

SUBJECT: MASSIVE TRANSFUSION	REFERENCE:#7010.4736
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	EFFECTIVE: 02/15/2010
APPROVED BY: LABORATORY MEDICAL DIRECTOR	REVIEWED: REVISED: 07/11/2018

### 1.0 **PRINCIPLE**

Massive transfusion is defined as the transfusion replacement for loss of one blood volume (~10units of blood in a 70kg adult) in 24hrs or the transfusion replacement for loss of 50% of one blood volume within 3hr.

### 2.0 **ACTIVATING MASSIVE TRANSFUSION**

Effective massive transfusion protocol (MTP) requires active communication involving trauma/surgery team [Attending physician, surgeon(s), anesthesiologist(s), and nursing staff], blood bank personnel, and laboratory pathologist.

- 2.1 Once it is determined the massive transfusion is needed the surgeon/trauma physician or nurse will place the orders for the MTP, Type, Screen, and Crossmatch into "EHRHIS" and/or notify the PBX operative at (phone extension 8686).
- 2.2 The PBX operator will notify the transfusion services (phone extension **3191**) to initiate the MTP and give the transfusion services technologist the patient's name, medical record number, and location. The PBX operator will also notify on call acute care surgeon, anesthesiologist, and house supervisor.
- 2.3 The transfusion service technologist will notify the laboratory pathologist that the MTP has been activated. The blood bank on call technologist will be notified if needed.
- 2.4 The MTP runner will be identified by the charge nurse in ED or ICU or surgery.

### 3.0 **PROCEDURE**

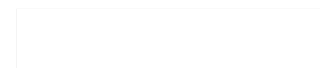
Once the MTP is activated the Blood Bank will respond as follows:

Note: Any emergency release product issued prior to the MTP will not be counted in the tray content.

- 3.1 If there is NO HISTORICAL ABORH and NO COMPLETION of any patient testing:
  - 3.1.1 4 "AB type" FFP will be placed into a waterbath immediately to thaw and readied for pickup by personnel from the patient location approximately 30mins later.
  - 3.1.2 5 "O negative" pRBCs and 1 Platelet pheresis will be readied immediately. Once ready the patient location will be notified as follows:

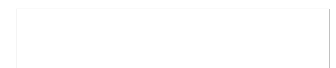
Red blood cell and platelets are ready for pickup. FFP will be ready in approximately "X" minutes. Do you want us to process the next tray?

Or



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- 3.2 There is a current ABORH of record: (Current ABORH is defined as a specimen that has been collected within 3 days (72hrs) preceding the event. Collection of the patient specimen will be during the present/current admission.)
- 3.2.1 4 “type compatible” FFP will be placed into the waterbath immediately to thaw and readied for pickup by personnel from the patient location approximately 30mins later.
- 3.2.2 5 “type specific” pRBCs and 1 Platelet pheresis will be readied immediately. Once ready the patient location will be notified as follows:
- Red blood cell and platelets are ready for pickup. FFP will be ready in approximately “X” minutes. Do you want us to process the next tray?
- 3.3 Activated MTP requires properly labeled patient sample tubes for:
- 3.3.1 Blood bank type and crossmatch.
- 3.3.2 Baseline coagulation testing to include: CBC with platelet count, Pro-thrombin time with INR, PTT, fibrinogen and Rotem.
- 3.4 The blood bank will:
- 3.4.1 Place product orders and fill out emergency release forms as needed.
- 3.4.2 Perform the type, screen, and crossmatch STAT. All products will be emergency release until the testing is complete.
- 3.4.3 Test a separate pink top collection for type verification if there is no historical type.
- 3.5 A standard set of blood products, batched by tray, will be prepared by the transfusion service/blood bank at regular intervals and readied STAT for pickup by personnel from the patient location.
- 3.5.1 MTP Runner will report to lab with patient chart label and pickup available blood products and MTP phone.
- 3.5.2 Blood bank will call MTP phone when additional products are available. After the contents of each tray are picked up (either partial or whole) the MTP runner will be consulted to receive direction to continue the processing of the next tray or hold.
- 3.5.3 The transfusion service will at request stay one tray ahead.
- 3.5.4 The trays will be available at 45min intervals.



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3.6 Each tray will be as follows:

Tray 1	RBC-5		FFP-4		Plt-1	
Tray 2	RBC-5		FFP-4		Cry-10	

Rotate preparation of Tray 1 and Tray 2 until the MTP is terminated

- 3.7 Vitamin K 10mg IV (obtained from pharmacy) will be given as appropriate for reversal of vitamin K antagonists.
- 3.8 With the ratio of pRBCs, plasma, and platelets used in the MTP, no additional coagulation testing will be routinely required until the patient has been stabilized. After stabilization, coagulation monitoring will be reinitiated as the surgeon/trauma physician deems necessary.
- 3.9 The MTP will continue until the surgeon/trauma physician or their representative contacts the transfusion service to discontinue the massive transfusion protocol and enters the Stop order.
- 3.10 Following massive transfusion, there is such a small volume of the patient's blood left that completes crossmatching has limited benefit. It is only important to confirm ABO compatibility of subsequently transfused blood. Abbreviating the crossmatch is acceptable following massive transfusion, even when unexpected alloantibody is present in the patient's pre-transfusion sample, provided that the donor blood is shown by testing with blood grouping reagents to lack the corresponding antigens.

#### REFERENCE

Fung, MD., ed. "*Technical Manual*". 19th ed. Bethesda, MD; American Association of Blood Banks, 2018.

#### APPROVED

- Performance Improvement Multidiscipline Committee 02/27/2017
- Transfusion Committee.
- Trauma Committee.