*System Laboratory Service Line*

| **POLICY/GUIDELINE TITLE:** Massive Transfusion Policy | **SYSTEM POLICY AND PROCEDURE MANUAL** |
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| **POLICY #:** SLS.703 | **CATEGORY SECTION:** |
| **System Approval Date:** 2/26/2026<br><br>**Site Implementation Date:** 4/8/2026 | **Effective Date:** 10/18/18<br><br>**Previously Approved:** 11/21/23 |
| **Prepared by:**<br>Northwell Health Transfusion Medicine Medical Policy Committee | **Notation(s):**<br>N/A |

## GENERAL STATEMENT of PURPOSE

The purpose of this guideline is to standardize the Massive Transfusion Protocol (MTP) throughout the Northwell Health system and to provide guidance of key required elements for a site-specific procedural policy.

## POLICY

It is the policy of Northwell Health System Laboratory Services to establish, educate and disseminate standardized evidenced based guidelines and protocols for care. Attachment A, entitled *Guidelines for Massive Transfusion*, addressing patients that require massive transfusions, provide recommendations to achieve this goal.

## SCOPE

This policy applies to all Northwell Health employees, as well as medical staff, volunteers, students, trainees, physician office staff, contractors, trustees and other persons performing work for or at Northwell Health; faculty and students of the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell or the Hofstra Northwell School of Nursing and Physician Assistant Studies conducting research on behalf of the Zucker School of Medicine on or at any Northwell Health facility.

## DEFINITIONS

Emergency Release of blood refers to the release of uncross matched Group O packed red blood cells (PRBCs) due to a number of different case scenarios where clinical urgency precludes completion of all routine serological testing, including type and screen, crossmatching, antigen testing or antibody identification.

**Massive Transfusion Protocol (MTP)** is a Transfusion Medicine standard of care that delineates set combinations of blood components to be issued by the Blood Bank Laboratory to a clinical area during trauma and non-trauma events where a large amount of blood replacement therapy will occur in a relatively short period of time. This proactive process looks to standardize

the approach to blood and blood component resuscitation. While blood utilization will remain a function of the site-specific clinical team, execution of the process remains a function of the Blood Bank Laboratory.

Once activated by a clinician, the MTP is designed to provide pre-defined continuous flow of "packs" containing Red Blood Cells, Plasma, Platelets, Cryoprecipitate, and in some instances other blood derivatives. Red Blood Cells and Plasma are issued in validated coolers, while Platelets, Cryoprecipitate and Derivatives requiring different storage and transportation conditions will be issued in separate suitable containers. The MTP process will be activated upon a clinician's phone call to the Blood Bank Laboratory and terminated by the clinician once patient hemostasis is imminent or has been achieved. The Transfusion Service Medical Director will provide oversight in terms of review of final blood utilization and reconciliation as well as follow-up with the clinical team when warranted.

## PROCEDURE/GUIDELINES

Refer to Attachment A: Guidelines for Massive Transfusion

## CLINICAL REFERENCES/PROFESSIONAL SOCIETY GUIDELINES

N/A

## REFERENCES to REGULATIONS and/or OTHER RELATED POLICIES

AABB Technical Manual, Current Edition
American College of Surgeons, Committee on Trauma, Trauma Quality Improvement Program.

## ATTACHMENTS

Attachment A: Guidelines for Massive Transfusion

## FORMS

N/A

| **APPROVAL:** | |
|---|---|
| Northwell Health Policy Committee | 1/20/2026 |
| System PICG/Clinical Operations Committee | 2/26/2026 |

Standardized Versioning History:
Approvals: * =Northwell Health Policy Committee; ** = PICG/Clinical Operations Committee; ◙ = Provisional; ❖ = Expedited
9/20/18*; 10/18/20**
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10/24/23*; 11/21/23**

## Guidelines for Massive Transfusion

As the local sites may have some variability in MTP indications such as ratio of blood and blood components, use of Prothrombin Complex Concentrates and other derivatives and/or pharmacological agents, site specific protocols are required and should be updated on an annual basis. Said protocols will align with Policy #SLS.703 *Massive Transfusion Protocol Policy.*

**Specimen Collection, Handling, Storage:**

Patient blood samples (Type and Screen and/or ABO Rh Confirmation) shall be collected in a pink top tube and delivered to the Blood Bank Laboratory as soon as possible.

**Computerized Physician Order Entry (CPOE):**

The use of an MTP order set for the management of ordering blood component kits should be utilized by physicians for those sites that have implemented this process in their information system.

**Equipment/Supplies:**

Laboratory Information System – Site Specific
Validated Blood Transport Containers – Site Specific
MTP Worksheet (if applicable) – Site Specific

**Special Safety Precautions:**

Standard departmental safety policies should be followed.

**Quality Control:**

The site Blood Bank Laboratory will be responsible for maintaining statistical data regarding MTP activation frequency and blood utilization during such events. This information will be presented at site Transfusion Committee meetings and will also be reported to the Northwell System Laboratory Performance Improvement Committee Group (PICG) to assess the Turnaround Time (TAT) system quality metric.

1. **MTP Activation:**

   Upon clinical assessment of a potential or ongoing massive hemorrhage, the clinician (or designee) directly responsible for the medical/surgical care of the patient shall place a telephone call to the Blood Bank Laboratory to ***activate the MTP***. This call should be placed to the Blood Bank staff member on duty, i.e., supervisor, senior technologist, lead technologist, etc. At this time, the clinical area should also designate a ***dedicated runner*** to transport blood from the Blood Bank Laboratory to the clinical area.

2. **Type & Screen/ABO Confirmation Availability:**

   Upon receiving the telephone call activating the MTP, the Blood Bank Laboratory personnel should immediately determine the availability of the patient's Type and Screen and ABO Rh Confirmation samples as this is the defining factor of whether or not an ***Emergency Release*** of uncrossmatched blood will occur according to site specific policy. If not already present, a pre-transfusion Type and Screen and/or ABO Rh Confirmation samples should be drawn and immediately delivered to the Blood Bank Laboratory. If the antibody screen is positive, the

clinician will be made aware of the patient's serologic status to make an informed decision on whether or not to release blood on a patient in which complete serological testing is pending.

**A. Inventory Assessment:**

Once the patient's serologic status is established and the clinician has given clear indication as to how to proceed, the Blood Bank Laboratory will quickly and efficiently assess their blood component inventory to meet the initial transfusion demands. Appropriate action to bolster available inventory should be taken at this point in response to anticipated needs.

**B. Release of Blood and Blood Components:**

The Blood Bank Laboratory should proceed with dispensing the first pack or cooler of blood components to the dedicated runner. Site specific blood issuance policies are in effect and will be adhered to. If applicable, the MTP worksheet should also be completed to document and keep track of the blood supply. Platelets, cryoprecipitate, and some blood derivatives will be transported in non-refrigerated container/cooler. The cooler/container with blood components will be taken directly to the clinical area without delay.

**C. Continued Support:**

Having already issued the first MTP pack, the Blood bank Laboratory will begin to prepare the next round of blood and blood components in anticipation for pickup by the runner. This second and any subsequent packs should be prepared in accordance with the most current knowledge of the patient's serology. Any positive antibody screen or serologic abnormalities should be escalated and communicated by the Blood Bank Laboratory personnel up to the clinical team and the Transfusion Service Medical Director.

**D. Termination of MTP:**

It is the responsibility of the clinician (or designee) to contact the Blood Bank Laboratory and terminate the MTP once hemostasis is imminent or has been achieved and the clinician is satisfied with the patient's clinical progress, up until this active communication, the transfusion service continues to prepare blood and blood components under the premise of an actively hemorrhaging patient who will require continued and rapid transfusion support.

**E. Post Review:**

After termination of the MTP, and when next available, the Transfusion Service Medical Director should be debriefed on the event. It is incumbent on the Medical Director to review the event and provide input to the Blood Bank Laboratory and/or the clinical area if necessary. The transfusion service will keep the statistical data for presentation at their site-specific Transfusion Committee as well as reporting to the System Laboratory PICG.

**Reporting Results/ Interpreting Results:**

The Blood Bank Laboratory will report the total blood usage via the MTP worksheet (if applicable).

**Method Limitations:**

Since the Blood Bank Laboratory keeps ahead of the request for blood, it is conceivable that some blood and/or blood components may be wasted. Every effort should be made to minimize these occurrences by communicating blood component needs throughout the event and at the time of discontinuation of the MTP.

**Procedural Notes:**

1. **Site specific Blood Bank Responsibilities:**

   The site Blood Banks will be responsible to include the following elements in their Massive Transfusion Protocols:

   a) Policy – an MTP Standard Operating Procedure will be in place

   b) Purpose – a purpose statement should be in place

   c) Indications – clinical indications for MTP

   d) Blood Bank Procedure – site specific instruction for executing the MTP

   e) MTP Form – a worksheet to tabulate blood usage

   f) Prothrombin Complex Concentrates – use of PCCs

   g) Components Released – the ratio of blood components in each cooler (i.e., 1:1:1 or 1:2:1 combination of plasma: red blood cells: platelets)

   h) Roles/Responses – any clinical team responses required locally

2. **Clinician Responsibilities:**

   a) Initiation/Termination:

      It is incumbent on the Clinical Team leader to take on the responsibility of initiating the MTP via a phone call to the Blood Bank and designating a runner to pick up the blood that will be issued continuously. As important is to have the clinical leader terminate the MTP.

   b) Emergency Release:

      It is also incumbent on the clinical team leader to be able to differentiate between the use of Emergency Release (i.e., use of uncrossmatched blood prior to the completion of all required Blood Bank serology) and MTP.

3. KCentra when indicated, normally after multiple kits have been issued, will be recommended, and communicated to the charge physician by the blood bank so they may order KCentra from the pharmacy. The pharmacy will then be reconstituted and dispensed emergently

4. **Medical Director Responsibilities:**

   The Blood Bank Medical Director will be responsible for the post-MTP review and, when warranted, report back to the clinical team for follow up.

5. **Worksheet:**

   Even though there are individual MTP Worksheet forms throughout the System, this Policy will provide for a generic worksheet which will include the “minimum products” needed with the various packs that are issued.