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Response to Red Level Trauma Activation - Dearborn Blood Bank

Document Type: Procedure

I. PURPOSE AND OBJECTIVE:

This document will provide the Blood Bank staff with policies and instructions for preparing and dispensing emergency blood and blood components for Red Level Trauma patients in advance of patient arrival in the Emergency Trauma Center.

II. CLINICAL SIGNIFICANCE:

A. Red Level Trauma patients with massive bleeding may occasionally need blood or blood products so urgently that the patient registration, and antibody screen and crossmatch cannot be completed before blood is needed for transfusion. In such cases, blood will be issued uncrossmatched and tagged with a fictitious blood bank patient to facilitate rapid dispense from the blood bank.

III. DEFINITIONS:

A. **Child Bearing Age:** Females less than 50 years of age.

B. **CRYO**: Abbreviation for Cryoprecipitate.

C. **Dispense**: Process of issuing blood products for transfusion.

D. **Plasma**: Refer to any type of plasma product, including liquid plasma and thawed plasma.

E. **ABO-identical**: A component that is of the identical ABO blood group as the recipient.

F. **ABO-plasma-compatible**: Refers to platelets, plasma, or cryoprecipitate. A component that does not contain ABO antibodies corresponding to the recipient's ABO antigens.

G. **ABO compatible RBCs**: Donor RBCs that lack the ABO antigens corresponding to the recipient's ABO antibodies.

H. **Rh identical component**: A component that is of the identical Rh as the recipient.

I. **Rh compatible component**: A blood component of the following specificity:

    1. For an Rh negative recipient, the component is Rh negative.
    2. For an Rh positive recipient, the component is either Rh positive or Rh negative.
    3. For a recipient with an Rh type that is undetermined for any reason, the component is Rh negative.

J. **Compatibility testing**: Testing that must be completed prior to dispense in non-emergency situations. Includes sample labeling requirements, ABO and Rh testing, antibody screening, possible antibody investigations and crossmatching

K. **Emergency issue**: A bleeding event in which the attending physician determines that blood components must be dispensed/transfused prior to completion of required compatibility testing

L. **Standard Blood Bank cooler**: A temperature-monitored cooler used for inpatients that:

    1. Is intended for the transport of 1 - 6 blood components which require refrigeration.
    2. Has been validated for the transport of blood components.

M. **Post-issue crossmatch**: Serologic compatibility testing of donor unit and recipient after the unit has been issued in an emergency situation.

IV. POLICIES:

A. Authorization / Signature for Emergency Issue Blood Components

1. Authorization for emergency issue of blood products must be documented with signature on the Urgent Request for Blood Product Form- F1565 .
2. Signature by the patient's physician or designated mid level provider (Physician Assistant or Nurse Practicioner) is required for issue of uncrossmatched blood or blood products.
3. The signature is not required at the time of issue but signed release form must be submitted within 24 hours of Red Level Trauma Activation.

B. Required Information

1. The Blood Bank requires the following patient information as soon as it becomes available after the arrival and registration of the patient
    a. Patient's name or Undoe Name
    b. Medical record number (MRN).
    c. Wrist band number.

C. Patient Specimen

1. A type/screen specimen is not required to initially dispense components under the Emergency Issue Protocol.
2. A specimen should be collected prior to transfusion to avoid typing discrepancies.
3. Specimens must meet the requirements of Transfusion Medicine policy, Triaging and Identifying Acceptable Blood Samples for Testing.

D. Release of Products Prior to Patient Arrival

1. In order to reduce the time required to dispense products to red level trauma patients, the blood bank will always have a minimum of three O negative and three O positive packed cells labeled with information for a fictitious Blood Bank patient available in the blood bank to allow for rapid issue in advance of the patient arrival to the Emergency Trauma Center.
2. Upon receipt of a Red Level Trauma activation page, the blood bank will immediately pack 3 packed red cells in a transport cooler. Advanced Phone notification is not required.

E. General ABO and Rh Requirements for Components Dispensed

1. RBCs will be dispensed under the RLT activation emergency issue protocol as follows:
    a. Issue O negative packed cells to patients pediatric patients (<18 years old), patients of unknown age/sex, and individuals with child bearing potential (female or sex unknown patients less than 50 years old)
    b. Issue O positive packed cells to all other patients where the sex and age is provided in the activation page.
2. If plasma is requested issue type A or AB.
3. Platelet components should be Rh negative if pediatric patient or individual with child bearing potential, if possible.
4. If cryoprecipitate is requested any type may be issued.
5. Refer to more specific guidelines are located in the following attachments:
   Job Aid: Appropriate ABO and Rh of Emergency Issue RBCs
   Job Aid: Appropriate ABO and Rh of Emergency Issue Platelets, Plasma, and Cryoprecipitate

V. PROCEDURE:

A. Advance Preparation of O Neg Units For Emergency Issue Buckets

1. Prepare a minimum of three (3) O negative RBC units for the *RLT Emergency Issue Buckets* using as directed in the steps below:

a. Verify that the expiration dates of the adult units in the *RLT Emergency Issue Buckets* are acceptable (greater than 10 days from expiration).

b. If the expiration date is unacceptable, then return the unit to inventory and obtain a suitable replacement unit from the inventory.

2. Tag each unit with an UNCROSSMATCHED BLOOD label.
3. Remove two segments from each unit. Label them with a unit number sticker from the back of the unit and place them into a plastic bag.
4. Make a copy of the face label of each unit and place with the segment in the corresponding plastic bag.
5. Load designated emergency tags into the bag tag printer.
6. Select the unit(s) in the Blood Bank Computer using Inventory > POS and the designated fictitious patient information provided below:

    a. Patient Name: XXX, DB RLTONE

    b. Patient MRN: 10608

7. Print a *Record of Transfusion* form (F-1566) using Inventory>POS>Print and scanning the unit.
8. Verify that the information on the both the plastic blood product tag and the paper crossmatch tags (*Record of Transfusion*) match the component face label.
9. Initial the bottom of the *Record of Transfusion* on the line next to the words "Tagged by" .
10. Detach the laminated blood product hang tag that is located on the lower-left part of the *Record of Transfusion*.
11. Attach the laminated transfusion blood product hang tag to the blood component with a tach-it gun or plastic fastener through the hole provided on the plastic blood product hang tag.
12. Reprint two additional copies of the record of transfusion information - one on the designated yellow paper which will be used to recoup actual patient information in the blood bank computer and the other on plain white paper which will be used to track unit after dispense from the blood bank.
13. Fold the paper portion of the *Record of Transformation* and the yellow dispense form and and attach with a rubber band (along with the photocopy of the unit face label).
14. Place the white paper copy of the record of the record transfusion in the corresponding plastic bag with segments and copy of the unit face label.
15. Attach the plastic bag to the appropriate unit with a rubber band.
16. Return the plastic bag and the unit(s) to the *RLT Emergency Issue Bucket.*

B. Advance Preparation of O Pos Units For Emergency Issue Buckets

1. Prepare a minimum of three (3) O Positive RBC units for the *RLT Emergency Issue Buckets* using as directed in the steps below:

    a. Verify that the expiration dates of the adult units in the *RLT Emergency Issue Buckets*

are acceptable (greater than 10 days from expiration).

b. If the expiration date is unacceptable, then return the unit to inventory and obtain a suitable replacement unit from the inventory.

2. Tag each unit with an UNCROSSMATCHED BLOOD label.
3. Make a copy of the face label of each unit and place with the segment in the corresponding plastic bag.
4. Remove two segments from each unit. Label them with a unit number sticker from the back of the unit and place them into a plastic bag.
5. Select each unit in the Blood Bank Computer using Inventory > POS and the designated fictitious patient information provided below obtain a *Record of Transfusion* form (F-1566) for each unit.
    a. Patient Name: XXX, DB RLTTWO
    b. Patient MRN: 10609
6. Print a *Record of Transfusion* form (F-1566) using Inventory>POS>Print and scanning the unit.
7. Verify that the information on the both the plastic blood product tag and the paper crossmatch tag (*Record of Transfusion*) match the component face label.
8. Initial the bottom of the *Record of Transfusion* on the line next to the words "Tagged by" .
9. Detach the laminated blood product hang tag that is located on the lower-left part of the *Record of Transfusion*.
10. Attach the laminated transfusion blood product hang tag to the blood component with a tach-it gun or plastic fastener through the hole provided on the plastic blood product hang tag.
11. Reprint two additional copies of the record of transfusion information - one on the designated yellow paper which will be used to recoup actual patient information in the blood bank computer and the other on plain white paper which will be used to track unit after dispense from the blood bank.
12. Fold the paper portions of the *Record of Transformation* and yellow dispense form and attach with a rubber band (along with the photocopy of the unit face label).
13. Return the plastic bag and the unit(s) to the *RLT Emergency Issue Bucket.*

C. Response to Activation Page

1. When a Red Level Trauma activation page is received in the Blood Bank, staff is to assume that the need for blood is urgent and proceed as outlined below.
2. Document the Communication for Massive Transfusion or Emergency Issue Form with the time of the activation page and immediately alert your co-workers.
3. Prepare a standard cooler in accordance with Transfusion Medicine policy, Transporting Blood Components in a Cooler
4. Determine the sex and age of the patient if provided in the activation page details and obtain packed cells from the RLT Emergency Issue Bucket based on the following:
    a. If either sex and age of patient are unknown, obtain three O negative packed cells

(tagged with the fictitious blood bank patient).

b. If the patient is a pediatric patient or a female patient less than 50 years old, obtain three O negative packed cells (tagged with the fictitious blood bank patient).

c. If the patient is a male or female greater than 50 years old, obtain three O Positive packed cells (tagged with the fictitious blood bank patient).

5. Retain the bag containing the copies of unit face label, white transfusion record and segments from each unit issued. These segments will be used to perform post issue crossmatches.
6. Place units in the cooler and complete the *Transfusion Service Cooler Log*.
7. The runner picking up blood should have a completed *Urgent Request for Blood Product Form (F-1565)*.

    a. If the runner does not have the appropriate documentation, the technologist will immediately dispense the products and report issue on internal variance report when time permits.

    b. Document the employee ID# /printed name of the transport runner and actual time of dispense on the Urgent Request for Blood Product Form and/or cooler log. Note: Illegible signatures are not allowed. Identification must be legible and traceable.

    c. Confirm whether the form has been signed by the individual authorizing the emergency issue in Section 5 of the form.

        i. If the form is not signed return the top 2 copies (white/yellow) of the form with the runner for signature.

    d. Request a type/screen sample be sent if not already received.

8. If additional products are required before sample is obtained continue to use fictional MRN to select and tag additional products in the blood bank computer.

    a. In the Blood Bank computer, select components of the appropriate ABO and Rh in accordance with policy, *General ABO and Rh Requirements for Components Dispensed*.

    b. If necessary component tags may be prepared manually.

9. As soon as possible, complete the type and screen and perform an immediate spin crossmatch on all RBCs. Perform a full crossmatch if indicated. Refer to *Post-Issue Crossmatch* in the Transfusion Medicine policy, Serological Crossmatching of Red Blood Cells.

    a. If incompatibility is detected at any stage of the testing, immediately notify the patient's physician and the Blood Bank Medical Director or other Blood Bank pathologist or fellow.

10. Units used uncrossmatched and assigned to fictitious patient are processed as follows:

    a. Release the units from the appropriate fictitious patient

    b. Emergency Issue blood products in the computer using the time from the *Transfusion Service Cooler Log* when the products were received by the runner

    c. Perform post issue crossmatches when appropriate

d. Print new transfusion tags for the units and file the paper copies with the corresponding copies of the original transfusion tags

11. When time permits replace the unit(s) in the buckets as described in *Advanced Preparation of Unit Procedures V.A and V.B* above.

VI. REFERENCES:

1. AABB, *Technical Manual*, current edition.
2. College of American Pathologists, *Transfusion Medicine Checklist*, current edition.

Approval Signatures

Step Description	Approver	Date
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