



Whole Blood Administration

GOALS

- Initiate early resuscitation with whole blood to provide rapid correction of anemia, coagulopathy, acidosis, and hypothermia
- Use warmed whole blood to replace the loss of the oxygen carrying capabilities due to hemorrhage and treat all three parts of the Lethal Triad of Trauma: Coagulopathy, Acidosis, Hypothermia
- Provide direct replacement of all blood components at once with administration of whole blood, minimizing complications and complexity of component therapy

TREATMENT

- Indications for medical etiology may include: GI Bleed, OBGYN emergencies (ruptured ectopic pregnancy, severe vaginal bleeding, etc.), vascular emergencies (uncontrolled bleeding from shunt, fistula, etc.), hemorrhage secondary to recent major surgery or other medical hemorrhage situations
- Keep trauma patients covered, well oxygenated, and stop active hemorrhage
- Any trauma patient with concern for hemorrhage and a systolic blood pressure ≤ 70 mmHg may receive Whole Blood administration
- Adult Patients still showing signs of shock after the administration of 1 unit of Whole Blood may receive 1 additional unit of Whole Blood if available, with Medical Control Order only
- Large bore IV/IO 20g or higher is required for blood transfusion
- Do not give medications through the whole blood IV/IO set
- Utilize alternate access for medication administration via IV/IO while blood products are being administered
- Clinical criteria for whole blood may include anticoagulant medications (not anti-platelet):
 - Anticoagulants include: Heparin, Lovenox, Coumadin, Eliquis, Xarelto, Paradaxa, etc.
 - Antiplatelets include: Aspirin, Plavix, Effient, Aggrenox, Ticlid, etc.

SPECIAL CONSIDERATIONS

- Individual and/or agency use requires OMD approval and successful completion of a TEMS OMD committee approved course
- Transport should not be delayed for the administration of Whole Blood
- Transport to the closest appropriate facility based on trauma center criteria and TEMS trauma triage plan
- Stop the transfusion immediately if a patient shows signs of an adverse reaction at any point, monitor the patient closely, and incorporate other appropriate protocol(s) as needed
- If whole blood is immediately available, consider attempting resuscitation and incorporating this protocol on patients experiencing cardiac arrest from penetrating trauma with minimal downtime, pseudo PEA, etc.
- Pre-hospital providers should transfer trauma patients with uncontrolled airway, uncontrolled hemorrhage, or if there is CPR in progress to the closest hospital for stabilization and transfer.

PEDIATRICS

- For ages 5-13yo, adult is considered ≥ 14 yo
- Not indicated for age < 5 yo
- Patients still showing signs of shock after the administration of 10 ml/kg of Whole Blood may receive 10 ml/kg additional of Whole Blood if available, with Medical Control Order only





Whole Blood Administration (Adult)

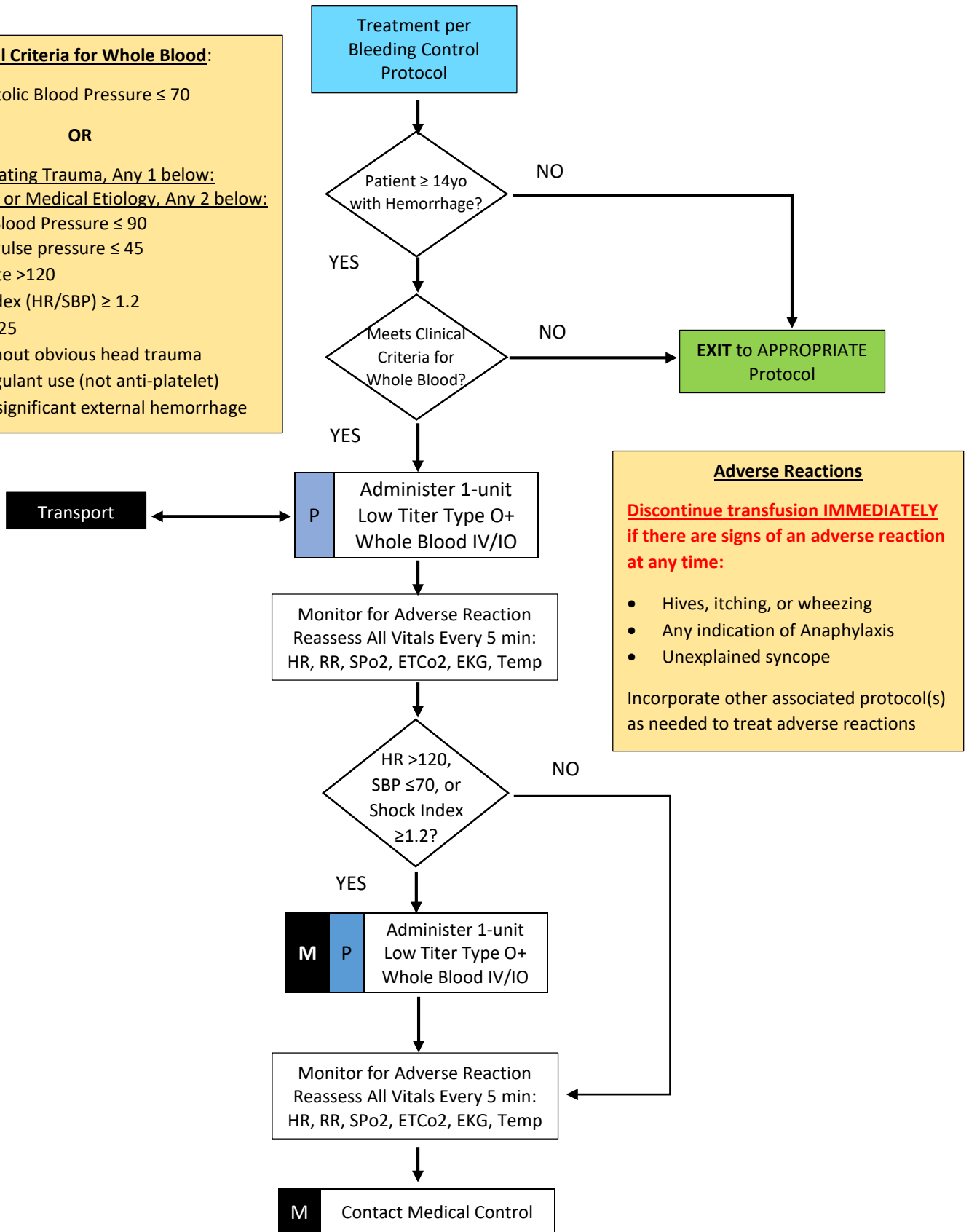
Clinical Criteria for Whole Blood:

Systolic Blood Pressure ≤ 70

OR

Penetrating Trauma, Any 1 below:
Blunt Trauma or Medical Etiology, Any 2 below:

- Systolic Blood Pressure ≤ 90
- Narrow Pulse pressure ≤ 45
- Heart Rate >120
- Shock Index (HR/SBP) ≥ 1.2
- ETCO₂ < 25
- AMS without obvious head trauma
- Anti-coagulant use (not anti-platelet)
- Obvious significant external hemorrhage



Adverse Reactions

Discontinue transfusion IMMEDIATELY if there are signs of an adverse reaction at any time:

- Hives, itching, or wheezing
- Any indication of Anaphylaxis
- Unexplained syncope

Incorporate other associated protocol(s) as needed to treat adverse reactions