

MASSIVE TRANSFUSION PROTOCOL

Purpose Define the Massive Transfusion Protocol (MTP) and responsibilities associated with providing blood products in a timely manner.

Definition

Massive transfusion

| | |
|--------------|--|
| Adult | 4 units of red cells in < 4 hours with ongoing uncontrolled bleeding |
| Child | ≥30 mL/kg of red cells in < 4 hours with ongoing uncontrolled bleeding |

Massive Transfusion Protocol

The Massive Transfusion Protocol is used to identify and manage patients at risk of bleeding by standardizing blood orders for component replacement during the bleeding episode.

Responsibilities

Clinical Team

- Activates the MTP
- Provides Clinical Contact person to Blood Bank
- Provides patient's name, CPI, sex, weight and location of patient
- Records the name of the Blood Bank contact
- Maintains communication with the Blood Bank contact person regarding changes to patient orders and location
- Ensures the MTP protocol order is entered into UM-Carelink
- Sends runner to pick up MTP pack

Blood Bank

- Provides a Blood Bank contact to the MTP team
- Communicates to Clinical Contact any pertinent information regarding the patient (IRR, antibodies, etc)
- Prepares and issues the MTP upon initial request
- Prepares and issues replacement MTP's when one is picked up
- Manages blood inventory

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Setting up the Massive Transfusion Pack

| Step | Action |
|------|--|
| 1. | Upon receipt of a request for the massive transfusion protocol, verify patient information with the Clinical Contact person and the laboratory information system. |
| 2. | Designate a Blood Bank contact person to the Clinical Contact. |
| 3. | Communicate to the Clinical Contact any special requirements (IRR, antibodies, etc) to determine the urgency to forego requirements. |
| 4. | Prepare the MTP using SOP for urgent need for blood. |
| 5. | Load the blood in the trauma coolers with wet ice. Platelets and cryo can be placed in the pouch at the front of the cooler. |
| 6. | Fill out QA156 and add to the top of the cooler. Verify there are several M232 forms for the Clinical Team to use. |
| 7. | When the MTP is picked up, prepare the next MTP and notify the Clinical Contact when it is ready. |

Massive Transfusion Protocol

| Protocol | Red Cells | Plasma | Platelets | Cryoprecipitate (if requested) |
|----------------------------------|-----------------------|--------|------------|-----------------------------------|
| Adult | 6 | 4 | One 5-pack | One 5-pack |
| Pediatric (wt. in kg) | | | | |
| 0-10 | 1 | 1 | 1 | 1 |
| 11-20 | 2 | 2 | 2 | 2 |
| 21-30 | 3 | 3 | 3 | 3 |
| 31-40 | 4 | 4 | 4 | 4 |
| 41-50 | 5 | 5 | One 5-pack | One 5-pack |
| >50 | Follow adult protocol | | | |

Testing and Selection of Products

- Use the pre-stored emergency dispensed products when the need is too urgent to prepare, label and dispense crossmatched products in a timely manner
- If time allows and a current sample is available, prepare products using standard SOPs
- Consider sending the initial pack as emergency dispensed and the following packs as crossmatched when appropriate
- Consider antibody history if time allows; see below for management of patients with antibodies

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Massive Transfusion with Antibodies

When there is a massively transfused patient or a high probability that a patient will soon qualify as one and the patient has a history of antibodies, a change in crossmatch procedure may be indicated.

- Notify the Pathology House Officer (PHO) that the patient has reached or will soon reach massive transfusion levels of red blood cells
- If approved for the use of antigen untested units and/or XMC, enter the comment into PTC along with the time frame for the approval
- Initiate an Occurrence Report

Note: After the XMC crossmatch has been approved for a massively transfused patient, units may be released without warning labels.

Packaging

- Use the red trauma pack coolers for packaging products
- Platelets are stored in the front pouch of the cooler
- Add form QA156 to indicate the time the pack should be returned to the plastic sleeve on top of the cooler
- Verify there are several copies of Form M232 in top sleeve on cooler

Blood Bank Inventory

- Verify adequate red cells and plasma are available for projected needs
- Thaw plasma as needed to restock the shelf
- Order products when indicated
- Replace emergency units in a timely manner

Post Massive Transfusion

- The Clinical Contact person will notify Blood Bank when the massive transfusion event is over
- Request return of MTP coolers and unused blood components
- Evaluate the acceptability of unused blood components, see B151
- Verify information on the appropriate documents have been filled out (Occurrence Reports, Emergency Authorization for Uncrossmatched Blood, etc.)
- Change the PTC comment if the PHO determines that antigen negative, IRR , etc. can be resumed

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References

Protocols approved by the UMHS Transfusion Committee:

Massive Transfusion Protocol (MTP) – Adult

Massive Transfusion Protocol (MTP) – Pediatric

Copies stored at end of B401

Related Procedures

B151 Non-Conforming Products, Quarantine and Final Disposition

B405 Urgent Need for Blood

B526 Selecting the Appropriate Blood for Patients with Unexpected Antibodies

Approvals/Reviews

Approved by: _____ Date: _____

Reviewed by: _____ Date: _____

Reviewed by: _____ Date: _____

Reviewed by: _____ Date: _____