Wake Forest Baptist Medical Center	**Emergency Blood Protocols** BB.PROTOCOL.1041.5	**Dept:**	324311
		Dept Name	Blood Bank
		Effective Date:	
		Revised Date:	
Name & Title: CLIA Laboratory Medical Director		**Contact:**	JH Simmons/ C Warren
Signature:		**Date:**	

1. General Procedure Statement:

1. **Purpose:** When a delay in transfusion could be detrimental to the patient, blood may be issued without pre-transfusion restrictions. Patients who are massively transfused may have abbreviated testing. This protocol applies to all patients who require immediate transfusion and time does not permit routine testing and those that meet the definition of Massive transfusion.

2. **Responsible Department/Scope:**

   i. Procedure owner/Implementer: Julie H. Simmons/ Christina S Warren
   ii. Procedure prepared by: Julie Jackson
   iii. Who performs procedure: Department staff/management

3. **Definitions:**

Massive transfusion: Transfusion or anticipated transfusion within a 24-hour period of a volume of blood approximating the recipient's total blood volume.

MTP: Massive Transfusion Protocol- the protocol for non-obstetrical patients who need massive transfusion

MOH: Maternal Obstetrical Hemorrhage- the massive transfusion protocol specific for obstetrical patients

ED: Emergency Department

Emergency Release: Blood that is obtained without pre-transfusion restrictions due to emergency situations.

MRN: Medical Record Number

BBID: Blood Bank Identification Band

Obstetrical: Relating to childbirth and the processes associated with it.

ARC: American Red Cross, supplies blood products

4. **Sections:**

I. General Communication During Emergency
II. Activation of Trauma/ MTP Protocol
III. Activation of MOH Protocol
IV. Mass Casualty Protocol
V. Selection of Blood Components
VI. Whole Blood
VII. Prepared Emergency Packs of Packed Cells and Plasma
VIII. Massive Transfusion Guidelines
IX. Receipt of Patient Specimen for Testing
X. Clean-Up of Emergency Blood Release
XI. Tracking Pediatric and Adult Massive Transfusion Protocol Patients

2. Protocol: Emergency Blood Protocols

I. General Communication During Emergency

1.0 Always assume that any inquiry about a patient sample and/or product availability may be emergent even if the person asking is calm and offer blood on emergency release.

2.0 If a sample is rejected from ED or a STAT order from ANY location, offer blood on emergency release.
a. Script Guidelines: ***"This specimen is not acceptable because (the reason) and needs to be recollected. Do you need blood on emergency release?"***

3.0 If a phone call is received from any area inquiring when blood will be available and testing is in Progress (testing not complete and/or antibody).
a. Script Guidelines: ***"The testing is not complete on this patient's sample. Blood can be released on Emergency Release. Do you need blood on emergency release?"***

4.0 If anyone comes to the Blood Bank window inquiring when blood will be available and testing is in progress or sample has not been received.
a. Script Guidelines: ***"The testing is not complete and/or we do not have a current sample on this patient. Blood can be released on Emergency Release. Do you need blood on emergency release?"***

5.0 If provider or someone is calling for help to order blood/blood products on a patient,
a. Script Guidelines: ***"We are not trained in provider ordering blood products in Wake One. Blood/blood products can be released on Emergency Release. Do you need blood or blood product on emergency release?"***

6.0 If the response is yes to any of the possibilities (Steps 2-5), state – ***"Please send someone down to pick up the unit."***

II. Activation of Trauma/MTP Protocol

1.0 Notification of Level I or Level II Trauma occurs via the Trauma Code Pager. The pager will sound and the message will indicate the Trauma Level.

2.0 Notification of MTP may also come from floors (non Trauma).

Refer to Attachment 2: ED Trauma Activation Manual

3.0 Evaluation of blood bank staffing for the trauma call.

3.1 If it is determined by designated charge or staff that staffing is inadequate for the shift, the on call person needs to be contacted to initiate the Emergency Call Tree for Blood Bank.

4.0 Both Level I and Level II Traumas are considered STAT.

5.0 Level I Traumas are the most serious and will probably require emergent blood.

6.0 The ED may send samples for Type and Screen on Level II Trauma patients.

6.1 Level II Trauma status may be upgraded to Level I or MTP at any time or downgraded to non-Trauma.

7.0 Blood product inventory is available in the Blood Fridge in the Emergency Department (ED) for Adult and Peds and is maintained by Blood Bank twice daily: once by first shift and once by second shift:

7.1 See blood product inventory:

Attachment 3: Blood Inventory in HemaEmerge Fridges
Refer to Routine: Emerge Fridges Daily Maintenance-ED and L&D: BB.R.1039

8.0 Emergency Release Blood in BioFridge/coolers may be requested when the patient goes to the Operating Room or Interventional Radiology from the ED or if an MTP is initiated.

8.1 The Adult ED refrigerator will have 2 MTP pack coolers both containing 2 whole blood units for use in the Adult ED.

8.2 BioFridge carts are preferable to credo/OR coolers for MTPs when issued from Blood Bank.

8.3 The BioFridge will contain 2 rounds of an MTP

Refer to FD: Blood and Blood Product Issue

Refer to FD: Blood Cooler Issue

Refer to FD: Conditioning of Cooler Inserts, Panels and Use of Cooler Prep Flag

Refer to Policy: Policy for Pediatric and Adult Clinical Massive Transfusion

9.0 Wake One MTP Protocol Order

9.1 A MTP may start with 1-2 units of whole blood (or a MTP pack cooler) from the ED Emerge fridge.

a. MTP order needs to be placed in Epic

b. Once the order is signed the product orders will automatically cross to SCC.

9.2 MTP order includes:

a. Crossmatch order for 4 units of RBC
b. Prepare order for 4 units of plasma
c. Prepare order for 1 unit of platelets
d. Emergency Release form
e. Type and screen
f. transfusion order for 4 units of RBC (for nursing)
g. transfusion order for 4 units of plasma (for nursing)
h. transfusion order for 1 unit of platelets (for nursing)

9.3 Units can be added to an in dated blood specimen for type and screen

a. An emergency release form will need to be initiated if
    i. Testing is not completed
    ii. An antibody is present (no time to do AHG crossmatch)
    iii. Other special requirements cannot be met due to the emergent situation (i.e. irradiation needed, XMIS needed, etc…)

III. Activation of MOH Protocol

1.0 Notification of MOH activation occurs via the MOH Pager. The pager will sound and the message will indicate the MOH.

2.0 Blood product inventory is available in the Blood Fridge in Labor and Delivery and is maintained once daily by blood bank first shift:

2.1 See blood product inventory:
Attachment 3: Blood Inventory in HemaEmerge Fridges
Refer to Routine: Emerge Fridges Daily Maintenance-ED and L&D: BB.R.1039

3.0 Emergency Release Blood in BioFridge/coolers may be requested when the patient is in Labor and Delivery or when a MOH is initiated.

3.1 Red cells are available to be taken from the L&D Blood Track Emerge refrigerator as needed.

3.2 BioFridge carts are preferable to credo/OR coolers for MOHs

3.3 Liquid plasma is not approved for MOH patients. Use Thawed plasma only.

3.4 The BioFridge will contain 2 rounds of an MOH:

a. **L&D fridge:** RBCs available if needed until Biofridge arrives

Biofridge	Round	RBCs	Plasma*	Plateletpheresis	Cryoprecipitate	Comments
1st Biofridge	**Round 1:**	4 RBCs	4 thawed plasmas	1 Plt	5 pack cryo	
	Round 2:	4 RBCs		1 Plt		Start thawing 4 more plasmas*
2nd Biofridge	**Round 3:**	4 RBCs	4 thawed plasmas*	1 Plt	5 pack cryo	
	Round 4:	4 RBCs	4 thawed plasmas*	1 Plt		

***NOTE: 4 thawed A plasmas are kept routinely in the Blood Bank for MOHs. Once the initial 4 are given in the 1st BioFridge automatically thaw 4 more for the 2nd and future rounds as needed.**

Refer to FD: Blood and Blood Product Issue
Refer to FD: Blood Cooler Issue
Refer to Routine: BioFridge Operation
Refer to FD: Conditioning of Cooler Inserts, Panels and Use of Cooler Prep Flag
Refer to Protocol: Massive Obstetrics Hemorrhage Transfusion Protocol (MOH)

4.0 Wake One MOH Protocol Orders need to be placed in Epic. There are multiple rounds that are to be ordered as needed. Below is the list of products and orders that go with each of the MOH Protocol rounds:

MOH ORDERS IN EPIC						
MOH ROUND:	**TSX**	**RBC**	**PLASMA**	**PLT**	**CRYO**	**TRANSFUSION ORDERS**
1	1	4	4			YES
2		4	4	1	1	YES
3		4	4	1		YES
4		4	4	1	1	YES
5		4	4	1		YES
6		4	4	1		YES

4.1 Units can be added to an in dated type and screen specimen.

a. An emergency release form will need to be initiated if

i. Testing is not completed
ii. An antibody is present (no time to do AHG crossmatch)
iii. Other special requirements cannot be met due to the emergent situation (i.e. irradiation needed, XMIS needed, etc…)

IV. Mass Casualty Protocol

1.0 Management of Blood and Blood Products will be ongoing if the mass casualty plan is initiated.

2.0 The Blood Bank Manager or designee will closely monitor the impact of the event on blood utilization during the course of the event and keep Lab Administration and the Incident Command Center informed.

3.0 At the initial activation of the Phase 3 Medical Surge Plan, the Blood Bank will respond in accordance with their current policy on Emergency Blood Management.

3.1 The emergency MTP Packs at the Winston Salem ARC Blood Center should be requested.

4.0 The Blood Bank Manager or designee will continue to evaluate inventory and call blood suppliers to restock if necessary.

5.0 On site staffing levels will be assessed and if necessary the Emergency Call Tree for Blood Bank will be initiated and additional staff will be called in to assist.

6.0 During a disaster, the Blood Bank will handle the needs of the hospital as long as the supply of blood and blood products remains available from suppliers. If supplies become an issue, a decision as to how to proceed further will be collectively made by the command staff.

V. Selection of Blood Components

1.0 Selection of Blood and Blood Type in MTP, MOH, Emergency Issue

When ABORh is UNKNOWN							
PATIENT		**RBC**	**WB**	**PLASMA**	**LIQUID PLASMA**	**PLT***	**CRYO**
Male ≥17yr Female >50yr		O POS	O POS/NEG	A	A	Any ABORh	Any ABORh
Female 17-50yr	**Emergency/ MTP**	O NEG	O NEG	A	A	Any ABO, Rh Neg	Any ABORh
	MOH	O NEG	DO NOT Give	A	DO NOT Give	Any ABO, Rh Neg	Any ABORh
Pediatric 4mn + 1day – 17yr		O NEG	DO NOT Give	AB	DO NOT Give	AB NEG	Any ABORh
Neonate ≤ 4mn		O NEG	DO NOT Give	AB FFP	DO NOT Give	AB NEG**	AB†
Age/Sex unknown		O NEG	O NEG	A	A	Any ABO, Rh NEG	Any ABORh
When ABORh is KNOWN (current blood type must be available)							
PATIENT		**RBC**	**WB**	**PLASMA**	**LIQUID PLASMA**	**PLT***	**CRYO**
Male ≥17yr Female >50yr		ABORh compatible	O POS/NEG	A or ABO compatible	A	Any ABORh	Any ABORh
Female 17-50yr	**Emergency/ MTP**	ABORh compatible	O Rh compatible	A or ABO compatible	A	Any ABO, Rh compatible	Any ABORh
	MOH	O NEG	DO NOT Give	A	DO NOT Give	Any ABO, Rh Neg	Any ABORh
Pediatric 4mn + 1day – 17yr		O NEG	DO NOT Give	AB	DO NOT Give	AB NEG	Any ABORh
Neonate ≤ 4mn		O Rh compatible	DO NOT Give	AB FFP	DO NOT Give	ABORh compatible**	ABO compatible†

* If no platelets meeting criteria available, then Group A would be best choice followed by any group.
** Notify medical director when incompatible platelets are given to a neonate
†If no cryoprecipitate meeting criteria is available for Neonates, consult medical director or pathologist on call.

2.0 For the list of stock that is available in the Blood Fridge in the Emergency Department (ED) see *Attachment 2: ED Blood Inventory in HemaEmerge Fridges in Adult and Peds*

2.1 The ED Blood Fridges are checked and restocked daily by both first and second shift. *Refer to Routine: ED Emerge Fridge Daily Maintenance*

2.2 The Adult ED MTP Packs will need to be restocked when used.

a. Restock will occur at the beginning of 1st and 2nd shifts.
Refer to Attachment 6: Restocking MTP Packs in ED

3.0 If ABO/Rh has been tested on a CURRENT sample, then Group and type specific red cells or compatible may be issued.

3.1 **When group specific blood is issued, the units must be tagged with patient identification.**

3.2 The pickup person must have an issue slip or equivalent with patient's name and MRN number.

4.0 Reliance on previous records is not acceptable. There must be a current sample to issue Group and Type specific or compatible.

5.0 Other products (plasma/platelets/cryo/red cells) are to be prepared STAT as requested.

6.0 Verbal requests for additional packed red cells and other blood products may be recorded on the Blood Bank-Verbal/Add-on Order Form.

6.1 Document as much of the following information as possible and record on the form:

a. Date/Time Order Received
b. Tech taking verbal order
c. Location
d. Ordered by
e. Number ordered of each product
f. Age and Gender for Trauma

6.2 Read back the information received to confirm verbal order.

7.0 Inventory should be monitored when blood products are being used rapidly. The blood supplier should be called to request additional supply.

7.1 If they are unable to send units and/or there is insufficient time to receive and process the units, switch the patient to Rh positive units.

7.2 If continuing transfusion requirement is expected to exceed the available supply of Rh negative units, evaluation of the change should be made to conserve blood for other recipients.

7.3 If continuing transfusion requirement of packed cells is expected to exceed the available supply of group B or A, evaluate the situation to determine if patient needs to be changed to group O.

8.0 Rh negative males or females may be switched to Rh positive after six (6) packed cells have been Issued.

8.1 The Medical Director should be notified if the patient has anti-D and/or is a female of child-bearing age (females < 50 yrs old).

9.0 Group AB patients may be transfused with group AB, B, A, or O packed red cells.
Refer to Protocol: Selection of Blood and Blood Components

10.0 When patients have been transfused with blood of an ABO group other than their own (ex. Group O to group A or B) and additional transfusions are needed, it is desirable to return to the patient's own ABO group.

10.1 The safety of the conversion depends on the status of anti-A and/or anti-B in the current sample.

10.2 An AHG crossmatch can be used to determine compatibility if unexpected anti-A and/or anti-B is present in the recipient's current sample.

10.3 If incompatible, continue transfusion with blood that lacks the corresponding antigen. (Ex. group O)

VI. Whole Blood

1.0 Low Titer Group O Whole Blood will be received on a weekly standing order.

2.0 Whole Blood has been tested to ensure that the titer is ≤ 200.

3.0 Whole Blood that is NOT leukoreduced will have a 'NOT LEUKOREDUCED' sticker placed on each unit when it is received into inventory.

4.0 Whole Blood will be placed in the Adult ED Fridge for use as the initial round when indicated by patient's age, sex and clinical status.

5.0 Issuing Whole Blood

5.1 When patient ABO/Rh is unknown,

a) Up to four (4) Group O whole blood units can be transfused during MTP,

b) For males 17 years and older and females 51 years and older.

(Afterwards, switch to group O red cells.)

5.2 There are no plasma or platelets issued in the round with group O whole blood.

5.3 All other MTP rounds should be 4, 4, and 1 (or whatever the provider orders).

5.4 Group O patients may receive as many Group O whole blood as needed.

a) Sufficient inventory of group O whole blood should remain in Blood Bank to provide for ED and Air Care.

5.5 Blood Bank may dispense whole blood to surgery and other acute units upon request if there is whole blood available in the Blood Bank.

6.0 Whole Blood packing

6.1 Remove whole blood units from remote fridges and AirCare/EMS units when at least 2 days left on unit.

6.2 Position whole blood in blood bank upright on the Whole Blood shelf for a minimum of 24 hours to settle the plasma and then proceed to prepare packed cells.

6.3 The plasma removed from the Whole Blood unit will be discarded physically.

6.4 If needed, the whole blood can be centrifuged in the BMT floor centrifuge at 4 C° to accelerate the separation of plasma and red cell.

Refer to Packing Whole Blood by Sedimentation and Centrifugation:BB.COMP.1012

7.0 Two MTP Packs in coolers for the Adult ED refrigerator will contain 2 whole blood units in each cooler.
Refer to Attachment 6: Restocking MTP Packs in ED
Refer to: MTP Packs for Blood Track: BB.Routine.####

VII. Prepared Emergency Packs of Packed Cells and Plasma

1.0 **RBC:** There are four (4) units of O positive packed cells and four (4) units of O negative packed cells available on the Trauma Shelf of Refrigerator #9 with paperwork documenting units in each pack.

1.1 These units are labeled with an **'Uncrossmatched Blood'** sticker.

1.2 The unit numbers, E codes and ABO/Rh are recorded on the Emergency/Downtime Sign-Out Log.

1.3 Segments are not pulled for these units. If a segment is needed later, it can be obtained in the bag on the date the unit was processed located in the Sera refrigerator.

1.4 A blank Emergency Release form is with each set.

1.5 There are two sets of two (2) O pos and one set of two (2) O neg RBC units available for non-MTP emergency release.

2.0 **Plasma:** A minimum of sixteen (16) Group A plasmas and one (1) Group AB thawed plasma are to be available in refrigerator #9 with a copy of the ISBT label rubber banded to each unit.

2.1 The Group A plasmas are to be used and placed in the Biofridges **at issue**.

a. MTP: liquid plasma or thawed plasma

b. MOH: thawed plasma only

c. Liquid plasma is for MTP/trauma use only.

2.2 The Group AB plasma is for pediatric emergency.

2.3 Ideally the 16 plasmas would include 4 thawed plasma + 12 liquid plasma

a. 4 Thawed plasmas are used for MOHs (these 4 are part of the regular thawed plasma inventory)

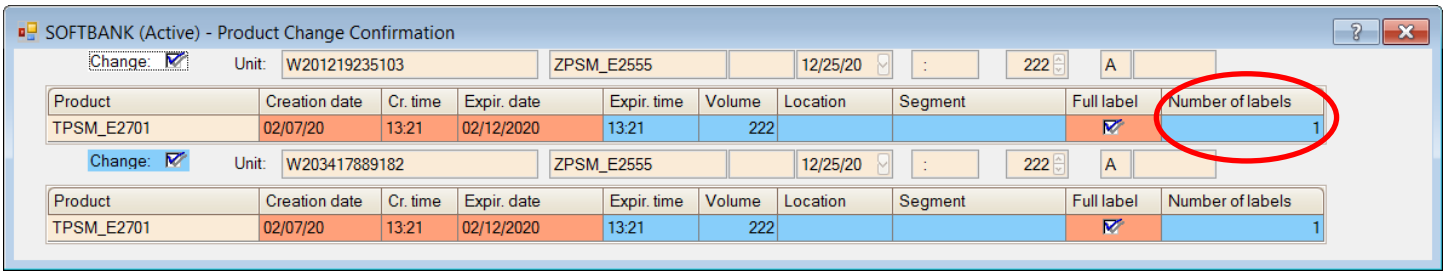
b. 12 or more liquid plasmas for MTPs

i. If the liquid plasma level drops below 12, thaw A plasma to keep the total inventory at 16 or more.

ii. Use thawed plasma if there are short dated thawed plasmas in danger of expiring on shelf.

2.4 A Xerox copy of each Trauma plasma should be made and placed with the unit if stored in the refrigerator OR in the folder located on top of each BioFridge unit.

a. A second ISBT label can be printed at thawing instead of copying by changing the Number of labels to 2 instead of 1 in SCC.



2.5 In the event that the Xerox or ISBT printer is not working, the unit numbers, E codes and ABO/Rh can be recorded on the Emergency/Downtime Sign-Out Log.

3.0 Whole blood/Packed Cells and Plasma/liquid plasma units should be restocked as time permits.

4.0 **Release of blood MUST NOT be DELAYED due to a lack of information. Group O low titer whole blood or Group O packed cells may be released without any information. The location of the units is needed for clean-up procedure in Blood Bank.**

4.1 IF available **AND** time permits, the patient's name or unique identifying number, approximate age and sex can be recorded on the: Emergency Release of Blood, Emergency Downtime Sign-out and BB Requisition.

a. This paperwork should be contained within a folder on the processing area.

4.2 Label packed cell units with an "Uncrossmatched Blood" sticker.

5.0 The units may be placed into a BioFridge/cooler with the emergency release on top.
Refer to Front Desk: Blood Cooler Issue

6.0 Write patient name and identifying number on a separate piece of tape and attach to the top of the cooler. **If no name/number, write Emergency Release-no name/number on top of cooler.**

7.0 Release BioFridge/cooler or units to location. If request received by phone and no one arrived at Blood Bank, then the location that made the request should be called.

7.1 IF possible and does NOT delay release, obtain the name of the physician attending the patient or the location the blood is going and record on one of the downtime forms and on the Emergency Release.

8.0 The physician or nurse needs to be informed of the need to sign and return the form.

9.0 Remind whoever picks the blood up that a specimen is needed as soon as possible.

10.0 Additional BioFridge/coolers should be prepared as needed.
Refer to Routine: BioFridge Operation

11.0 Information can be entered into computer when time permits.

12.0 When the name is known, cross-reference on all forms.

13.0 Continue to evaluate inventory and call blood supplier to restock if necessary.

VIII. Massive Transfusion Guidelines

1.0 Massive transfusion is defined as the transfusion or anticipated transfusion within a 24-hour period of a volume of blood approximating the recipient's total blood volume.

2.0 Following massive transfusion, the pretransfusion sample no longer represents the blood currently in the patient's circulation and has limited benefit.

3.0 Crossmatch testing (electronic or immediate spin crossmatch or AHG crossmatch) is not necessary when blood is being issued emergently with an emergency release form prior to the completion of the antibody screen and crossmatch.

3.1 SCC is setup to detect ABO incompatibility. SCC will only allow emergency issue of certain ABORh to patients without a current ABORh:

SCC SETUP FOR PATIENTS WITHOUT CURRENT ABORH		
PRODUCT	**ABO/RH**	**PATIENT**
Red Cells	O pos or O neg	Males 4 months or older Females over 50 years old
	O neg	Females 50 years or younger Neonates*
Plasma	A or AB	Males & Females 4 months or older
	AB	Neonates*
Platelets	Any ABO or Rh	Males & Females 4 months or older
	AB neg	Neonates*

*Neonates: 0-120 days old

4.0 Patient testing (antibody screen and/or crossmatch) is completed for units once the patient is stable providing a sample is available in the Blood Bank.

5.0 If the antibody screen is positive or the patient has a history of a clinically significant alloantibody:

5.1 The decision of selecting antigen-negative units for transfusion will depend on the specific alloantibody and the urgency of transfusion because following massive transfusion the proportion of the patient's own cells and plasma in the circulation decreases and the pretranfusion specimen ceases to represent the patient's current status.

6.0 The patient's physician must be notified of the availability and time factor involved to provide antigen negative units and will be responsible for the transfusion decision. This should be documented on the BB requisition or equivalent.

7.0 An emergency release form is required if antigen positive or unscreened units must be issued and/or the antibody has not been identified.

8.0 If the patient has an antibody with less than 50% chance of finding compatible blood, antigen negative units should be conserved for transfusion after the active bleeding episode. Consult with medical director, management or pathologist on call.

Refer to Policy for Pediatric and Adult Clinical Massive Transfusion

IX. Receipt of Patient Specimen for Testing

1.0 The sample must be labeled properly.

1.1 If sample is not labeled correctly, continue to issue group O RBCs and request a redraw.

Refer to FD: Specimen Labeling and BBID Numbers

2.0 The ABO/Rh should be performed including recheck by second technologist for patients with no prior history.

3.0 The antibody screen should be performed as time permits.

4.0 Once the ABO/Rh has been determined, Group Specific red cells may be allocated.

4.1 Plasma: continue to give Group A plasma during the MTP/MOH to conserve other groups of plasma.

4.2 Give Group specific plasma once the MTP/MOH is over.

5.0 Four units of Group Specific packed cells should be tagged with the Transfusion Tags and known information (Patient Full Name/Medical Record Number/BBID Number when time permits. The minimal information is Medical Record Number for non Group O packed cells).

6.0 Pack the units per procedure into a Blood Bank BioFridge/Cooler.

Refer to FD: Blood and Blood Product Issue

7.0 The patient location should be called and notified that group specific is now available.

8.0 The name of the physician who is being informed that group specific is available should be requested and documented.

9.0 The BioFridge/cooler of Group O red cells may be switched out with group specific.

9.1 Plasma: continue to giving Group A plasma during the MTP/MOH to conserve other groups of plasma.

X. "Clean-Up" of Paperwork

1.0 The Trauma patient verification should be obtained from ED or medical records.

2.0 The name and MRN should be recorded on all forms when verified.

3.0 Patient demographics need to be in SCC and a special message, **MTP** or **MOH** in the Patient Caution Window signifying a MTP or MOH patient.

3.1 This special message will assist us in the monthly wastage report.

4.0 The files should be checked for previous record once the patient name is known.

5.0 All tests should be ordered and resulted in computer.

6.0 Clean UP should be done in "batches", i.e., 'Emergency Issue' all units that were issued in the first Cooler in SCC, then 'Emergency Issue' units from second cooler etc.

7.0 Units should be crossmatched according to the Massive Transfusion Protocol.

8.0 Crossmatch testing (electronic or immediate spin crossmatch or AHG crossmatch) is not necessary when blood is being issued emergently with an emergency release form but will be completed on transfused units during clean up providing a blood specimen is obtained.

9.0 All products should be 'Emergency issued' even if they have been returned.

10.0 Returned blood and products need to have the SCC reason codes added in SCC and completed for all returned products.

10.1 UNACC – means unit is unacceptable and must be discarded.

10.2 MTPOK – means unit is acceptable to go back to inventory.

10.3These SCC codes on units help us to determine the wastage of blood products in MTPs.

11.0 Check the Emergency Release of Blood Form for physician signature.

11.1 Place the Emergency Release of Blood Form in the Emergency Release box at Front Desk and place the original Trauma request to the BB Requisition in box at Front Desk.

11.2 The completed Emergency/Downtime Sign-out Sheet are placed in the tray labeled 'worksheets' at the Front Desk.

12.0 If the patient expires and no sample was received, place a "Crossmatch Red Blood Cell" order in Wake One.

12.1 The units can then be 'Emergency Issued' in SCC.

12.2 An immediate spin crossmatch will be automatically ordered in SCC and must be cancelled.

XI. Tracking Massively Transfused Patients (MTP and MOH)

1.0 When a MTP or MOH is activated, the following information is obtained:

- 1.1 Record the Date the phone call was received
- 1.2 The patient's name or unknown designation
- 1.3 Medical Record Number
- 1.4 Record the time the phone call was received
- 1.5 Any comments add to this column
- 1.6 Document if Blood Bank was notified that the MTP/MOH was over

2.0 Record the information electronically on the Massive Transfusion Log.

3.0 The form should be sent to the management electronically at the end of the month and this task should be checked off of the Quarterly QC form.

4.0 A new log should be created at the beginning of each month.

5.0 The medical director and management review the form monthly.

6.0 After review, the form is electronically sent to:

- 6.1 Karen Parker, Performance Improvement Coordinator, Trauma Services.
- 6.2 Cynthia Mastropieri, RN Manager Trauma
- 6.3 Ginger Wilkins, RN Manager Pediatric Trauma
- 6.4 Shelley Bowman, RN Transfusion Safety Officer
- 6.5 Emmanuel Fadeyi, MD Blood Bank Medical Director
- 6.6 Markie Beiland, RN Trauma Coordinator

7.0 This information is used by the Trauma Committee.

3. Review/Revised/Implemented:

All procedures must be reviewed according to the Document Control Protocol.
All new procedures and procedures that have major revisions must be signed by the CLIA Director.
All reviewed procedures and procedures with minor revisions can be signed by the designated section medical director or designee.

4. Related Procedures:

Routine: ED Emerge Fridge Daily Maintenance
Routine: Activate Out in Blood Track Manager
Routine: Putting in Units at Fridge (Tech)
Routine: Activate Out – Entering Units Manually
Routine: Acknowledging and Resolving Blood Track Manager Alerts
Routine: Blood Track Clean Up
Front Desk: Blood and Blood Product Issue
Front Desk: Blood Cooler Issue
Protocol: Selection of blood and Blood Components
Policy: Policy for Pediatric and Adult Clinical Massive Transfusion
Routine: BioFridge Operation

5. References:

AABB Technical Manual, revised periodically
AABB Standards for Blood Banks and Transfusion Services, revised periodically

6. Attachments:

Attachment 1: Selection of Blood and Blood Type in MTP
Attachment 2: ED Trauma Activation Manual
Attachment 3: Emerge Inventory Levels
Attachment 4: Massive Obstetrics Hemorrhage Transfusion Protocol (MOH) (internet policy)
Attachment 5: Pediatric and Adult Clinical Massive Transfusion (internet policy)
Attachment 6: Restock of MTP Packs in ED

7. Revised/Reviewed Dates and Signatures:

See Document Change Control

Document Change Control			
Title: Emergency Blood Protocols			
Previous title: Combined: Excessive Transfusion Guidelines, Emergency Release, Trauma Response into a single protocol			
Written date		Written by:	
Validation date		Validation by	
Reviewed date		Reviewed by	
Approved date		Approved by	
Approved date		Approved by	
Effective date in use	<7/2009	In use by	Refer to archive history

Revisions

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
12/16/15	JHS	1/5/16	GP	12/21/15	EF	12/21/15	MRJ	1/6/16	JHS
Validate Date	By	Revisions: Put into standard format. Combined Excessive transfusion guidelines, emergency release and trauma response into a single protocol.							
12/21/15	LA								

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
6/15/17	JHS								
Validate Date	By	Revisions: Updated to reflect use of 'Uncrossmatched Blood' sticker without unit tags in emergencies. Updated for SCC. TER is replaced with order for Crossmatch Red Blood Cells in WakeOne. Two sets of O neg and O pos changed to three sets of O neg and O pos. Inserted Section I on Communication.							

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
2/7/18	mjones			2/12/18	EF	2/12/18	JHS	2/14/18	JHS
Validate Date	By	Revisions:							
2/12/18	JHS	Section I steps 5- 6 Section II steps 8.1 Section III steps 1.2, 5.0, 7.0, 8.0		Section IV steps 1.5, 2.0, 5.0, 7.0 Section VII steps 9.0-9.3					

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
3/21/18	SMA/ JHS	3/27/18	GP	3/27/18	EF	3/27/18	MRJ	3/29/18	JHS
Validate Date	By	Revisions: Reworded section III steps 1.0, 7.0, 8.0, 9.0, 10.0. Removed Section III Step 1.2. Removed Section V step 2.1. Changed Section V, Step 1.0 to read four units instead of 4 sets. Changed Attachment I Selection of Blood and Blood Type in MTP. Changed wording in Att. 3. Changed code in Section VIII Step 10.1, Added Section IV: Whole Blood							
3/27/18	SMA								

Locations	Pediatric and Adult Clinical Massive Transfusion – Attachment 1	Out of Use: Date:		By	
		Reason			

Reviews according to Document Control Protocol: Record date/initials:

Date	Initials	Date	Initials	Date	Initials	Date	Initials

Document Change Control			
Title: Emergency Blood Protocols			
Previous title: Combined: Excessive Transfusion Guidelines, Emergency Release, Trauma Response into a single protocol			
Written date		Written by:	
Validation date		Validation by	
Reviewed date		Reviewed by	
Approved date		Approved by	
Approved date		Approved by	
Effective date in use	<7/2009	In use by	Refer to archive history

Revisions

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
1/21/19	JHS	1/24/19	Mjones	1/24/19	Efadeyi	1/24/19	Jsimmons	1/28/19	jsimmons

Validate Date	By	Revisions: Group O patients can receive more than 4 Group O whole blood. Verbal orders should include a read back of the order for confirmation. Added Mass casualty section to protocol.
1/24/19	Langermeier	

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By
1/20/20	JJ								

Validate Date	By	Revisions: Added MOH and obstetrics to protocol. Added II.9.0 WakeOne MTP protocol order. added new section III Activation of MOH protocol. Changed section #s of rest of sections after III. Redesigned V Selection of Blood components by condensing selection of blood/blood type into a chart. Added use of liquid plasma and who can/can't receive. Changed expiration of whole blood and when/how to pack. Redesigned Att 3 into a chart and added labor & delivery emerge. Added Att 4- MOH Transfusion Protocol (internet policy) and Att 5: Ped and adult clinical massive transfusion(internet policy). Added MTP pack information. Added SCC setup for product given to patient without current ABORh. added second shift stocking of ED emerge. Added ordering ARC MTP packs for Mass Casualty.

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By

Validate Date	By	Revisions:

Revised Date	By	MD Date	By	MD Date	By	Review Date	By	Effective Date	By

Validate Date	By	Revisions:

Locations		Out of Use: Date:		By	
		Reason			

Reviews according to Document Control Protocol: Record date/initials:

Date	Initials	Date	Initials	Date	Initials	Date	Initials

Attachment 1

Selection of Blood and Blood Type in MTP

Patient	Blood/Blood Products	Ages
TRAUMA	**Whole Blood*: O POS**	**Males: 17 years and older** **Females: 51 years and older**
EMERGENCY	**Red Cells: O POS** **Plasma: Group A** **Any platelets**	**Males: 17 years and older** **Females: 51 years and older**
	Red Cells: O NEG **Plasma: Group AB (4 months+1 day to 16 years)** **Plasma: Group A (17 years and older)** **Platelets:** **1st choice: AB or Group Specific/Compatible** **2nd choice: Group A** **3rd choice: Any**	**Males: 4 months + 1 day to 16 years** **Females: 4 months + 1 day to 50 years** **Unknown Sex and/or age**
	Red Cells: O NEG **Plasma: Group AB Thawed FFP** **Platelets:** **1st choice: AB NEG/or Group Specific/Compatible platelets** **2nd choice: A NEG** **3rd choice: ANY** ***Notify medical director if ABO incompatible platelets had to be given.***	**NEONATES - birth up to and including 4 months old**

.*If whole blood units available. If not available, Group O RBC units will be issued.
Neonates, pediatrics and MOH patients should not receive liquid plasma

Attachment 2: ED/Trauma Activation Manual

Attachment 3

Emerge Inventory Levels

Emerge location	Whole Blood	MTP Packs (2 WB)	Red cells		Plasma	
			O pos	O neg	A (thawed or liquid)	AB (thawed FFP)
Adult ED	2-6	2	8	6	4	
Peds ED				2		1
Labor & Delivery				4		

Attachment 4

Internet Protocol: Massive Obstetrics Hemorrhage Transfusion Protocol (MOH)

Attachment 5

Internet Protocol: Pediatric and Adult Clinical Massive Transfusion

Attachment 5