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| <h1>Procedure: Emergency Uncrossmatched Blood Requests</h1> | | |

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I. PURPOSE

To quickly provide red cell products for patients with emergent need for transfusion prior to compatibility testing being completed.

II. SCOPE

This procedure applies when a physician requests blood for emergent RBC transfusion before compatibility testing is completed. If the physician requests activation of the massive blood transfusion protocol (MTP), follow instructions in [Massive Transfusion Protocol](#).

- All AHC Blood Bank staff
- All Methodist, University, and Riley Hospital physicians and nurses
- All LifeLine physicians and nurses
- All IU Health physicians and nurses at the Indianapolis Motor Speedway

III. STATEMENTS/REQUIREMENTS

A. Specimen Requirements

1. Minimum sample volumes are as follows:

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| Neonates – 3 years: | 2 | lavender microtainers |
| 3 years – Adult: | 1 | 3mL or 6mL lavender |
| NOTE: NO SERUM SEPARATOR TUBES ACCEPTED | | |

2. Blood bank Specimen Requirements: (Red top or pink top (EDTA) tubes (3 or 6 ml) may also be accepted if they are correctly labeled).

B. Type "O" Leukocyte-reduced packed cells (LPC) will be issued for Emergency Red Cell requests until the patient's blood type is confirmed with a current specimen.

1. O Negative LPC will be issued for Females ≤ 50 years old and males ≤ 13 years old.
2. O Positive LPC will be issued for Females > 50 years old and males > 13 years old.
3. During O Negative blood shortages, type O Positive LPC will be issued for all.

C. For patients >4 months old, Blood Bank will issue type-specific or type-compatible units for patients

who are not type O upon completion of the ABO/Rh testing and 2nd type or Cerner verification.

- D. For patients > 4 months old, Type Specific Red cells will **NOT** be dispensed until the patient has a current acceptable T&S specimen whose type has been verified. **No Exceptions.**
- E. Emergency uncrossmatched LPCs may be obtained from the facility's Blood Bank at any time.
- F. All uncrossmatched units will be accompanied by the **Emergency (Uncrossmatched Blood) Delivery and Transfusion Record** with the corresponding donor identification numbers (DINs).
 - 1. Type O uncrossmatched units will have yellow "Universal Group" tags attached.
 - 2. Type-specific uncrossmatched units will have red "Type Compatible" tags attached.
- G. Ordering MD must sign the "RISK" box on Emergency Transfusion Record form whenever blood is given before the compatibility testing is completed.
- H. Lifeline may request a unit of uncrossmatched RBCs to take for a NICU transport.
 - 1. The Blood Bank provide 1- O Negative, CMV Negative, Irradiated, fresh as possible LPC.
 - 2. The stocked O Negative, CMV negative, Irradiated unit may be used.
 - 3. The Transport team will provide the patient name and medical record number, if available.
 - 4. They generally will ask for one LPC, but 2 units may be requested.
- I. Riley Hospital Blood Banks will stock one unit of O Negative CMV negative LPC ≤ 14 days old in the laboratory for emergency use for Pediatric patients.
- J. When a request is made to activate the MTP, blood bank staff will immediately begin SOP [Massive Transfusion Protocol](#).
- K. If liquid plasma is not available in the Blood Bank, then replace with thawed plasma until liquid plasma becomes available.
- L. Low Titer O Whole Blood Policies
 - 1. Methodist and Riley Emergency Room blood refrigerators will store uncrossmatched LTOWB as inventory allows. This product is intended for emergency use in trauma patients.
 - i. When LTOWB units are not available in inventory, blood bank will substitute with LPC and LP units.
 - ii. Riley emergency room will only store O Neg LTOWB units.
 - iii. Methodist emergency room will store both O Pos and O Neg LTOWB units as inventory allows.
 - 2. LTOWB units will not be available for Lifeline.
 - 3. LTOWB is not an orderable product in Cerner and will not be issued to patients directly from blood bank. This product is only available as an emergency uncrossmatched unit from the Emergency Rooms.
 - 4. Adult patients should not be transfused more than 4 units of LTOWB.
 - 5. Pediatric patients should not be transfused more than 40 mL/kg of LTOWB.
- M. Refer to Job Aid: BBCP-JA 014 [Emergency Cell Locations & Requirements](#).
- N. Refer to Standard Work Red Blood Cells for Organ Ox for any Emergency Release for Organ Ox use at IUH AHC Blood Bank. Follow instructions in **Attachment 5**.

IV. DEFINITIONS

AABB: Association for the Advancement of Blood & Biotherapies

LP: Liquid Plasma

LPC: Leukoreduced Packed Red Cells

LTOWB: Low Titer Group O Whole Blood (Titer < 1:200). This product is leukoreduced.

MTP: Massive Transfusion Protocol

PTS: Pneumatic Tube Station

TP: Thawed Plasma

T & S: Type and Screen

V. EQUIPMENT/RESOURCES

Yellow Tags (Universal Group Uncrossmatched)

Yellow Stickers (Whole Blood)

Utek Cool Packs

Emergency Uncrossmatched Blood Delivery and Transfusion Record

Red Tags (Type Compatible Uncrossmatched)

Hemotemps

Trauma Trays

Bags for ice Coolers

VI. PROCEDURE

A. Clinical Staff Responsibility

1. When a physician orders emergency uncrossmatched LPC/LTOWB or emergency plasma and the units are available in a remote blood refrigerator:
 - a. Collect a pre-transfusion sample for ABO/Rh, IAT, and Crossmatch.
 - i. All transfused RBCs must be crossmatched after transfusion, even when the ordering physician waives pre-transfusion testing. See [Blood Bank Specimen Collection and Identification](#).
 - ii. Inform Blood Bank if the specimen is collected *after* transfusion has begun.
 - b. Retrieve the Emergency Tray of LPC/LTOWB from the refrigerator with the corresponding Emergency (Uncrossmatched) Blood Delivery and Transfusion Record

| If patient is... | ABO/Rh |
|------------------|--------|
|------------------|--------|

| | |
|---|------------|
| Female ≤ 50 years old <i>or</i> Male ≤13 years old | O Negative |
| Female 51 or older <i>or</i> Male 14 or older | O Positive |

c. The treating physician must decide whether whole blood (LTOWB) or component therapy (LPC/LP) should be selected for transfusion.

d. Inspect the blood products.

Inform Blood Bank Management and return any units that fail visual inspection.

Blood products should be:

- i. Correct Blood Type
- ii. Not expired
- iii. Between 1 and 6 °C
- iv. Not leaking or previously spiked
- v. Normal in color (discoloration may indicate bacterial contamination).

e. **METHODIST ER** and **LIFELINE**: Record on SIGN-OUT Sheet:

- i. Date and Time blood removed from refrigerator.
- ii. Blood Temperature and Inspection result
- iii. ER only: Circle blood type of blood removed (O POS , O NEG, or TP). When LTOWB is used, *handwrite* WB next to the blood type.
- iv. Lifeline only: Indicate # of units
- v. Personnel removing LPC/LTOWB
- vi. Patient name and MRN. A Clinic/Bedside Label from Cerner may be used.

f. If blood will not be infused immediately, pack into a cooler sandwiched between cool packs. If all of the supplies are not available, then the LPC/LTOWB should remain in the refrigerator until ready for transfusion.

- i. Place 3 Utek cool packs on cooler bottom.
- ii. Place blood unit(s) on top of Utek cool pack layer.
- iii. Place 3 Utek cool packs on top of LPC/LTOWB layer.
- iv. Obtain a salmon-colored Cooler Expiration card and document the time that LPC/LTOWB must be infused or returned to refrigeration.
 1. 4 hours after LPC/LTOWB removed from refrigerator for hospitals,
 2. 8 hours for Lifeline.

g. Documentation: "Emergency (Uncrossmatched) Blood Delivery and Transfusion Record" form.

- i. Document Patient Name and MRN (Clinic or Bedside label is acceptable).

- ii. Complete the Order Information. Document:
 - 1. The name of the physician who ordered the transfusion.
 - 2. The name of the individual who received the order from the physician.
 - 3. The date and time that the transfusion was ordered.
 - 4. The medical indication for emergency transfusion.
 - 5. If known, the estimated blood loss and if the patient showed symptoms of hypovolemia.
 - 6. List the cooler number, temperature, and the 4 hour expiration date and time (if cooler was used).

- iii. The transfusion RN must fill in the order/transfusion information:
 - 1. Time transfusion started.
 - 2. Signature of Transfusionist
 - 3. Time transfusion stopped.
 - 4. Amt (Amount) Given: "ALL", the actual volume administered measured by an infusion pump, or an estimate (half, 1/4, etc.) are acceptable
 - 5. Was there evidence of a TRF (Transfusion) Reaction? Y or N.
 - 6. If the patient is moved to surgery or another ward before the transfusion is complete, receiving RN will finish remaining transfusion documentation.

- iv. Ordering Physician **MUST** sign the risk statement on "Emergency (Uncrossmatched) Blood Delivery and Transfusion Record" document.

- h. Top White copy of "Emergency (Uncrossmatched) Blood Delivery and Transfusion Record" document stays on the patient's chart.
- i. Deliver the yellow copy of the Emergency Transfusion Record to facility's Blood Bank along with any unused units in a cooler.
- j. If no blood was used, return blood to the refrigerator. **METHODIST ER:** complete documentation on the Sign- Out Form:
 - i. Record the date and time the units were returned to the refrigerator.
 - ii. Re-inspect units (see Section A.1.d. **EXCEPTION:** acceptable temperature is 1-10 °C) and document temperature and visual inspection results.
 - iii. Check the box indicating that all units were returned.
 - iv. If any of the units cannot be returned to the refrigerator, then deliver the units to the Blood Bank.
 - v. Initial or sign the form.

- 2. To order Emergency Uncrossmatched LPCs from the Blood Bank
 - a. Notify the Blood Bank for the facility and state the patient name and Medical Record Number (MRN), location, and how blood is to be sent. LTOWB will not be issued from the hospital blood bank.
 - b. Follow ordering protocol in Cerner for Urgent Request for Blood.

- B. Blood Bank Responsibilities
 - 1. Clinical team will enter orders into Cerner.

- a. Emergent order requisition will be available to the blood bank.
 - b. The Blood Bank will follow the Result Entry procedure to verify the order.
 - c. This step may be completed after blood products are available to the clinical team.
2. Prepare Emergency **LPC/Plasma** for urgent requests or to replace stock units: Emergency LPC/Plasma may be prepared in advance and stored in the blood bank refrigerators.
- a. Select LPC/Plasma for the desired location following the policy statements of this procedure.
 - b. Inspect the blood products. Confirm LPC/Plasma units are:
 - i. Correct Blood Type
 - ii. Not expired.
 - iii. Not leaking or previously spiked.
 - iv. Normal in color

If LPC/Plasma units fail inspection, quarantine them in Cerner, place them in the Quarantine refrigerator, and inform management.
 - c. Document on the Emergency Transfusion Form:
 - i. If known, document the date, time ward, name of the individual who made the request, patient's name, and MRN.
 - 1. See **Attachment 1**: Emergency Uncrossmatched Blood Delivery and Transfusion Record-LPC and **Attachment 2**: Emergency Uncrossmatched Blood Delivery and Transfusion Record-Plasma.
 - 2. When preparing LPC/Plasma to stock in ward refrigerators, leave this section blank.
 - ii. Check the boxes associated with the product characteristics: Blood Type, Irradiated, CMV Neg, and/or Leukocyte Reduced.
 - iii. For Locations with special instructions/outdate, document at the top of the Emergency Transfusion Form, as appropriate:
 - 1. **RILEY LPC (includes Riley ER)**: "Replace by" with the date that is 14 days from the LPC collection date.
 - 2. **METHODIST ER LPC**: There are two total trauma trays, one each O Pos and O Neg. At the top of each form, write "O Pos" or "O Neg". Units can be used up until expiration date.
 - 3. **METHODIST OR**: "Surgery O Negs". Units can be used up until expiration date.
 - 4. **LIFELINE**: The name of the LifeLine crew that the emergency units are being sent. Use "Lifeline NICU" for NICU Transport.
 - 5. **All other locations**: No additional documentation
 - 6. **Plasma outdate by location**:
 - i. **ALLTP**: "Replace by" and the date that is the day before outdating (e.g. if product outdates on 10/30, the replacement date is 10/29).

- ii. **ALL LP:** "Replace by" and the date that is the day before outdating (e.g. if product outdates on 10/30, the replacement date is 10/29).
 - iv. Place a barcoded DIN label from each component on each copy of the Emergency Transfusion Form.
 - 1. On the white copy, document each component's expiration date and product code. If barcoded DIN label is not available, the DIN can be written by hand.
 - 2. **See Attachment 1:** Emergency Uncrossmatched Blood Delivery and Transfusion Record-LPC and **Attachment 2:** Emergency Uncrossmatched Blood Delivery and Transfusion Record-Plasma
 - v. Initial the Visual Inspection box for each product line on the form indicating that all components were inspected and found to be acceptable.
 - vi. Add Hemotemp indicator to each unit for stocked units and units released emergently.
 - vii. Complete Cerner Documentation
 - 1. In Cerner, transfer the units to the location where units are being sent following [Procedure: Transfer Products](#) .
 - 2. Attach print out of the transfer with the Emergency Paperwork maintained in the Blood Bank.
 - 3. *This step may be completed after release of the unit, as to not slow down the release urgent release of blood.*
 - viii. Labeling for LPC only:
 - 1. Attach a Yellow (Universal Donor) or Red (Type Specific) Emergency Release tag to each LPC. (Attachment 3: Universal Group/Type Compatible Uncrossmatched Tags)
 - 2. If applicable,
 - i. Check the box indicating O POS or O NEG.
 - ii. Record the patient's name and MRN. The name and MRN will be left blank for stock in ward refrigerators.
3. Prepare LTOWB for restock only in Methodist and Riley Emergency Departments.
 - a. Select LTOWB for the desired location following the policy statements of this procedure.
 - b. Inspect the blood products. Confirm LTOWB units are:
 - i. Correct Blood Type
 - ii. Not expired.
 - iii. Not leaking or previously spiked.
 - iv. Normal in color
 - 1. If LTOWB units fail inspection, quarantine them in Cerner.
 - 2. Place them in the Quarantine refrigerator and inform management.
 - c. Document on the Emergency Transfusion Form:
 - i. Document the location of the LTOWB.
 - ii. Check the boxes associated with the product characteristics: Blood Type, Irradiated, CMV Neg, and/or Leukocyte Reduced.
 - iii. For Locations with special instructions, document at the top of the Emergency Transfusion Form, as appropriate:

1. **RILEY ER LTOWB:** "Replace by" 14 days from collection date of unit. Stock with a maximum of (3) O Neg units of LTOWB. ***NO O Pos products will be stored in this refrigerator.***
 2. **METHODIST ER LTOWB:** Stock with a maximum of 8 units LTOWB with a combination of O Pos and O Neg based on inventory. Preferably 4 "O Pos" and 4 "O Neg".
 - i. If 4 "O Neg" LTOWB units are not available, substitute "O Pos" LTOWB as needed for a total of 8 LTOWB units.
 - ii. If 8 LTOWB units are not available, substitute with LPC/Plasma units as needed.
 - iv. Place a barcoded DIN label from each component on each copy of the Emergency Transfusion Form.
 1. On the white copy, document each component's expiration date and product code. If barcoded DIN label is not available, the DIN can be written by hand.
 2. See Attachment 4: Emergency Uncrossmatched Blood Delivery and Transfusion Record-LTOWB)
 - v. Initial the Visual Inspection box for each product line on the form indicating that all components were inspected and found to be acceptable.
 - vi. LTOWB only:
 1. Attach a Yellow (Universal Donor) Emergency Release tag to each unit.
 2. Check the box indicating O POS or O NEG.
 3. Apply a yellow "whole blood" sticker to the product and the white copy of the Emergency Transfusion Record.
 4. The name and MRN will be left blank for stock in ward refrigerators, **see Attachment 4.**
 5. For stock units in ward refrigerators:
 - i. Attach a Hemotemp indicator to the face of the unit.
 - ii. In Cerner, transfer the units to the location where units are being sent following [Procedure: Transfer Products](#) .
 - iii. Attach a printout from Cerner showing where the units were sent to.
 - iv. Maintain the printout with the Emergency Paperwork in the Blood Bank.
4. Send Products (Emergency Release Products Only)
- a. By Cooler:
 - i. Select a cooler and document cooler ID on Emergency Transfusion Record.
 - ii. Prepare the cooler following [Transport Cooler Management – Wet Ice](#) or [Transport Cooler Management – Utek Cool Pak](#) .
 - iii. Complete the BB Staff section of the Cooler/Box Sign Out Log, including Date, Time Ready, Expire Time, Box/Cooler #, Patient's Name, Destination, and your initials.
 - iv. Remove pink copy of Emergency Transfusion Record and send white and yellow copies with blood products.
 - b. Personnel picking up cooler: document initials, and time cooler was picked up on the cooler sign out log. This may also be BB staff if applicable. By PTS:
 - i. If blood is sent via PTS, write "sent to tube station #_" on Accession # line.
 - ii. Remove pink copy of Emergency Transfusion Record and leave white and yellow copies with blood products.
 - iii. Send blood along with the White/Yellow copies of Emergency Transfusion Record to the corresponding ward.

- iv. When replacing Emergency cells, call the ward Charge RN on duty to inform that the replacement Emergency Cells are being sent by PTS and confirm tube station number.
 - 1. The emergency cell replacements can also be walked to the remote refrigerator location by a blood bank team member.
 - c. For Emergency Release via Cooler or PTS, after released transfer the units in Cerner to the location/device where units are being sent following [Procedure: Transfer Products](#) .
 - i. Attach a printout from Cerner showing where the units were sent to.
 - ii. Maintain the printout with the Emergency Paperwork in the Blood Bank.
5. When the specimen is received, as time allows, ABO/Rh, IAT, and crossmatch of all units issued will be completed.
- a. Emergency Plasma can be dispensed with a historical ABO/Rh and does not require a current type/screen.
 - b. If IAT is negative:
 - i. Complete eXMs of all LPCs issued following [Routine Crossmatch](#).
 - ii. Dispense the unit in Cerner following [Procedure: Dispense and Assign Products](#). Use the backdate function to enter the actual dispense time.
 - iii. Remove and discard the back copy of the Dispense Slip.
 - iv. When the yellow copy of the Emergency Transfusion Record is returned from the ward, locate and discard the corresponding pink copy.
 - v. File the yellow Emergency Transfusion Record and Dispense Slip with Supervisory Review documents for management review.
 - c. If IAT is positive or patient has history of clinically significant alloantibody:
 - i. Notify the nurse taking care of that patient of the Critical Value and document following [Critical Values](#). As part of that notification, state that the BB will continue to issue emergency cells as the MD requests.
 - ii. If a clinically significant antibody is identified, provide antigen negative units as soon as possible after Emergent bleeding is controlled.
 - iii. Complete AHG crossmatch of all units issued following [Procedure: Full Crossmatch](#). Notify the Blood Bank Medical Director on call immediately whenever incompatible LPC have been transfused.
 - iv. Dispense the units in Cerner following [Procedure: Dispense and Assign Products](#). Use the backdate function to enter the actual dispense time.
 - d. If no specimen is received due to expiration of the patient, the emergency cells will be dispensed using the "overrides" and a comment "No patient specimen received".
 - e. If LTOWB is used, crossmatch in Cerner should **NOT** be performed, rather assign/dispense using the "overrides" and comment reason "Emergency."
- C. When any products are returned
- a. BB Tech will perform visual inspection and initial appropriate return squares of Visual Inspection box on yellow copy.
 - b. Use Cerner to document return of the units. This step allows the units to be available for another patient.
 - i. If the units were dispensed, then use the [Return Products](#) to put any acceptable units back into Inventory. In addition, use the [Procedure: Transfer Products](#) procedure to move the units back to the Blood Bank Inventory.

- ii. Alternately, if the units were not dispensed to the patient, then only use the [Procedure: Transfer Products](#) procedure to transfer the units back to the Blood Bank.
- c. All unused LTOWB units from Riley ER that are returned and acceptable, transfer the units physically and in Cerner to Methodist blood bank to be used until expiration.

D. Blood Bank Management Review:

- 1. The purpose of BB management review is to ensure all DINs have been correctly dispensed, returned or transferred back into inventory.
- 2. Ensure that physician has signed Form [Emergency \(Uncrossmatched\) Blood Delivery and Transfusion Record](#) .
 - a. If physician has not signed, then an order may be placed in PowerChart for the physician to electronically sign.
 - b. Physician signature is not required if only plasma was transfused.
- 3. File completed forms.

VII. CLINICAL SIGNIFICANCE/SPECIAL CONSIDERATIONS

None

VIII. REFERENCES

AABB Technical Manual, current edition.

AABB Standards, current edition.

Quality System, IU Health.

IX. FORMS/APPENDICES

JOB AIDS:

[Map to Riley Emergency Room](#)

[Map to Riley Tower 4W \(NICU\)](#)

[Map to Riley Tower Surgery - 2 East](#)

[RM 2644](#)

[Emergency Cell Locations & Requirements](#)

FORMS:

[Emergency \(Uncrossmatched\) Blood Delivery and Transfusion Record](#)

[Uncrossmatched LPC Sign-Out Form](#)

[Lifeline Procedure - Sign Out - Transport Coolers](#)

[Form: Cooler/Box Sign Out Log](#)

ATTACHMENTS:

Attachment 1: Emergency (Uncrossmatched) Blood Delivery and Transfusion Record – LPC

Attachment 2: Emergency (Uncrossmatched) Blood Delivery and Transfusion Record – LP/TP

Attachment 3: Universal Group/Type Compatible Uncrossmatched Tags

Attachment 4: Emergency (Uncrossmatched) Blood Delivery and Transfusion Record – LTOWB

Attachment 5: Standard Work for Blood for OrganOx

X. APPROVAL BODY

None

PROCEDURE #

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