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| Methodist Health Services Corporation & UnityPoint Health Methodist | | Page # 1 of 4 | Section: UPM BBPOL | Policy #:  01.041 |
|  | Laboratory  BLOOD BANK | Approved by: Elizabeth A. Bauer-Marsh, M.D. | | Date: 1/12/18 |
| Date Revised/Reviewed: 7/21/16, 1/12/18 | | |
| Policy/Revision Submitted by: Kathy L. Turpin | | |
| JCAHO Standard: IM | | |
| POLICY GUIDELINE ON: BLOOD BANK MASSIVE TRANSFUSION POLICY | | | | |

1. POLICY STATEMENT:

Blood Bank will respond immediately when Medical Alert – Transfusion Protocol is called on the hospital’s overhead paging system.

1. PURPOSE:

To ensure an adequate supply of blood products to a massive hemorrhage patient until the bleeding can be arrested.

1. SCOPE:

All Blood Bank personnel will respond to a Medical Alert – Transfusion Protocol.

1. GENERAL INFORMATION:

In a life threatening emergency, a physician may order the initiation of the massive blood transfusion protocol in response to a massive hemorrhage.

A. A massive hemorrhage can be defined as follows:

1. Blood loss exceeding circulating blood volume within a 24-hour period,
2. Blood loss of 50% of circulating blood volume within a 3-hour period,
3. Blood loss exceeding 150 ml/min., or
4. Blood loss that necessitates ≥8-10 units of PRBC transfusion.

Even massive blood loss may not necessitate the need for blood replacement. This is a clinical decision to be made by the physician. If a massive blood transfusion is being initiated by a physician, the overhead announcement, “Medical Alert – Transfusion Protocol to \_\_\_\_\_\_ (floor unit will be announced, not specific room number)” will be made.

1. PROCEDURE:

When a “Medical Alert – Transfusion Protocol” is initiated by an overhead page, the blood bank will immediately request a laboratory overhead page for all Blood Bank personnel and the Technical Coordinator to report to Blood Bank. Blood Bank staffing should be at a minimum of three techs; off-shifts/weekends may need to call in additional personnel. Blood Bank will also receive a phone call from the Blood Bank communicator at the site of the code.  
**NOTE:** Initiation of a Medical Alert – Transfusion Protocol may delay service to other patients depending on availability of personnel.

1. As soon as a Medical Alert – Transfusion Protocol is called, pack the blood bank transportation cooler with the four O negative packed RBC units from the trauma tray and make sure that a “Red Biohazard Bag” is attached to the outside of the cooler. Two plateletpheresis should be ordered from ARC and four AB FFP should be put into the plasma thawer to thaw.
2. Initiate an emergency transfusion form.
3. If possible, obtain the patients name and date of birth from the Blood Bank Communicator. If this is not possible the blood bank runner will obtain the patients name and date of birth when the first cooler is delivered.
4. Request a pink top EDTA tube or locate an EDTA tube in Hematology for testing, if necessary.
   1. Designate a Main Blood Banker. The main blood banker will perform all necessary testing and tell other Blood Bank technologists what needs to done. The Main Blood Banker should have the ability to accurately and quickly perform testing. The Main Blood Banker is responsible for completing the ABORH and Antibody Screen and setting up crossmatches ASAP. If necessary, and at the Main Blood Bankers discretion, screening of units may be assigned to other Blood Bank technologists.
   2. Designate a Blood Bank Runner from available Blood Bank staff. The runner will ensure products are delivered to the floor in the timeliest manner possible. The Blood Bank Runner shall request that all used containers for blood products be saved in a red biohazard bag (Attached to the first cooler) in case a transfusion reaction workup and culture are required. The Runner should make and maintain contact with the Lead Nurse and Blood Bank Communicator. When time allows the runner will get the physicians signature on the Blood Bank emergency transfusion form.
   3. Extra personnel should perform whatever task asked of them by the Main Blood Banker, or be responsible for STAT testing that needs to be performed outside of the ongoing code (ED, OR, runs, thawing products, etc)
   4. As soon as the situation allows, contact the Medical Director of Blood Bank if he/she is scheduled at UnityPoint Health; if they are not available contact the Clinical Pathologist for the day. After 5:00 pm, contact the on-call pathologist.
5. If staffing allows, there should be a designated technologist that answers all phone calls and receives in all ARC deliveries. If staffing does not allow for this additional person, contact the Technical Coordinator or if after regular hours contact the on call Laboratory Administration.
6. O negative units must be used until a type can be determined. If the patient has a current, active Blood Bank specimen with a known ABORH, type specific units may be used. O negative units should be used for women of child bearing age. Product inventory restraints may require O positive units to be used.
7. Once the ABORH has been determined and a bedside type has been performed (if indicated), type specific uncrossmatched units can be given.
8. All blood components labels should be copied using the copier located in Blood Bank. These copies of the blood components will be used to select and issue units in the LIS as time allows or after the massive hemorrhage has ended.
9. Additional uncrossmatched pRBCs shall be provided, if necessary, until a T&S has been completed. If a Type & Screen is already completed on an active specimen, crossmatched units should be set up ASAP, if the situation allows.
10. Blood Bank will be packing and running the coolers to the massive hemorrhage location until they are told that the massive hemorrhage has ended. The following are the cooler numbers and the type of blood products included in each cooler (Platelet Pheresis and cryo- precipitate should be packed in a separate room temperature cooler). \*NOTE: Place the “Massive Hemorrhage Labs” bag on top of the blood components in cooler 2. The “Massive Hemorrhage Labs” bags are located in the second drawer of the blood component labeling station.

**Cooler Packing Protocol:**

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| **Cooler #** | **pRBC’s** | **Plasma (FFP)**  **\*Note: Use blue and white cooler for FFP.** | **Platelets (PLTPH)**  **\*Given per Lab results** | **Cryoprecipitate**  **\*Per physician order – for fibrinogen less than 100mg/dL**  **16 minutes to thaw** |
| **1** | 4 units  O neg. uncrossmatched | Thaw 4 FFP (Type AB) | Order 1 plateletpheresis |  |
| **2** | 6 units | 4 units -  Given after 10 units PRBC’s and/or per labs | 1 plateletpheresis |  |
| **3** | 6 units | 4 units | 1 plateletpheresis | 2 units (pooled) = 10 single units |
| **4** | 6 units | 4 units | 1 plateletpheresis | 2 units (pooled) = 10 single units |

***\*Physician can adjust orders at any time, as needed***

1. The Blood Bank Communicator will be responsible for ordering the “Massive Transfusion” order set. The order set will automatically order 10 pRBC’s, 10 FFP, and 1 PLTPH. If additional units are needed, blood bank can add on the orders. Blood Bank staff will pack the coolers according to the Cooler Packing Protocol listed above.
2. Stay as far ahead on pRBCs, FFP, and PLTPHs as possible; Blood Bank staff should proactively thaw AB FFP until ABORH is confirmed to ensure a best-outcome transfused blood/plasma ratio. As soon as a cooler leaves Blood Bank, FFP and/or Cryo should be thawed for the next cooler.
3. Once the Medical Alert – Transfusion Protocol is over, the red biohazard bag with the empty blood product bags will be kept in blood bank for 24 hours.
4. If the patient has a known history of clinically significant alloantibodies, all pRBC units must be screened antigen negative for the antibody, if possible. If time does not allow for antigen screening, order the units antigen negative from American Red Cross (ARC), STAT. Patient antibodies may not be showing due to dilution.
5. Antigen positive blood or blood that has not yet been screened may be emergently issued upon written approval from the patient’s physician. Document approval on the Blood Bank Emergency Transfusion form and in the SOP Deviation log.
6. After 12 units of blood have been transfused, immediate spin cross matches are no longer required.
7. Continue setting up units and product until no longer necessary. Replace coolers as needed. Order stock to replenish Blood Bank stock, as needed. The three tech minimum in Blood Bank shall apply until the Medical Alert – Transfusion Protocol is terminated.
8. Constant communication with the Blood Bank Communicator is vital. Blood Bank may inquire as to whether the Medical Alert – Transfusion Protocol should continue. It is the responsibility of the Blood Bank Communicator to notify the Blood Bank to discontinue the Medical Alert – Transfusion Protocol. Normal patient service may be delayed for the duration of the Medical Alert – Transfusion Protocol.
9. The antibody screen and cross matches will be performed as soon as time allows. \*Note: When the Main Blood Banker is selecting units in the computer and must exit the patient record so that units can be issued select the clear button before exiting the product selection screen.
10. RELATED DOCUMENTS:
11. Reference chart for Cooler Packing Protocol is also located in Blood Bank.
12. Blood Bank Emergency Transfusion Form is located in Blood Bank.
13. MAINTENANCE AND STORAGE:
    1. All policies and procedures are reviewed every two years by Laboratory Administration and or the Medical Director of the Laboratory or designee.
    2. The Laboratory Administration and Medical Director review policies and procedures when there are changes in practice standards, or requirements.
    3. All policies and procedures are reviewed every two years by staff or at the time new or revised ones are put in effect.
    4. All policies are retained 8 years after being discontinued or revised.
    5. All procedures are retained 2 years after being discontinued or revised.

MMCI Laboratory is a CAP accredited facility, as of 7/1/11 the responsibility of new and/or substantially revised policies and procedures will be restricted the Laboratory Director whose name appears on the CLIA certificate, whose signature appears below. The biennial review will be completed by the Administrative Director.

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| ***POLICY CREATION :*** |  |
| Dr***Author: Kathy Turpin/Dawn Allen/Vincent Strow*** | ***November 8, 2013*** |
| ***Medical Director: Devendra Trivedi, MD*** | ***November 8, 2013*** |

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| **MEDICAL DIRECTOR** | | |
| DATE | NAME | SIGNATURE |
| January 1, 2017 | Elizabeth A. Bauer-Marsh, M.D. |  |

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| **REVISION HISTORY** | | | |
| **Rev** | **Description of Change** | **Author** | **Effective Date** |
| 1 | Initial Release | Kathy Turpin  Dawn Allen  Vincent Strow | 11/08/13 |
| 2 | Updated processes | V. Strow | 7/21/16 |
| 3 | Updated old overhead code of Code Blood Bank to Medical Alert – Transfusion Protocol. | L. Miller | 1/09/18 |

**REVIEWED BY**

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| **Lead** | **Date** | **Coordinator/Manager** | **Date** | Medical Director | **Date** |
| D. Allen | 11/8/2013 |  | 11/8/13 | Dr | 11/8/13  11/8/13 |
| V. Strow | 7/19/16 |  | 7/19/16 |  | 7/21/16 |
| Leah Miller | 1/09/2018 |  | 1/9/18  1/9/18 |  | 1/12/18 |
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