not available outside the hospital
- There are NUMEROUS regulatory and cost obstacles that have to be overcome to take blood to the point of patient injury
- A lot of small rural hospitals may not even have blood available in their hospital
- There are only 6 air medical programs in the U.S. currently carrying both packed red blood cells and Plasma
- All aircraft carrying blood and plasma are operated by hospitals EXCEPT PHI Air Medical
  - University of Cincinnati Aircare – 1 helicopter
  - Hermann Lifeflight – Houston TX – 4 helicopters
  - Cleveland Metro Flight – Cleveland, OH – 3 Helicopters (PHI aircraft)
  - Vanderbilt Lifeflight – Nashville, TN – 5 Helicopters
  - Unity Point LifeFlight – Des Moines, IA – 1 Helicopter
  - PHI Air Medical TEXAS – Dallas, Houston, Bryan, Metro areas - 8 Helicopters
- Of the 22 helicopters in the US that carry blood products, PHI Air Medical will be operating 11

## WHY TRAUMA PATIENTS COUNT ON PHI AIR MEDICAL

Our blood transport program isn't the only thing that sets us apart at PHI Air Medical.

PHI Air Medical staff members are credentialed to perform numerous advanced medical procedures, including rapid sequence induction, chest tube placement, pericardiocentesis,

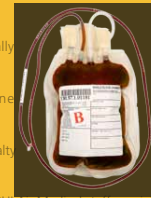
and hemodynamic monitoring. Staff members attend an intense 3-4 month training program focusing on care of the critically ill and injured patient and utilize

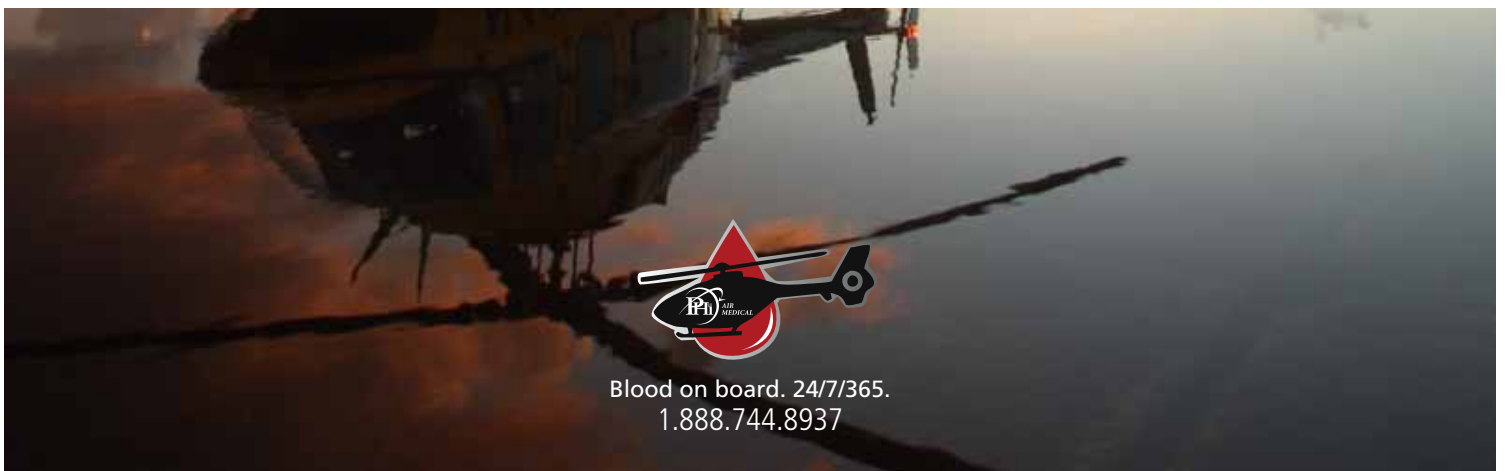
extensive simulations to hone their practice. Teaming with multiple hospital-based specialty teams to provide care and

transport of neonatal patients, PHI Air Medical staff specializes in care for mothers with high-risk pregnancies. Our staff serves a wide range of patients, from infants to elderly patient

populations, and is committed to delivering reliable, exceptional care for every single patient.

Our Blood Transport Program is just one more example of our dedication and commitment to better serving our patients and our community. To learn, visit us at [phiairmedical.com](http://phiairmedical.com).





Blood on board. 24/7/365.  
1.888.744.8937