**TITLE: Massive Transfusion Protocol (MTP)**

### PRINCIPLE:

The Massive Transfusion Protocol is indicated when it is anticipated that a patient requires massive amounts of blood and blood products in order to stabilize hemorrhage. We want to avoid the excess use of blood components, contain cost, and improve patient outcomes.

**CLINICAL SIGNIFICANCE**:

The Massive Transfusion Protocol should be initiated for those patients anticipated to require 10 units of blood or more in a 24-hour period or more than 4 units in a 4-hour period. (American Association of Blood Banks). As a result of military studies it is recommended that the infusion of fresh frozen plasma (FFP): packed red blood cells (PRBC’s) and platelets are in a 1:1:1 ratio; and to minimize the use of crystalloids and/or synthetics colloids. It is highly recommended that the Level 1 Fluid warmer be used for these patients.

## REAGENTS AND EQUIPMENT:

See Individual Procedures

## QUALITY CONTROL:

###### None indicated

**STEPWISE PROCEDURE:**

1. The Emergency Room/ ICU/OR staff/L&D (in most cases the charge nurse will be the point person for blood bank) will notify the blood bank that the Massive Transfusion Protocol is being initiated along with appropriate identification of the patient
2. Draw patient sample for Massive Transfusion Protocol in accordance with Procedure

#4840-BB-100 Ordering Blood and Other Components.

1. Lab will bundle the blood products as per the following template and send each tier to the requesting unit at 30-minute intervals. Blood bank staff will call the floor to confirm readiness for the next tier before sending. The requesting unit should send a runner to

transport the blood if the tube station is not available or if they require the products quicker than the tube station can deliver them. The standard secure code to receive the blood via the tube system should be the month & day of the event. (i.e. March 3rd would be 0303, Nov 15th would be 1115).

1. Downtime Transfusion Tags should be printed and accompany each unit sent during the massive transfusion for the Emergency Room and Operating Rooms, or any other unit that may request them.
2. All unused blood components need to be returned to the blood bank as soon as possible.
3. Downtime tags for transfused units should be kept in the patient’s paper chart.

* The template for MTP can be found on the S drive Blood Bank Schedule for delivering blood for massive transfusion protocol

## REPORTING AND INTERPRETING RESULTS:

None Indicated

## PROCEDURAL NOTES:

As much as possible in an emergent situation, Rh negative females, between birth and 55 years of age, will be given Rh negative products.

**NOTE**: At the completion of the Massive Transfusion Protocol, please file all orders for Massive Transfusion in the “Emergency Release and MTP” folder for the current year in the front of the completed orders bin. These orders are to be retained for 10 years.

**REFERENCE:**

**References**

**1. Massive Transfusion Protocol for Trauma, Forestner, John E., November 2008**

**2. A Massive Transfusion Protocol to Decrease Blood Component Use & Costs, O’Keeffe, Terence, MB, ChB, MSPH, et all, ARCH Surg/Vol 143 (NO.7) July 2008**

**3. Region IX Trauma Guideline: Massive Transfusion**

**AABB Technical Manual**

**EXAMPLE:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Schedule for delivering blood and blood products for massive transfusion protocol. | | | | |
| **Shipment** | **RBC** | **FFP**  **Thawed** | **Pheresed Platelets** | **Cryo** |
| Trauma 1 Patient  Arrival Time | 2 O-neg |  |  |  |
| MTP start time  Tier 1 | 5  (3 if 2 Oneg already sent) | Prepare 5 FFP | 1 | 0 |
| 30 mins  (Tier 1, cont.) |  | 5 |  | 10 or 2/5packs |
| 1 hr  Tier 2 | 5 | 5 | 1 | 0 |
| 1 1/2 hrs  Tier 3 | 5 | 5 | 1 | 10 or 2/5packs |
| 2 hrs  Tier 4 | 5 | 5 | 1 | 0 |
| 2 1/2 hrs  Tier 5 | 5 | 5 | 1 | 10 or 2/5packs |
| 3 hr  Tier 6 | 5 | 5 | 1 | 0 |
| 3 1/2 hrs  Tier 7 | 5 | 5 | 1 | 10 or 2/5packs |
| 4 hr  Tier 8 | 5 | 5 | 1 | 0 |
| 41/2 hrs  Tier 9 | 5 | 5 | 1 | 10 or 2/5packs |