Prehospital Blood Transfusion Pilot Protocol

LA-DROP
PREHOSPITAL BLOOD TRANSFUSION

Hemorrhagic Shock due to Severe Traumatic Injury or Post-partum Hemorrhage

Control External Bleeding
Apply Tourniquet prn
Consider Tension Pneumothorax

Prioritize Transport

Does the patient meet criteria for prehospital blood?

YES

Warm and rapidly transfuse one unit of LTO+WB OR two units PRBCs

AND

Administer TXA 1g IV/IO over 10 minutes

Continuous monitoring of HR, SpO2, EtCO2, and transfusion reactions

Document BP q3 minutes

Prehospital Blood Transfusion Criteria

SBP < 70 mmHg or unable to obtain

OR

SBP < 90 AND HR ≥ 110

OR

Traumatic arrest witnessed by EMS

Exclusions

Pediatric patient (≤14 years or on length-based tape)
Traumatic arrest not witnessed by EMS
Isolated head injury and/or ground level fall
Patient refusal

CONTACT BASE for **Base Physician** consultation if you believe prehospital blood transfusion is indicated and criteria are not met, or for additional dosing.

NO

Manage patient per Treatment Protocols

Fluid challenge prn

Administer TXA 1g IV/IO over 10 minutes when indicated

Continuous Monitoring of HR, SpO2, EtCO2

Document BP q3 minutes

If patient meets above criteria after initial transfusion as above:

1. Transfuse one more unit of LTO+WB OR PRBCs
2. Reconsider other causes of shock

For additional doses, **CONTACT BASE** for Base Physician consultation

LA-DROP
Blood Administration Field Checklist

- ❑ Ensure external bleeding controlled, think "MARCH"
- ❑ Place patient on cardiac monitor
  - ❑ Obtain HR, BP, SPO2 and $ETCO_2$
- ❑ Establish 2 large bore IVs (preferred) or IOs if unable
- ❑ Confirm indications and rule out contraindications
- ❑ Inform patient of transfusion or use implied consent and look for refusal markers
- ❑ Remove blood product and relock the cooler
- ❑ Inspect the blood bag for integrity and blood clots
- ❑ Perform cross check with a second paramedic:
  - ❑ Product Type (Whole Blood or pRBCs)
  - ❑ Rh Factor (O positive or O negative)
  - ❑ Expiration Date
- ❑ Prime blood tubing and warmer with saline
- ❑ Spike 1 unit of blood to the Y connector with primed tubing
- ❑ Verify that blood is flowing and no extravasation at access site
- ❑ Rapidly transfuse the entire bag of blood by rapid infuser or pressure bag
- ❑ Reassess to determine if patient meets indications for additional 1 unit of blood:
  - If yes, transfuse 1 additional unit (LTO+WB or pRBCs)
  - If no, flush remaining blood in tubing with NS on Y connector until clear
- ❑ Administer TXA 1 g IV/IO as soon as feasible
- ❑ Immediately recheck vital signs, continuous monitoring, reassess BP q3 mins
- ❑ Maintain IV/IO line patency
- ❑ Continuously monitor for transfusion reaction
- ❑ Apply patient wristband for hospital awareness

Hemorrhagic shock is due to traumatic injury or post-partum hemorrhage.

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OR
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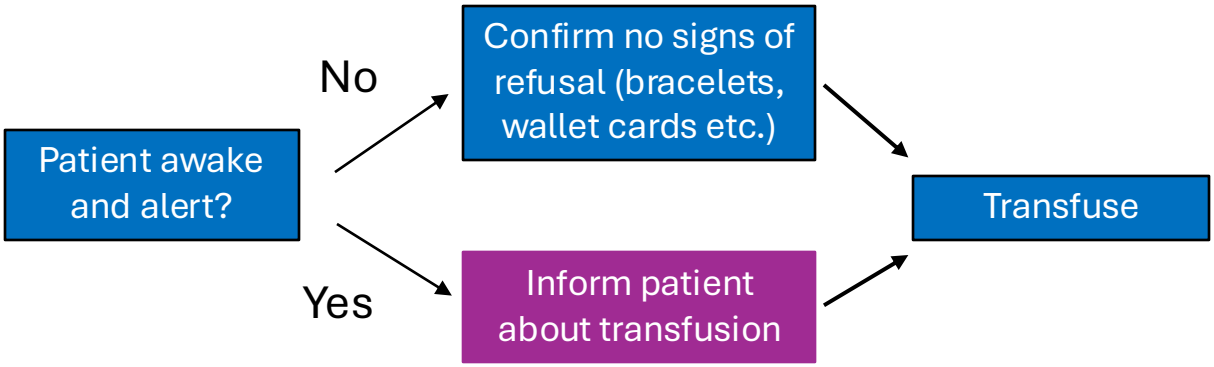
Actions to take for suspected transfusion reaction:

- ✓ STOP TRANSFUSION
- ✓ Disconnect tubing from IV; flush IV port
- ✓ Follow Treatment Protocols (e.g., 1214, 1219)
- ✓ Document reaction in ePCR and report reaction during verbal hand-off
- ✓ Provide blood bag and all tubing to hospital for testing

Blood Transfusion Consent



Scripting Suggestions:

- *"We need to give you a life saving blood transfusion due to your severe bleeding. The risks are very low and include allergy, fever, or breathing reactions and we will monitor you closely. There is a very rare chance of disease transmission, about 1 in 1 million."*

Special Circumstances:

- **If patient sex is female and of childbearing age (<50 years):** *"Depending on your blood type, your body may produce a reaction from a blood transfusion that has a potential risk of affecting future pregnancies."*
- **If patient refuses blood or carries documentation/identifying marker of blood refusal:** "*Because I want to make sure I respect your decisions, I want to confirm that you do not want to be treated with blood products even if that means you might die. Is that correct?"*

For minors (< 18 years):
If parent/guardian on scene, inform them of need for transfusion.
If no parent/guardians on scene, utilize implied consent.

CONTACT BASE for Base Physician consultation on all refusals of blood transfusions

Risk	Risk per unit of blood	Severity
Allergic reactions: - Mild - Moderate - Severe	 1 in 100 1 in 50,000	Ranges from - Hives and itching to - Low BP, nausea, difficulty breathing to - Shock
Fever	1 in 200	Temporary; not harmful
Injury to the lungs	1 in 1,200 to 190,000	1:10 risk of death if complication occurs
Contamination of product causing bacterial infection in patient's bloodstream.	1 in 10,000 to 100,000	Severe to life-threatening
Too much fluid in your bloodstream	Less than 1 in 100	Ranges from mild to severe
Too much iron in your bloodstream and tissues	Can occur after 10-20 red blood cell transfusions if patient is not bleeding	Ranges from mild to severe
Breaking apart of red blood cells	1 in 25,000	Ranges from mild to severe
Viral infection	Every unit of blood is tested for all major viruses; the risk of getting HIV, Hepatitis C, or Hepatitis B from a blood transfusion is close to 1 in 1,000,000 to 1,500,000.	