

MEMORANDUM

To: All GCEMS Staff And First Responder Personnel
From: Phil Head III, MS, NRP, FP-C, CP-C
RE: Staff Memorandum-Blood Administration
Date: June 8, 2020

Blood Administration

Greenville County EMS has an opportunity through Prisma Health Ambulance Service to offer blood products (packed red blood cells & fresh frozen plasma) to our patients who present acutely anemic secondary to trauma or medical conditions. This document serves as guidance to ensure that this intervention is needed for our patients and helps guide the interaction between our agencies.

Criteria for Request of Blood Products-Mechanism of Injury & Nature of Illness

1. If the patient meets the mechanism of injury or nature of illness below and has at least two physiological parameters, the request may be made.
 - a. For blood administration request, patients must be > 5 years of age with:
 - i. Signs of massive hemorrhage
 - ii. Traumatic injury (penetrating or blunt)
 - iii. Suspected dissecting/rupturing aneurysm (abdominal or thoracic)
 - iv. Gastrointestinal bleeding
 - v. Signs of intra-abdominal bleeding
 - b. Physiological Parameters
 - i. Systolic blood pressure < 90 mm Hg
 - ii. Heart rate > 120 bpm
 - iii. Shock Index (SI) > 1
 1. Shock Index is calculated by the following: $SI = \text{Heart rate} / \text{systolic blood pressure}$
 - iv. Pediatric patients > 5 years of age whose vital signs are consistent with blood loss as defined by their weight or age-based parameters in the Pediatric Multiple Trauma Protocol

Personnel Requirements for Activation

1. Any GCEMS employee or first responder personnel present at the scene of an injury or medical condition, and after an initial patient assessment may request this service.
2. The Medical Director, Operations Supervisor or any other administrative personnel may make the request prior to patient assessment if the mechanism of injury or patient's condition reflects the potential for blood administration

Personnel Requirements for Deactivation

1. GCEMS paramedic after patient evaluation
2. Operations Supervisor or administrative personnel at any time
3. The Medical Director or online medical control at any time.

Procedure

1. After patient assessment and determining blood products will be needed, notify MedCom. MedCom will coordinate with Prisma Health Ambulance Service and will report back details of response and an ETA.
2. Continue to provide patient care until the responding Prisma Health Ambulance Service arrives at the scene.
 - a. Prisma Health Ambulance Service will have the following two options of response:
 - i. Supervisor
 - ii. Prisma Health Service Ambulance
 1. The supervisor will assist you in patient care upon their arrival and accompany the GCEMS crew during transport.
 2. Prisma Health Ambulance Service personnel will assist in the care of and accompany the GCEMS crew during transport of patient **OR**, if deemed necessary, care and transport may be transferred in the case of limited resources, e.g. mass casualty incident.

Note: At no time should a GCEMS ambulance remain on the scene and not initiate emergent transport to the appropriate medical facility. If transport has been initiated prior to Prisma Health Ambulance Service arrival, they may intercept prior to hospital arrival.

Patient Preparation

1. GCEMS personnel will follow departmental guidelines regarding care for trauma patients; however, the following will be included for patients where blood products are to be administered:
 - a. The patient is fully exposed when applicable per protocol
 - b. The patient's airway is intact and managed by ensuring the following:
 - i. Patient alert and following commands
 - ii. Advanced airway in place with confirmation of CO2 waveform
 - c. Hypoxia has been corrected
 - i. Patient is on supplemental oxygen
 - ii. Goal of oxygen saturation greater than 94%
 - d. External bleeding is controlled
 - i. All major injuries with bleeding have been addressed
 - ii. Tourniquet placed for hemorrhage not controlled with pressure
 - e. IV/IO access is placed, functional, and not infiltrated
 - i. Patient has 2 IV/IO sites
 1. Adult 18g IV minimum
 2. Pediatric 20g IV minimum
 - f. The patient is covered with a blanket.
2. If GCEMS personnel can assist in having these items done prior to arrival as appropriate, this will streamline the checklist process and help get blood products on board faster while transport is being facilitated.

Note: While Greenville County EMS personnel will always be ultimately responsible for all patient care activities, the Prisma Health paramedic will be responsible for transfusion administration and related reactions should they occur. The expectation is that our organizations will work together as a team to provide quality patient care.