



Ordering Blood and Blood Products:

*Matching blood
products for your
patient's
transfusion needs*

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ORDERING BLOOD/ BLOOD PRODUCTS 3 PATHWAYS

- **Routine - Epic**
- **FastBlood 3+3**
- **Massive Transfusion Protocol (MTP)**



Routine - Epic

Ordering through **Epic** is the best way to order blood for the vast majority of patients

Use this pathway for:

- ✓ Stable patients
- ✓ Routine ordering of blood products
 - Hemodynamically stable
 - Not actively bleeding



Benefits of Routine Ordering through Epic

- Specific components can be ordered based on patient need
- Blood can be ordered for a specific time
- Blood is fully cross-matched to your individual patient
- Most efficient utilization of limited resources
- Best choice for stable patients



FastBlood 3+3

For which patients should you consider activating FastBlood 3+3?

Urgent need - Your patient exhibits:

- ✓ Estimated/predicted acute blood loss **>750 mL**
- ✓ Heart rate **>100 bpm**
- ✓ Systolic BP **<100 mm Hg**
- ✓ Trauma: **ABC score of 0 or 1**



Remember:
These are Guidelines

***Guidelines do not
supersede your
clinical judgment***



To ACTIVATE FastBlood 3+3

Call the Call Center 4-2012

- ✓ **Call 4-2012 to ACTIVATE FastBlood**
- ✓ **Provide the Call Center with:**
 - ✓ Patient Name
 - ✓ Medical Record Number
 - ✓ Ordering Physician- PIC #
 - ✓ Patient Location



FastBlood 3+3

When a FastBlood is activated the Blood Bank / Transfusion Medicine Service will prepare and send one cooler with:

- ✓ 3 Units Red Blood Cells (RBC)
- ✓ 3 Units Fresh Frozen Plasma (FFP)
- Will not be recurrent
- FastBlood 3+3 = One and Done



Massive Transfusion Protocol (MTP)

For which patients should you consider activating the MTP?

Emergent need for the hemorrhaging patient

- ✓ Estimated/predicted acute blood loss **>1500 mL**
- ✓ Heart rate **>120 bpm**
- ✓ Systolic BP **<90 mm Hg**
- ✓ Trauma: **ABC score of 2 or greater**

ABC Score for Trauma Patients

What is the ABC score for trauma patients?
How can the ABC score be used to help me
decide between FastBlood 3+3 *versus* MTP?

<u>Criteria:</u>	<u>If YES</u>
ED Systolic BP \leq 90?	+1
ED HR \geq 120?	+1
Positive FAST Exam?	+1
Penetrating Trauma?	+1

If the score is:
2 or more → MTP
0 or 1 → FastBlood 3+3

Trauma patients

On line tool

<https://www.mdcalc.com/abc-score-massive-transfusion>

Secure | <https://www.mdcalc.com/abc-score-massive-transfusion>

Apps B2B Login Bookmarks Commons Login Online Stream | WDC AAMC Account | Log Home Transfusion - Wiley

MD CALC Search "QT interval" or "QT" or "EKG"

MD CALC Calculate on the go

Download on the App Store GET IT ON Google Play

ABC Score for Massive Transfusion

Predicts need for massive transfusion in trauma patients.

When to Use ^ Why Use v

Determining when to initiate massive transfusion protocols on trauma patients; because the ABC Score only uses clinical and bedside criteria, a decision can be made about massive transfusion rapidly in trauma patients.

Penetrating Mechanism?	No 0	Yes +1
ED Systolic BP \leq 90 mmHg?	No 0	Yes +1
ED HR \geq 120?	No 0	Yes +1
Positive Ultrasound FAST Exam?	No 0	Yes +1

0 points
Less likely to require massive transfusion (10 units or more of PRBCs).

In the ABC Score studies, scores less than 2 were unlikely to require massive transfusion, with sensitivity and specificity ranging from 75% to 90% and 67% to 88%, respectively at multiple trauma centers.

Next Steps Evidence Creator Insights

ADVICE

- Massive transfusion protocols are institution-specific, but often are 1:1:1 or 1:1:2 for fresh frozen plasma, platelets, and packed red blood cells ([JAMA, 2015](#)).
- Remember, the ABC Score does not indicate if trauma patients should receive blood, only if they should receive blood through a massive transfusion protocol.

nerlynx
(verdin) tablets

NOW APPROVED
Learn More

NERLYNX in the extended adjuvant setting is your new opportunity to further reduce the risk of recurrence

nerlynx (verdin) tablets
- Strong or moderate CYP3A4 inducers: Avoid
- Strong or moderate CYP3A4 inhibitors: Avoid
- P-glycoprotein (P-gp) substrates: Monitor for

About the Creator

Dr. Bryan Cotton

Related Calcs

- [HEMORR-HAGES Score](#)
- [4Ts for HIT](#)
- [AIMS65](#)



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***Guidelines do not
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Terminology

FastBlood and MTP

ACTIVATE
BEGINS FastBlood and
MTP

DEACTIVATE
ENDS MTP



TO ACTIVATE MTP

Call the Call Center 4-2012

- ✓ **Call 4-2012 to ACTIVATE MTP**
- ✓ **Provide the Call Center with:**
 - ✓ Patient Name
 - ✓ Medical Record Number
 - ✓ Ordering Physician – PIC #
 - ✓ Patient Location
 - ✓ If patient <12 yrs old, Age and Weight



Blood Bank Response to MTP Activation

What happens in the Blood Bank when the MTP is activated?

- ✓ MTP signifies to the Blood Bank Techs that there is a ***hemorrhaging patient who is in a life threatening situation*** and in need of ***emergent*** blood products
- ✓ ***Blood Bank Techs*** turn their ***full attention exclusively*** to getting the first and subsequent coolers ready to go to transportation for delivery to the bedside
- ✓ Preparing multiple products is given the ***highest priority*** by Blood Bank Techs ***using their full resources***
- ✓ This ***intensity*** of blood product preparation in the Blood Bank ***will continue until MTP is Deactivated***



MTP

Product Volume and Delivery


FIRST COOLER	SECOND and SUBSEQUENT COOLERS
5 RBC	5 RBC
5 FFP	5 FFP
1 PLT	1 PLT
	1 CRYO
	<ul style="list-style-type: none">• Blood bank calls to determine need for CRYO with 2nd cooler• CRYO continues with every other cooler



Delivery of Coolers by *Transportation* *FastBlood 3+3*

Coolers Will Be Delivered to Patient Location by Transportation

- **Fast Blood 3+3**
 - Transportation:
 - Reports to Blood Bank
 - Picks up One FastBlood 3+3 Cooler
 - Delivers One Cooler to Patient Location
 - Task is Done and Resumes Regular Work



Delivery of Coolers by *Transportation* MTP

Coolers will be Delivered to Patient Location by Transportation

- **MTP**

- Transportation:

- Reports to Blood Bank
 - Picks up First MaxPlus Cooler
 - Delivers the First Cooler to Patient Location
 - Returns to Blood Bank
 - Picks up Second Round of Coolers
 - Delivers Second Round of Coolers to Location
 - Continues to go Back and Forth from Blood Bank to Current Patient Location Delivering Subsequent Rounds
 - Continues this Task Until the MTP is Deactivated



Change in Patient Location

During the course of an MTP patient's location can change

- Patient may move from one area to another for appropriate level of care
 - For example ED, IR, OR, CT, ICUs
- ***Call 4-2012 to update the call center as to patient's location***
 - The Call Center then Sends out an Updated Text Message with Patient's New Location
 - This will Ensure that Transportation Delivers the Coolers to the Appropriate Patient Location



Signing for the Cooler

FastBlood 3+3

- Transportation will Deliver the FastBlood Cooler to the Patient Location Indicated on the Text Page
- Person Accepting the FastBlood Cooler is to Print their Name, Date and Time on the FastBlood Activation Form

Signing for the Cooler FastBlood 3+3

Fast Blood Activation Form

Date: _____	Age: <input type="checkbox"/> 0 – 11 years <input type="checkbox"/> 12+ years
Patient name: _____	
Medical Record Number (MRN): _____ (read back for accuracy)	
Requesting physician's name: _____ PIC #: _____	
Location for delivery (floor & room #): _____ (read back for accuracy)	
Blood Bank phone: 924-2273 Blood Bank fax: 982-0140	
Read to requesting doctor: "You will only receive one cooler of blood products."	

BLOOD BANKER

RELEASING BLOOD: (print) _____ } Date/time: _____

TRANSPORTER

PICKING UP BLOOD: (print) _____

UNIT STAFF

ACCEPTING BLOOD: (print) _____ Date/time: _____



Signing for the Coolers with Frequency Determination *MTP*

- Transportation will Deliver the Coolers to the Patient Location Indicated on the Text Page
- Person Accepting the Coolers is to Print their Name, Date and Time on the MTP Activation Form with Each Round Delivered

In Addition:

- Clinical Team Checks Off the Frequency of Coolers Needed Based on Patient's Condition
 - CONTINUE: additional coolers every 15 minutes
 - HOLD: Call Blood Bank when ready for more blood at 4-2273
 - DEACTIVATE: Call the Call Center at 4-2012
 - **NOTE:** MTP will auto-deactivate after two hours of inactivity

Signing for the Coolers with Frequency Determination *MTP*

Massive Transfusion Protocol (MTP) Activation Form

Date: _____	Age: <input type="checkbox"/> 0 – 11 years
Patient name: _____	<input type="checkbox"/> 12+ years
Medical Record Number (MRN): _____ (read back for accuracy)	
Requesting physician's name: _____ PIC #: _____	
Location for delivery (floor & room #): _____ (read back for accuracy)	
Blood Bank phone: 924-2273 Blood Bank fax: 982-0140	

BLOOD BANKER

RELEASING BLOOD: (print) _____

TRANSPORTER

PICKING UP BLOOD: (print) _____ } Date/time: _____

UNIT STAFF

ACCEPTING BLOOD: (print) _____ Date/time: _____

TRANSPORTATION INSTRUCTIONS BELOW

5. Have the clinician ask the activating physician to indicate the current need for additional blood products:

- ☐ CONTINUE – additional coolers every 15 minutes
- ☐ HOLD – physician calls Blood Bank when ready for more blood
- ☐ DEACTIVATE – physician calls 4-2012 to deactivate MTP
MTP will auto-deactivate after two hours of inactivity



What do I get?

FastBlood vs MTP?

Clinical Team Activates MTP you will get:
First and Subsequent Coolers:

- 5 RBCs + 5 FFP + 1 PLT
- Blood bank calls to determine need for CRYO with 2nd cooler
- CRYO continues with every other cooler

Clinical Team Activates FastBlood you will get:

- One cooler 3 RBCs + 3 FFP
- Not recurring- One and done

Clinical Team Activates FastBlood 3+3 then Activates MTP on the same patient:

- Round 1 and subsequent coolers of MTP:
 - 5 RBCs, 5 FFP, 1 Platelet. Cryo to follow



Deactivating the MTP

Once blood products are no longer required

- Notify the Call Center 4-2012 to **Deactivate** the MTP
- Blood Bank will stop processing coolers of blood products
- Place a request in Epic for Transportation of Equipment
- Transportation will pick up and deliver any remaining coolers with blood products back to blood bank



Expected Turn Around Times

- Routine – Typically under 30 minutes*
 - *If there are no RBC antibodies and no component modifications*
 - *Provided the blood bank has a Type and Screen sample (valid for 72 hours)*
 - *Type and Screen samples expire at 0700 on the 3rd day after collection*
- FastBlood 3+3 – Typically 15 minutes
- MTP – Typically 15 minutes for first cooler



Summary

- Use **Routine- Epic** ordering for non-urgent stable not actively bleeding patients
- Use **FastBlood 3+3** for urgent need for an actively bleeding unstable patient
- Use **MTP** for emergent need for a hemorrhaging unstable patient



ORDERING BLOOD PRODUCTS 3 PATHWAYS

University of Virginia Health System Effective March 24, 2020

PATHWAY TURNAROUND TIME	ORDER	CLINICAL GUIDELINES	PRODUCTS	DELIVERY SYSTEM
ROUTINE < 30 minutes if no antibodies	EPIC	✓ HEMODYNAMICALLY STABLE PATIENT	AS ORDERED	TUBE SYSTEM
FASTBLOOD 3 + 3 < 15 minutes	CALL 4-2012 To <u>ACTIVATE</u> <u>FastBlood 3+3</u> NOT RECURRENT "ONE AND DONE"	✓ URGENT NEED ✓ ESTIMATED / PREDICTED ACUTE BLOOD LOSS > 750 mL ✓ HEART RATE > 100 bpm ✓ SYSTOLIC BP < 100 mm Hg ✓ ABC TRAUMA SCORE 0 OR 1	3 PLASMA 3 RBC	ALL PRODUCTS IN ONE <u>IGLOO</u> COOLER <i>Delivered by Transportation</i>
MTP MASSIVE TRANSFUSION PROTOCOL < 15 minutes to first cooler 5 + 5 + 1	CALL 4-2012 To <u>ACTIVATE</u> MTP RECURRING CLINICAL TEAM DECISION: CHECK THE BOX ON THE ACTIVATION FORM WITH EACH COOLER DELIVERY ✓ CONTINUE every 15 minutes ✓ HOLD – clinical team calls the blood bank when ready for more blood ✓ DEACTIVATE - Stops the cooler delivery Blood bank will auto- deactivate after 2 hours of inactivity	✓ EMERGENT NEED ✓ ESTIMATED / PREDICTED ACUTE BLOOD LOSS > 1500 mL ✓ HEART RATE > 120 bpm ✓ SYSTOLIC BP < 90 mm Hg ✓ ABC TRAUMA SCORE 2 OR GREATER	5 PLASMA 5 RBC 1 PLATELET 1 CRYO BLOOD BANK CALLS TO DETERMINE NEED FOR CRYO WITH 2 ND COOLER CRYO CONTINUES WITH EVERY OTHER COOLER	ALL PRODUCTS IN ONE <u>MAXPLUS</u> COOLER <i>Delivered by Transportation</i>

CALL 4-2012 TO ACTIVATE Fast Blood or MTP – Initiates the Fast blood or MTP

Blood Bank will begin to process blood products and prepare for delivery via transportation

CALL 4-2012 TO DEACTIVATE MTP – Stops the MTP Process

Blood Bank stops processing products for MTP

CALL 4-2012 WHEN PATIENT CHANGES LOCATION

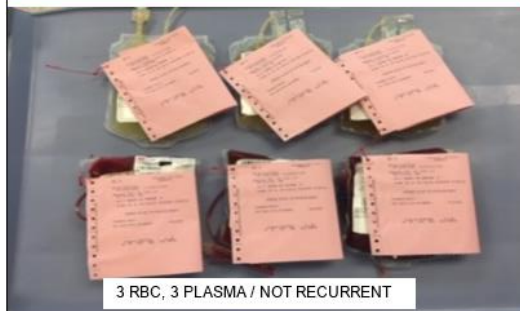
Alerts transportation of location change for expedient cooler delivery

Give the Call Center the following information:

- ✓ Patient Name or Trauma Name
- ✓ Patient Age (under or over 12 years)
- ✓ Medical Record Number (MRN)
- ✓ Ordering Doctor and PIC #
- ✓ Location of Patient



Fast Blood 3 + 3 Igloo Cooler



3 RBC, 3 PLASMA / NOT RECURRENT

MTP 5 + 5 + 1 MAXPLUS COOLER



5 RBC, 5 PLASMA, 1 PLATELET



Igloo Cooler/ Ice packs on both sides / Cold pack on top



RBCs and Plasma in Red Box in separate sections
Platelets in the Yellow container attached to side of red box



Blood Tubing/Filters on top of all in Igloo Cooler



Tubing/Filters in a plastic bag with MaxPlus Cooler



Questions? Contact

- Dr. James Gorham
 - Medical Director, Blood Bank and Transfusion Medicine Services
- Tom Brady
 - Blood Bank Manager
- Marlene Mayberry RN
 - Transfusion Safety Officer