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Approval Signatures: No Users		

Procedure: Massive Transfusion Protocol

Reference # 26226

I. PURPOSE

Provide procedures for activation and management of Massive Transfusion Protocol. MTP is used to provide significant volumes of blood components in an efficient, effective, and expedited manner to treat a hemorrhaging patient.

II. SCOPE

This procedure details the process for activating and deactivating the MTP, with specific steps to be followed to ensure the rapid availability of blood components. This includes key issues to ensure availability of blood components and steps to be followed to limit wastage. All blood bank team members will follow this procedure. This procedure is intended for patients at Methodist Hospital, University Hospital, and Riley Hospital for Children.

III. STATEMENTS/REQUIREMENTS

A. SPECIMEN REQUIREMENTS:

Color	Anticoagulant	Patient Age	Minimum Volume Required
Lavender	EDTA	Less than 4 years old	(2) 0.5 mL microtainers
		4-12 years	(1) 6 mL tube preferred (1) 3 mL tube accepted
		13 years and older	(1) 6 mL tube
Red top or pink top (EDTA) tubes (3 or 6 mL) may also be accepted if correctly labeled.			
NOTE: Microtainer™ tubes accepted if quantity is sufficient for testing.			

1. See SOP Procedure: Requisition & Specimen Processing for additional sample requirements.

B. MTP may be **activated** by the clinical team, when anticipated that patient will require massive volumes of blood and blood components.

1. The ordering physician's name must be provided upon activation.
    i. This must be a physician and not an Advanced Practice Provider.
2. As each dose is issued from the laboratory, the next dose is prepared until DEACTIVATED by the clinical team.

C. MTP must be **deactivated** by treating physician or designee, once it has been determined urgent need for blood has been managed.

D. Guidelines for selection of blood components (number and blood type) are outlined in the procedure below. Any deviations from the guidelines listed must be reviewed with the Blood Bank physician on service/ on call.

E. Only MLS/MLT team members will determine product selection based on compatibility. Lab Assistants may prepare components after compatibility has been documented by the MLS/MLT.

F. To expedite the provision of blood components, patient's special component needs will not be provided. (ie. CMV negative, Fresh, Washed, HLA matched, Antigen Matched and/or Irradiated blood will not be provided). **Exception:** fresh red cells (LPC < 8 days old) will be used for a patient who is **≤ 17 kg**.

G. Patients who are NNP eligible (No Crossmatched Required), do not require LPC to be serologically or electronically crossmatched. See SOP NeoNatal Transfusion Program (NNP) Eligibility for exceptions.

H. BB Management should be notified if there is insufficient inventory of components. BB Management will determine if additional notifications are required.

I. Blood Bank Physician will consult with ordering physician or designee, when inventory of compatible blood is in danger of being depleted. Discussion must occur between Blood Bank Physician and ordering physician or designee regarding use of mismatched blood components.

J. Clinical team shall arrange for pick-up and delivery of transport coolers to and from the blood bank. Empty Coolers will be returned to Blood Bank by the clinical team.

K. Cryo will be automatically included in dose 2, 4, and 6 of all MTPs.

1. After dose 6, the clinical team must order cryo if needed.

L. Cold stored platelets will be used first for all MTP doses. If none are available, room temperature platelets should be used.

M. The BB team will receive notification of MTP activation by phone/Backline Diagnotes (AHC Blood Bank Emergent Product and MTP Request) from the clinical team; however, this will mirror the information provided with the computer requisition.

N. The clinical team must call blood bank to deactivate the MTP.

IV. DEFINITIONS

AABB: Association for the Advancement of Blood & Biotherapies

Cold Stored Platelets: Platelets stored at 1-6°C.

DIN: Donation Identification Number

Dose: The components provided in any MTP is based on the weight of the patient.

Recipient Weight	DOSE			
	LPC	TP	LAPL	**CRYO
≤ 17 kg	2 (Fresh, < 8 days old)	2	1*	5 pooled units
17.1 kg to 39.9 kg	4	4	1*	5 pooled units
≥ 40 kg	6	6	1	10 pooled units
*** Issue 1 LAPL every other dose.** **** Cryo provided automatically on dose 2, 4, and 6.**				

Historical Blood Type: Refers to ABO and Rh type documented in current Laboratory Information System. Do not use ABO and Rh type found in any Legacy system such as BBARCHIVE or AIMA.

Incompatible Blood: Donor blood that has been found to be incompatible with patient blood type.

MHBB: Methodist Hospital Blood Bank

Mismatched Blood: Donor blood that is not identical to the patient's blood type.

NNP: Neonatal Transfusion Protocol

RHBB: Riley Hospital Blood Bank

Room Temperature Platelets: Platelets stored at 20-24°C

Type-specific Blood: Donor blood with **identical blood type** of recipient.

Type-compatible Blood: Donor blood not identical to patient's blood type, but compatible for transfusion: For example: Group O Rh positive donor Red Blood Cells (RBCs) transfused to Group A Rh positive patient.

UHBB: University Hospital Blood Bank

Uncrossmatched Blood: Donor blood that has not been crossmatched either serologically or electronically with patient's sample.

VI. EQUIPMENT/RESOURCES

Validated blood bank cooler, EZ-15 (15 quart)

Wet Ice, Ice Bags and Ice Scoop (verified for average size scoop content).

VII. PROCEDURE

A. Activation of MTP:

1. Clinical team notifies MHBB, RHBB, or UHBB to activate MTP.
    a. Clinical team may enter orders into Cerner.
        i. MTP order requisition will be available to the blood bank.
        ii. The Blood Bank will follow the Procedure: Result Entry to verify the order.
        iii. This step may be completed after activation and first dose is available to the clinical team.
    b. Blood Bank team member initiates the Form: MTP Activation Form based on notification/documentation from clinical team, including:
        i. Date and time of activation.
        ii. Name of the physician who is responsible for the order.
        iii. Patient name and MRN.
        iv. The patient weight. All doses are based on patient weight.
        v. The patient's gender.
        vi. The name and phone number of the primary contact person for this patient.
        vii. Remind the caller that we will need a (purple-top) sample from the patient as soon as possible.
    c. Attach the MTP requisition to the Form: MTP Activation Form.
2. A blood bank MLS/MLT will be the lead for the MTP and complete the following on the Form: MTP Activation Form:

a. Check Cerner for current Blood Type and document in the "compatibility section" on the form.

b. If no blood type is found, circle "unknown".

c. Document initials when completing the "compatibility chart" section.

d. Perform history check in Cerner and make note of any antibodies.

B. Print Clinic Labels following Generating Clinic Labels.

C. Product Preparation and Cooler Packing

Note: For quick reference, see Job Aid: MTP Component Preparation.

1. LPC:

a. Number to prepare:

Recipient is...	Number of LPCs...
≤ 17 Kg or	2 (< 8 days old), Fresh
17.1 to 39.9 kg	4
≥40 kg	6

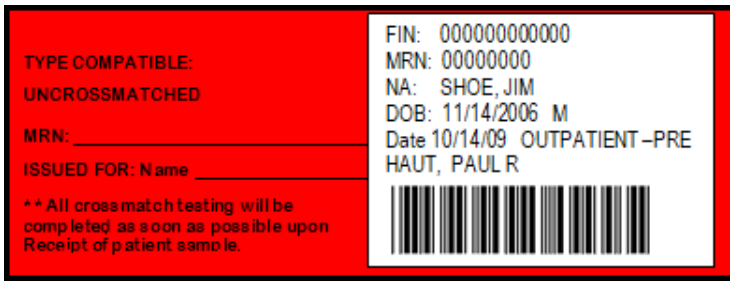
b. Blood type to prepare:

If...	And patient is...	Then...
Patient has a current type and screen	(n/a)	Use type-specific or type-compatible RBCs*.
Patient does not have current type and screen	Male 12 or under **OR** Female 50 or under	Use O- LPCs
	Male 13 or older **OR** Female 51 or older	Use O+ LPCs
*__NOTE__: To save time, pre-made O+ or O- trays may be used for Dose 1 even if the patient has a current type and screen. Follow the same selection guidelines as if the patient did not have a current type and screen *except* males 12 or under or females 50 or under who may receive O+ if their current type and screen indicates that they are Rh+. Switch to type-specific or type-compatible for the 2nd and subsequent doses.		
***NOTE:** If a patient who is Type B or AB receives Group A plasma (i.e. via LifeLine, from ER or OR refrigerator, or from MTP before the patient's blood type is known), then the patient must receive either Group O (if patient is B) or Group A (if patient is AB) Red Blood Cells. See Step H for additional information once the patient's blood type is known.		

c. Label each LPC with a red Uncrossmatched label affixed to the top portion of the bag.

d. Either complete the name and MRN by hand or attach a clinic label.

e. Example of finished label:



f. If the patient is known to have an antibody, or if an antibody is discovered during testing of the patient's current sample, then remove a segment from each LPC, label with a DIN sticker, and save the segments for compatibility testing.

2. Plasma:

a. Number to prepare:

Recipient is...	**Number of TP...**
≤ 17 Kg	2
17.1 to 39.9 kg	4
≥40 kg	6

b. Blood type to prepare:

If....	**Then...**
Patient has current or historical blood type	Use plasma that is compatible with the patient's blood type*.
Patient does not have current or historical blood type	Use Group A plasma
***NOTE:** If there is not enough thawed type-compatible plasma ready, then use all of the type-compatible plasma that is ready and complete the dose with type compatible plasma when it becomes available.	

c. Attach a Cerner clinic label to each plasma bag.

3. Platelets:

a. Number to prepare: Cold stored platelets should be prepared first. If none are available, give room temperature platelets.

Recipient Is...	Number of Platelets...
< 40 kg	1 platelet every other dose
≥40 kg	1 platelet every dose

b. Platelets do not need to be ABO compatible. Dispense platelets according to expiration dates.

c. Platelets will be assigned and dispensed following SOP Procedure: Platelet Preparation for Issue and Procedure: Dispense and Assign Products.

d. Platelets will not be documented on the Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.

4. Cryoprecipitate

a. Cryoprecipitate will be provided automatically with dose 2, 4, and 6. After dose 6, cryo will only be provided if ordered by clinical team.

a. Number to prepare:

Recipient is...	Number of Cryo...
≤ 17 Kg	5 pooled units
17.1 to 39.9 kg	5 pooled units
≥40 kg	10 pooled units

b. Cryo does not need to be ABO compatible during an MTP.

c. Cryo will be assigned and dispensed following SOP Procedure: Cryoprecipitate Preparation for Issue and Procedure: Dispense and Assign Products.

d. Cryo will not be documented on the Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.

5. Complete the Emergency (Uncrossmatched) Blood Delivery and Transfusion Record. Any section not mentioned in these steps may be left blank.

   a. Write the Dose Number across the top of the Form.

   b. Record the date and time the dose is prepared at the top of the Form.

   c. Place a Cerner Clinic Label on all three copies of the Form, under the date and time.

   d. Peel three skinny DIN labels from each LPC and place one label on each copy of the Form, starting with the first line in the Donor # column. If fewer than three labels are available, then hand-write the DIN.

   e. Document the expiration date of each LPC and first 5 characters of the product code.

   f. Hand-write the DIN of each plasma component, its expiration date, and the first 5 characters of the product code on the white copy of the Form, starting with the first row below the darkened line.

   g. If available, peel the extra DIN label from each plasma component and place on the right-hand side or back of the pink copy of the Form.

   h. Perform visual inspection per Procedure: Dispense and Return Products and document initials in the **Visual Insp. Issue** column. When time allows, have a second tech verify the written paperwork documenting their review in the Visual Inspection Issue Column.

6. Prepare the cooler.

   a. Place the LPC, TP, and cold stored platelet (if applicable) in the cooler, standing on edge so that the products form a single layer on the bottom of the cooler and the bag of ice will touch each product.

   b. Place approximately 2.5 Kg or 2 full scoops of wet ice into a plastic ice bag.

   c. Securely tie each ice bag to prevent leakage and handle so as not to puncture the plastic bags.

   d. Place 1 filled wet ice bag inside top of the loaded cooler of 6 LPC, 6 TP, and 1 cold stored platelet (when appropriate).

   e. Document the cooler number on the Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.

   f. Document the cooler expiration date and time - 10 hours after the ice was placed into the cooler - on the Emergency (Uncrosmatched) Blood Delivery and Transfusion Record.

g. Remove the pink copy from the Emergency (Uncrossmatched) Blood Delivery and Transfusion Record and retain in the lab.

h. Fold the white and yellow copies (together) and place in the clear pouch on the outside of the cooler, along with any Dispense Packing Lists for cold stored platelets (when appropriate).

i. Write on Salmon colored Patient Information card:

i. Patient Name and MRN

ii. MTP Dose #, hand-written preferably using a permanent marker.

Example:

iii. Date and time that the cooler expires (10 hours after the ice was placed into the cooler).

j. Place the salmon card in the pocket on the outside of the cooler.

k. Place any room temperature platelets, cryo, and the corresponding Cerner Dispense Packing List(s) on counter next to the cooler to be picked up.

7. Complete the MTP Dose/Cooler/Component Tracking Form.
   a. Patient name and MRN (a Cerner Clinic Label can be used).
   b. The cooler ID used for the dose.
   c. The time that it is ready.
   d. The number of RBC, TP, Platelets, and Cryo prepared.
8. Ensure that the time of pickup and the initials of the individual are documented on MTP Dose/Cooler/Component Tracking Form.
9. Immediately after a dose is sent/picked up, prepare the next dose.

D. MTP Sample Management

1. Test sample received according to current pre-transfusion testing procedures (Routine Type and Screen).
2. If the patient's blood type is unknown (or) no current sample is received after two doses, issue Group AB plasma until the blood type is determined.
3. Notify MD on call to follow up on sample collection status, if
   a. Second ABO/Rh sample was not received, if required for ABO/Rh verification.

   (or)

b. After second dose, no sample has been received.

4. Document time sample received on the Form: MTP Activation Form.

5. MLS/MLT will document any changes to ABO of blood products being provided.

E. DEACTIVATION

1. The clinical team will call or return unused blood products to deactivate the MTP. Document the date and time of deactivation and the physician (or designee) on Form: MTP Activation Form.

2. If a MTP dose has been ready for >45 minutes and not picked up, Blood Bank may call the clinical team to determine if the MTP can be deactivated.

F. Retrospective Processing of LPC:

1. Perform retrospective compatibility testing (See SOP Procedure: Routine Crossmatch or Procedure: Full Crossmatch) on **ALL UNITS** that were reserved for the patient, including LPC that were not picked up.

2. For patients ≤ 4 months old who are eligible for NNP, see NeoNatal Transfusion Program (NNP) Eligibility.

3. If the patient has an antibody:

a. AHG crossmatch must be performed on all units, whether transfused or untransfused.

b. Antigen testing of donor units:

If...	Then...
Patient was transfused with ≤ 6 LPC	Test all units transfused. Antigen testing not required on units that were not transfused.
Patient was transfused with 7 or more LPC	Ask Blood Bank physician on service/on call for guidance on antigen testing strategy

c. Notify the Blood Bank physician on call if:

1. The patient was transfused with an incompatible or antigen-positive unit(s).

2. An Rh Negative Female patient < 51 years or male <13 years has received Rh Positive LPCs.

G. Follow SOP Procedure: Dispense and Return Products to assign and dispense all LPC and TP that were reserved for the patient.

1. Start a new dispense session for each MTP dose.

2. Back-date the dispense time to match the time that the dose left the Blood Bank. See MTP Dose/Cooler/Component Tracking Form.

3. Indicate the Dose number using the Courier field.

H. Determine if the patient needs a Transfusion Requirement added on the Patient Product Inquiry screen. Add Transfusion Requirement, if necessary, following steps in Procedure: Patient Product Inquiry.

Patient Blood Type	Plasma	Transfusion Requirement Needed?
A or O	Type specific or compatible	No
B	B	Yes: **Group O RBCs**
AB	AB	Yes: **Group A RBCs**
NOTE: The Transfusion Requirement remains on the patient until anti-B becomes undetectable via routine ABO/Rh testing. Once the patient's plasma no longer reacts with the B typing cells, the Transfusion Requirement may be removed.		

I. Return any untransfused products following Procedure: Dispense and Return Products. Document initials on Emergency (Uncrossmatched) Blood Delivery and Transfusion Record in the **Visual Insp. Return** column.

J. Staff review of documentation:

1. Match the yellow and pink copies of Emergency (Uncrossmatched) Blood Delivery and Transfusion Record. When the yellow copy is returned, the pink copy can be discarded in the Shred-It bin.
2. Ensure that all units have been dispensed (and unused units returned) in Cerner.
    a. Attach one copy of the Dispense Packing List to the yellow copy of Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.
    b. Place the other copy of the Dispense Packing List with the signed and returned Dispense Packing Lists.
3. Ensure that all returned units have been marked as returned on the yellow copy of Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.
4. Ensure that all units not returned have been signed for on Emergency (Uncrossmatched) Blood Delivery and Transfusion Record.
5. Physician signature is *not required* in the "Attention Ordering Physician" area of Emergency (Uncrossmatched) Blood Delivery and Transfusion Record. For MTP, the physician will sign the Emergency Release statement via the Massive Blood Transfusion order in Cerner.

K. Management Review of Documentation

1. Submit the following documentation to the Manager or Supervisor for review:
    a. Complete form Emergency (Uncrossmatched) Blood Delivery and Transfusion Record "Emergency (UNCROSSMATCHED) Blood Delivery".
    b. Completed MTP Activation Form.
    c. Dispense Packing Lists, for Platelets and CRYO to document correct time issued.
    d. Dose Tracking Forms.
    e. Massive Blood Transfusion Order requisition.
2. The Manager or Designee will review the submitted documentation for completeness and accuracy.

VII. CLINICAL SIGNFICANCE/SPECIAL CONSIDERATIONS

AABB requires that accredited facilities have a Massive Transfusion protocol for the treatment of hemorrhaging patients. The Massive Transfusion protocol:

- Provides blood products in a fixed ratio. Studies have shown that earlier transfusion with higher blood product ratios have been associated with improved outcomes.
- Streamlines the ordering process for physicians: the clinical team can focus their efforts on caring for the patient instead of placing orders in the computer.
- Streamlines the documentation process for nurses, requiring fewer signatures and vital sign documentation (which are often captured elsewhere in the resuscitation record, anesthesia record, or in the patient's chart).

VIII. REFERENCES

AABB Technical Manual, current edition.

AABB Standards, current edition.

Quality System, Transfusion Medicine

IX. FORMS/APPENDICES

ATTACHMENT 1: Example of completed form BBCP-19

Located in designated area for each lab:

1. Emergency (Uncrossmatched) Blood Delivery and Transfusion Record
2. Salmon colored patient information card
3. Patient Label (used for down time)
4. Red Uncrossmatched labels

Form: MTP Activation Form
MTP Dose/Cooler/Component Tracking Form

X. APPROVAL BODY

None

PROCEDURE #:

BBCP – 015

Blood Bank Practice Alert

Practice Updates: MTP Activation Form changes

Audience: All Blood Bank Team Members **Level of Education**: Level III **Date**: April 23, 2025

Blood Bank has made changes to the Massive Transfusion Protocol (MTP) Activation form. It was updated to match the new MTP protocol. The changes also provide instruction on compatibility and who can perform it, as well as, providing designated space for all required documentation in an MTP.

WHAT TO KNOW…

- Compatibility table has been added to the form
  - This will be completed by MLS/MLT to allow Lab Assistants to help select and assign components during an MTP.
  - Compatibility is a high complexity testing per AABB and must be performed by an MLS/MLT.
- Space has been provided to document patient history from Cerner/results from patient sample (i.e. ABO/Rh and antibodies).
  - Allows for proper documentation of sample receipt time and sample ABO/Rh
  - Provides space to document any changes made to ABO/Rh of products being provided.
  - These changes were made to align with our MTP policy.
- "Requesting" changed to "Activating Physician"
  - "NP" removed from the provider initials
  - Per the FDA, we need a physician's name for uncrossmatched products. Advanced Practice Providers (i.e. NP's and PA's) do not qualify.

WHAT TO DO…

Complete all sections of the MTP Activation form, including the new compatibility chart and History/Sample section.

This change will take effect with all MTP activations upon implementation.

Changes will start on May 1, 2025.

Blood Bank Practice Alert

Practice Updates: Massive Transfusion Protocol

Audience: All Blood Bank Team Members **Level of Education**: Level III **Date**: April 14, 2025

Blood Bank has made changes to the Massive Transfusion Protocol (MTP). We will automatically provide cryo at set doses at the beginning of the MTP. The intent of this is to provide cryo more consistently and earlier to, hopefully, stop bleeding sooner. We will also provide cold stored platelets during MTPs, when available. Cold stored platelets are activated and work faster once transfused. They will also help alleviate platelet inventory issues.

WHAT TO KNOW…

- When MTP is initiated, cryoprecipitate will be sent automatically with every even dose starting with Dose 2.
    - Maximum of 3 doses of Cryo will be provided up to Dose 6.
    - If additional doses are required past Dose 6, the treating provider will need to order
- Cryo should be thawed when an MTP is activated. Returned cryo will be discarded.
- Cold stored platelets should be provided first, when available. If not available, room temperature platelets should be used.
- Cold stored platelets should have a "refrigerate" sticker applied to distinguish them from room temperature platelets.
- No changes will be made to orders or process of activating MTP.
- Cold stored platelets have an outdate of 14 days.
- Cold stored platelets will be stored in Blood Bank on a designated refrigerator shelf at each location (MH, UH, and Riley).

Dosing
≥40kg = 2 pools (10 units)
<40 kg = 1 pool (5 units)

WHAT TO DO…

Thaw cryo when an MTP is activated and automatically provide with doses 2, 4, and 6. Provide cold stored platelets for MTPs, when available.

This change will impact all MTP activations and take effect immediately upon implementation.

Changes will start on May 1, 2025.

Indiana University Health
Indianapolis, IN 46202

Form #: BBCP – F004.04
05.01.2025
Manual: Components

Massive Transfusion Protocol
Activation

Date Activated: _____ Time Activated: _____

Activating Physician: _____
(**MD/DO only**)

Patient
Name: _____

MRN: _____

(May attach chart label)

Ward: _____

Primary
Contact Name: _____

Phone #: _____

Patient Weight (circle): **≤ 17kg** **17.1- 39.9kg** **≥40kg** Patient Gender (circle): **MALE** or **FEMALE**

BB Team Member Activating (any role): _____

****Note: Thaw cryo at designated dose per SOP.****

Compatibility Chart
To be determined by MLS/MLT only

MLS/MLT Initials: _____

Patient Blood Type (circle row)	Acceptable Components for Transfusion		
	Plasma	Platelets	Cryo
Unknown	A	Any	Any
A	A, AB	Any	Any
B	B, AB	Any	Any
AB	AB	Any	Any
O	Any	Any	Any

Note: If patient blood type unknown at start of MTP, but becomes known during MTP, note any necessary changes to acceptable components and time change was made.

Time sample received: _____

Blood type resulted from sample: _____

Antibodies: _____

Any changes to ABO of blood products being provided? __Yes __No

If yes, document change here:

_____

Deactivation

Deactivated by:

Physician: _____

BB team member: _____
(may be any role)

Date: _____ Time: _____

Job Aid: MTP Component Preparation

RBC

to Prepare

Recipient is...	Number of LPCs...
≤ 17 kg	2 (< 8 days old)
17.1 kg to 39.9 kg	4
≥ 40 kg	6

Type to Prepare

Current T&S?	And patient is...	Then...
Yes		Use type-specific or type-compatible RBCs*.
No	Male 12 or under **OR** Female 50 or under	Use O- LPCs
	Male 13 or older **OR** Female 51 or older	Use O+ LPCs

*__NOTE__: To save time, pre-made O+ or O- trays may be used for Dose 1 even if the patient has a current type and screen. Follow the same selection guidelines as if the patient did not have a current type and screen *except* males under 12 or females under 50 may receive O+ if their current type and screen indicates that they are Rh+. Switch to type-specific or type-compatible for the 2nd and subsequent doses.

TP

Recipient is...	**Number of TP...**
≤ 17 kg	2
17.1 kg to 39.9 kg	4
≥ 40 kg	6

If....	**Then...**
Patient has current or historical blood type	Use plasma that is compatible with the patient's blood type*.
Patient does not have current or historical blood type	Use Group A plasma

***NOTE:** If there is not enough thawed type-compatible plasma ready, then use all the type-compatible plasma that is ready and complete the dose with type compatible plasma when it becomes available.

Reference # 26099

Job Aid: MTP Component Preparation

<table>
<tr><th></th><th># to Prepare</th><th>Type to Prepare</th></tr>
<tr><td>PLT</td><td>NOTE: Cold stored platelets are used first, if available.

<table><tr><th>Recipient Is...</th><td>Number of Platelets...</td></tr><tr><td>< 40 kg</td><td>1 platelet every other dose</td></tr><tr><td>≥ 40 kg</td><td>1 platelet every dose</td></tr></table></td><td>Any type platelets can be used.</td></tr>
<tr><td>Cryo</td><td>NOTE: Automatically prepared for dose 2, 4, and 6. If cryo is needed after dose 6, an order must be placed.

<table><tr><th>Recipient is...</th><th>Number of Cryo...</th></tr><tr><td>≤ 17 kg</td><td>5 pooled units</td></tr><tr><td>17.1 to 39.9 kg</td><td>5 pooled units</td></tr><tr><td>≥ 40 kg</td><td>10 pooled units</td></tr></table></td><td>Any type cryoprecipitate can be used.</td></tr>
</table>

Reference # 26099

Payment Events	Status	Timestamps

docusign

Certificate Of Completion

Envelope Id: D35EC623-3172-415E-9AE6-D35B29C90FF9 Status: Completed

Subject: Complete with Docusign: MTP 5.1.25.pdf, Blood Bank Practice Alert_MTP activation form.pptx, Blo...

Source Envelope:

Document Pages: 15 Signatures: 0 Envelope Originator:

Certificate Pages: 1 Initials: 0 Jayanna Slayten

AutoNav: Enabled 950 N Meridian St

EnvelopeId Stamping: Disabled Indianapolis, IN 46204

Time Zone: (UTC-05:00) Eastern Time (US & Canada) jslayten@iuhealth.org

IP Address: 10.103.81.137

Record Tracking

Status: Original Holder: Jayanna Slayten Location: DocuSign

4/24/2025 1:51:11 PM jslayten@iuhealth.org

Signer Events	Signature	Timestamp

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp
Jayanna Slayten jslayten@iuhealth.org Coordinator-Quality Reporting IU Health Security Level: Email, Account Authentication (None)	VIEWED Using IP Address: 162.1.160.12	Sent: 4/24/2025 2:00:01 PM Viewed: 4/24/2025 2:00:13 PM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	4/24/2025 2:00:01 PM
Certified Delivered	Security Checked	4/24/2025 2:00:13 PM
Completed	Security Checked	4/24/2025 2:00:13 PM

Payment Events	Status	Timestamps