

POLICY

Title: Massive Transfusion Event Protocol Policy: Clinical Manual/General Clinical

Home Department: Inpatient Nursing and Transfusion Medicine

IMPORTANT NOTICE:

The official version of this document is contained in the Policy and Procedure Manager (PPM) and may have been revised since the document was printed.

I. POLICY:

Massive Transfusion Event (MTE) Protocol:

The MTE Protocol is initiated at the request of the anesthesiologist, surgeon or physician when rapid infusion of large volumes (> 6 units) of blood/blood components is urgently needed for an acutely bleeding patient.

The use of cryoprecipitate will be based on clinical assessment of the patient and current laboratory values. In an acute setting with ongoing active bleeding, initiation of this protocol assumes patients will receive PRBC's and FFP in an approximate 1:1 ratio.

Nursing will call Transfusion Medicine (TM) and request the initiation of the MTE Protocol and will ensure effective communications. He/she will provide:

- Patient name and MRN
- Verbal orders for any blood products that are needed
- Note: Orders for MTE protocol must be entered into CS-Link as soon as possible.
- STAT blood sample for cross match or confirming ABO (second sample) if required.
- Name and telephone number for the nursing contact person for the event.

Provision of Blood / Blood Components:

The patient requiring this protocol is given the highest priority over all other blood orders being concurrently processed.

Transfusion Medicine ensures the immediate availability of all required blood/blood components necessary for optimal patient management.

First MTE cooler will include:

- 6 units of uncross matched group O RBCs,
- 4 units of thawed AB plasma and
- 1 unit of plateletpheresis.

Subsequent MTE coolers will include (unless ordered otherwise by the physician):

- Six (6) units of uncrossmatched group O RBCs,
- Six (6) units of thawed AB plasma or type-specific plasma if specimen available
- One (1) unit of plateletpheresis

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	6 Units RBC O negative	6 Units RBC O positive	4 Units AB Plasma	1 Platelets	Immediate Availability
Females \leq 50 yrs or whose age is unknown	✓		✓	✓	<ul style="list-style-type: none"> The immediate need for uncross matched blood may be met by using the O positive or O negative blood stored in the "uncross matched blood" refrigerators. The Blood Bank will continue to meet the patient's clinical needs with uncross matched O positive and O negative blood until the event is over or the physician requests cross matched blood.
All pediatric patients 15 years of age or under	✓		✓	✓	
Men and Postmenopausal Women		✓	✓	✓	

Patients who initially received group O, Rh negative RBCs and subsequently found to be Rh positive on current and confirmatory blood typing, are switched to group O, Rh positive RBCs.

Patients who initially received group O, Rh positive RBCs and subsequently found to be Rh negative on current and confirmatory blood typing, are given Rh positive RBCs for the rest of the event.

The Blood Bank will prepare additional components (plasma, platelets, and cryoprecipitate) as ordered by the physician and maintain 6 RBC and 6 FFP "to be available" at all times until the event is over.

Communication

One person from each area/department will be designated to communicate with the Technologist-in-Charge (TIC). This designated person must communicate with the TIC when the next set of blood components will be needed.

The TIC serves as the Transfusion Medicine contact person for **all** communication with the patient care area during this event and will only communicate with the designated patient care area contact person (nurse or physician).

To resolve any patient problems or questions:

- Trauma

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- OR
- L & D
- Blood Bank Hotline

The TIC is responsible for reconciling the transfused/returned blood products with the inventory and coolers at the end of the event and for recording completion and any unexpected findings in the comments section of the MTE Worksheet.

Terminating the MTE

The physician in charge is responsible for halting the protocol and communicating this to the nurse in charge who in turn must notify the Blood Bank.

Return of Unused Blood/Blood Components

The charge nurse will assume the responsibility for returning all unused units of blood to the Blood Bank within 30 minutes.

II. PURPOSE:

To describe a protocol for managing a massive transfusion event, defined as the provision of uncross matched RBCs and blood components for an acutely bleeding patient who requires rapid infusion of large volumes of blood urgently.

III. PROCEDURE (see also Attachment 1):

- A. Notify the Blood Bank of the MTE declared by the physician.
- B. Obtain Equipment / Materials

Equipment

- Cooler with blue ice packs
- Cooler inserts or carriers

Materials

- TS5109 Massive Transfusion Protocol Patient Worksheet
- TS5092 Blood Bank - Patient & Product Identification Form (PPI Form)

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- C. Obtain/receive blood/blood components immediately from the Blood Bank (see page 1 - **Provision of Blood / Blood Components**):
- The first cooler will include 4 units of group AB plasma regardless of patient blood type.
 - ABO-compatible plasma will be provided if the patient's ABO/Rh type has been determined on a sample collected during the current admission.
 - The Blood Bank will thaw additional group AB plasma as needed until a blood type is determined.
- D. Sign the "Uncross matched Blood Form" that lists all the RBC units in the cooler and return to Blood Bank (see Attachment 2).
- E. Warm fluids and blood via rapid warmer infuser or other appropriate fluid warming device where possible to avoid hypothermia:
1. Place patient on hypothermia mattress on the OR table and use a warming air-low blanket (e.g., "Blair Huggar" as per MD order)
 2. Provide environmental temperature control, e.g., warm room
 3. Warm saline for irrigation
 4. Use fluid warmers for blood and fluid (e.g. Level One or Rapid Infuser)
 5. Provide humidified O₂ for those patients on a ventilator
- F. Continue to use uncross matched group O blood until the event is over or the patient's physician requests cross matched blood.

Note: Blood Bank will:

- Notify a TM physician when more than 6 units of uncross matched blood are issued for a massive transfusion event.
- Perform a **STAT** type and screen if not already done, using tube test for ABO/Rh typing and manual gel test for antibody screening.
- Tube to the unit a copy of the RBC unit tag for placement in the patient's medical record.
- Keep at least six (6) units each of RBCs and thawed plasma allocated for the patient in the Blood Bank at all times until the bleeding episode is over.

IV. RELATED POLICIES AND PROCEDURES

- Blood and Blood Components: Administration (Transfusion) and Management

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- ABO Grouping (Tube Test)
- Rh (D) Typing and Weak D Testing (Tube Test)
- Antibody Screening by ID-MTS Gel Test

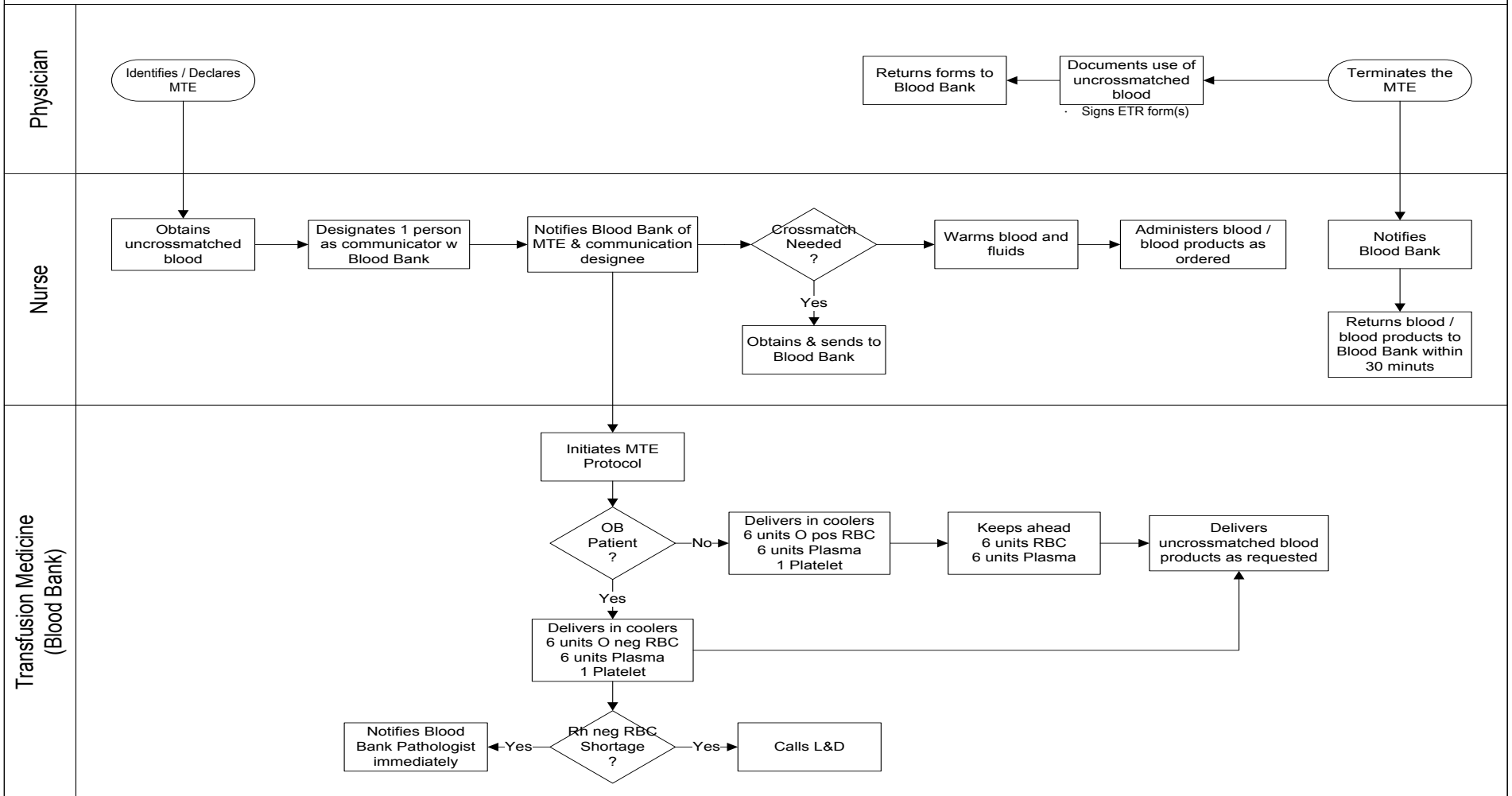
V. REFERENCES

- Technical Manual, 17th Edition, AABB, Bethesda, MD, 2011.
- Standards for Blood Banks and Transfusion Services, 28th Edition, AABB, Bethesda, MD, 2012.

Original Effective Date: 5/2010

ATTACHMENT 1

MASSIVE TRANSFUSION EVENT (MTE) PROTOCOL



ATTACHMENT 2

**PATHOLOGY AND LABORATORY MEDICINE
DIVISION OF TRANSFUSION MEDICINE**

**EMERGENCY TRANSFUSION REQUEST FOR
UNCROSSMATCHED BLOOD
CALL EX. 35411 IMMEDIATELY**

Trauma Pack # _____

Patient Name:						
Medical Record number:						
Diagnosis / Indication:						
Patient ABO/Rh (if known):						
BLOOD PRODUCTS REQUESTED:						
DONOR (UNIT) NUMBERS	ABO/Rh	LOCATION	ISSUED			DISPOSITION
			DATE, TIME	TO	BY	

RETURN SIGNED FORM TO TRANSFUSION SERVICE TUBE STATION 112

I believe the patient requires an emergency transfusion, and cannot wait for completion of routine compatibility testing. I understand that Transfusion Medicine personnel will perform routine compatibility testing as soon as possible, and they will report any incompatibility that they find to me immediately.

Signature of Physician Requesting Emergency Transfusion:	Date:
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BLOOD BANK USE ONLY		
Specimen Received Date, Time:	Reviewed By:	Date: