

**Emergency Blood Product Release  
Department of Clinical Laboratories  
The Ohio State University Wexner Medical Center**

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<b>*Approval and Acknowledgements*</b>
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**1. POLICY**

- 1.1. The Transfusion Service has instituted this policy to address the use of blood and/or blood components for transfusion in emergency situations when either blood components are needed immediately due to a trauma/life threatening situation or a patient's specimen does not have complete testing performed.

**2. PURPOSE OF DOCUMENT**

- 2.1. Emergency blood release may occur when:
- 2.1.1. The Massive Transfusion Protocol is implemented.
  - 2.1.2. Red blood cells stored in the remote refrigerators in the Operating Rooms and the Emergency Department (trauma units) are needed.
  - 2.1.3. No current specimen is available: STAT request for uncrossmatched red blood cells.
  - 2.1.4. A current specimen is available: ABO/Rh(D) typing is completed, antibody screen and crossmatch are not complete - STAT request for uncrossmatched red blood cells.
  - 2.1.5. A current specimen is available: ABO/Rh(D) typing and antibody screen completed but red blood cells have not been crossmatched – STAT request for red blood cells.
  - 2.1.6. A current specimen is available: ABO/Rh(D) typing and antibody screen completed but serological problems(s) have not been resolved – STAT request for red blood cells.
  - 2.1.7. No current specimen is available: STAT request for plasma products.
  - 2.1.8. No current specimen is available: STAT request for platelets and cryoprecipitate.
- 2.2. Crossmatch testing is performed on all red blood cell units that are transfused; therefore when greater than 8 units of red blood cells are transfused within a 12 hour period or the patient has received an amount of blood approximating the total blood volume those units would also be crossmatched.

**3. SCOPE OF DOCUMENT**

- 3.1. This procedure applies to all personnel working in the Transfusion Service.

**4. RESPONSIBILITY**

- 4.1. It is the responsibility of the Medical Director, Transfusion Service to:
- 4.1.1. Establish a process for issuing blood and blood components in an emergency situation.
- 4.2. It is the responsibility of the Compliance Officer, Transfusion Service to:
- 4.2.1. Monitor for changes in the regulatory standards.
  - 4.2.2. Propose any necessary changes to the process.
  - 4.2.3. Compile all reported deviations from the process for follow up by appropriate personnel.
- 4.3. It is the responsibility of the Manager and Lead Technologists, Transfusion Service to:
- 4.3.1. Write the procedure for issuing blood and blood components in an emergency situation.
  - 4.3.2. Ensure the procedure is followed as written.
- 4.4. It is the responsibility of all Transfusion Service personnel to:
- 4.4.1. Follow the procedure as written.

**5. PROCESS**

- 5.1. **Massive Transfusion Protocol (MTP)**

**REFER TO ATTACHMENTS 1 and 2 FOLLOWING THE PROCEDURE**

- 5.1.1. When a call is received to activate the MTP, document the following on the MTP log:
- a. Patient's complete name
  - b. Patient's medical record number
  - c. Gender and age (if known)
  - d. Name of physician initiating the MTP
  - e. Patient's location
- 5.1.2. Remind the physician/caller that a Blood and Blood Component Order Form must be completed, signed by the physician (or other approved clinical practitioner) and sent to the Transfusion Service as soon as possible. They can also place the order thru IHIS by ordering an "Initiate Massive Transfusion Protocol".

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- a. **DO NOT DELAY TRANSFUSION FOR ANY REASON INCLUDING NO CURRENT SAMPLE, NO WRITTEN ORDER OR PATIENT ANTIBODIES.**
- 5.1.3. At OSUWMC, four units of red blood cells and four units of thawed plasma are sent in a large Igloo style cooler when the MTP is implemented.
- a. At OSUWMC, a platelet component (dependent on inventory) is provided with the first cooler. Subsequent platelet components will only be provided upon request.
  - b. At OSUWMC, if the patient's name is "TRAUMA" a platelet component must be issued with each cooler.
- 5.1.4. At UHE, only two units of red blood cells and two units of thawed plasma are sent.
- a. At UHE, a platelet component will be provided, upon request.
  - b. Refer to Attachment 2 following the procedure.
- 5.1.5. Look up the patient's history in the Laboratory Information System (LIS).
- a. Determine if the patient has any relevant comments or special attribute requirements like irradiated or CMV negative products.
  - b. If the patient has CMV negative in their history, this can be IMMEDIATELY waived for an MTP.
    - i. Remove CMV Negative requirement from the patient's BAD and add a comment to add CMV negative back in when MTP is over.
    - ii. Notify the pathologist and complete a Release From Standard Procedure form when time permits
  - c. If the patient has irradiated in their history, at least the first 4 red cells provided should be irradiated.
    - i. Determine if the patient could potentially require several rounds of the MTP. If multiple products are going to be required the irradiation requirement can be removed.
    - ii. The irradiated attribute may be removed from the BAD if the patient is expected to take large amounts of red cells.
    - iii. Enter a comment in the BAD stating that the irradiated attribute needs put back in when the MTP is over.
    - iv. Notify the pathologist and complete a Release From Standard Procedure form when time permits
- 5.1.6. Use the following situations to determine the type of product to be given:
- a. **If the patient has a current specimen, AND THAT PATIENT IS ELIGIBLE FOR ELECTRONIC CROSSMATCH (ECMPs):**
    - i. Then ECMP ABO/Rh(D) compatible red blood cells should be used in place of the uncrossmatched group O red blood cells.
    - ii. Any ABO compatible thawed plasma may be used in these cases.
  - b. **If the patient has a current specimen but the antibody screen is positive:**
    - i. Issue any previously crossmatched units first, if available.
    - ii. Notify the pathologist when time permits when there is no time to complete the serological crossmatch, if antigen negative units are not available, or if the patient has an auto-antibody that is demonstrable.
      - **DO NOT DELAY TRANSFUSION FOR A POSITIVE ANTIBODY SCREEN**
    - iii. Select the oldest ABO/Rh(D) compatible red blood cells that are antigen negative, when available, for all allo-antibodies that have been identified.
      - Place an "Uncrossmatched" sticker on each unit of red blood cells.
      - Remove a segment (which includes the complete segment number) from each red blood cell unit for crossmatching (and antigen typing, if needed).
      - Place the segment in a 12 x75 mm test tube labeled with
        - Donor Identification Number

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- Indicate the appropriate component code when using apheresis products
  - iv. Select the oldest ABO compatible thawed plasma.
  - v. Allocate the components under the appropriate accession number (red cells under the XM/XME, thawed plasma under the TFFP, platelet components under the TPLT, and cryoprecipitate under the TCRY).
    - **When time does not permit allocating the units in the computer, prepare the crossmatch tags as in Preparation and Replacement of Emergency Release Blood Components.**
    - For red cells, leaving the crossmatch test results grid blank, enter “UXM” (Issued uncrossmatched at the request of physician) in the **Interp** box and click “Apply”.
    - Enter the transfusion status in the **TS** box by using the right bracket (]) to result it as “OK”. A technical override will be required.
      - The override code **XMNC** may be used.
    - Stamp each copy of the crossmatch tag with “Crossmatch Not Done”.
    - Refer to Allocation of Blood Components for Transfusion.
    - Refer to Blood Order Processing.
  - vi. Perform a Technical Label Check prior to the products being sent to the floor to ensure that the crossmatch tags are completed correctly and the units are labeled appropriately.
    - Refer to Allocation of Blood Components for Transfusion.
  - vii. Issue the units using “Emergency Release” in the laboratory computer system, if time permits, and place the tagged ABO/Rh(D) compatible, uncrossmatched red blood cell units and the thawed plasma in the MTP cooler. Document in the TIC shipment log.
    - Type “MTP” when the product is being issued in the laboratory computer system and the courier isn’t currently at the blood bank (where the badge is usually scanned).
    - Refer to Blood Product Issue.
    - Refer to Use of Igloo Coolers.
  - viii. Perform an appropriate serological crossmatch and antigen typing (when necessary) using the retained segments on any uncrossmatched red blood cell units that were issued.
    - Refer to Crossmatch
  - ix. Give the cooler to the courier.
  - x. Prepare the next MTP pack by following steps 5.1.5.b.i – 5.1.5.b.viii above.
  - xi. Perform step 5.3.19 when there is not sufficient specimen to crossmatch units released uncrossmatched and a second specimen cannot be collected.
- c. **If the patient DOES NOT have a current specimen:**
  - i. **DO NOT DELAY PROVIDING THE UNCROSSMATCHED RED BLOOD CELLS AND THAWED PLASMA FOR ANY REASON INCLUDING NO CURRENT SAMPLE, NO WRITTEN ORDER OR PATIENT ANTIBODIES.**
  - ii. Remind the physician and/or caregiver that a type and crossmatch specimen should be collected prior to transfusion and sent to the Transfusion Service as soon as possible.
  - iii. Immediately check the patient’s history in the laboratory computer system.
    - If the patient has an allo or auto antibody, continue to prepare uncrossmatched units selecting antigen negative units, when available.
    - Notify the pathologist when time permits.
  - iv. Group O red blood cells and AB thawed plasma must be issued until an ABO/Rh(D) type is completed on a current specimen, regardless of the patient’s historical blood type or antibody history.

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- v. The first uncrossmatched red blood cells may be either O Rh(D) negative or in certain cases O Rh(D) positive:
  - If the patient is a male of any age, or a female 51 years of age or greater, O Rh(D) positive red blood cells should be used during the MTP. Notify the pathologist, when time permits, of the switch to Rh(D) positive red blood cells if the patient types as Rh(D) negative.
  - If the patient is a female who is 50 years of age or younger and is Rh(D) negative and massively bleeding, provide O Rh(D) positive red blood cells only until the emergent situation has ceased, then switch back to Rh(D) negative red blood cells. If the patient is not massively bleeding, provide Rh(D) negative red blood cells. The switch to Rh(D) positive red blood cells should be made as early as possible in the MTP and requires permission from the pathologist or the MTP physician. If unable to contact the pathologist, follow up with them as soon as possible.
- vi. Order a XM/XME, if one isn't already ordered. Other component accessions (TFFP, TCRY and TPLT or UHE specific codes) should also be ordered at this time in case other blood components are requested.
  - Refer to Order Entry.
- vii. Select the oldest group O red blood cell units in the inventory. Refer to step 5.1.5.c.v above to determine if Rh(D) positive or Rh(D) negative cells are to be used.
  - Place an "Uncrossmatched" sticker on each unit of red blood cells.
  - Remove a segment from each red blood cell unit for crossmatching (and antigen typing, if needed) with the specimen when it arrives.
  - Place the segment in a 12 x 75 mm test tube labeled with:
    - Donor Identification Number
    - Indicate the appropriate component code when using apheresis products
- viii. Select the oldest group AB thawed plasma.
- ix. Allocate the components under the appropriate accession number (red cells under the XM/XME, thawed plasma under the TFFP, platelet components under the TPLT, and cryoprecipitate under the TCRY)
  - **When time does not permit allocating the units in the computer, prepare the crossmatch tags as in Preparation and Replacement of Emergency Release Blood Components.**
  - For red cells, leaving the crossmatch test results grid blank, enter "UXM" (Issued uncrossmatched at the request of physician) in the **Interp** box and click "Apply".
  - Enter the transfusion status in the **TS** box by using the right bracket (]) to result it as "OK". A technical override will be required.
    - The override code **XMNC** may be used.
- 5.2. Stamp each copy of the crossmatch tag with "Crossmatch Not Done"
- 5.3. Refer to Allocation of Blood Components for Transfusion.
- 5.4. Refer to Blood Order Processing.
- 6. Perform a Technical Label Check prior to the products being sent to the floor to ensure that the crossmatch tags are completed correctly and the units are labeled appropriately.
  - Refer to Allocation of Blood Components for Transfusion.
- xi. Issue the units using "Emergency Release" in the laboratory computer system, if time permits, and place the tagged group O uncrossmatched red blood cell units and AB thawed plasma units in the MTP cooler. Document on the TIC Shipment Log.
  - Type "MTP" when the product is being issued in the laboratory computer system and the courier isn't currently at the blood bank (where the badge is usually scanned).
  - Refer to Blood Product Issue.
  - Refer to Use of Igloo coolers.

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- xii. Maintain proper identification of the blood components being used by:
  - Segregating the middle copies of the crossmatch tags until the emergent situation is over.
  - Keeping retained segments for crossmatching (and antigen typing, if needed) together labeled with the patient's name and medical record number and then with the sample after it arrives at the Transfusion Service.
- xiii. Give the cooler to the courier.
- xiv. Prepare the next MTP Pack by repeating steps 5.1.5.c.vii – 5.1.5.c.xiii.
  - **Refer to Attachment 2 following the procedure to determine how many and what type of blood components are prepared for the next set of blood components for the MTP.**
- xv. Perform the above steps repeatedly until ABO/Rh(D) compatible red blood cells and ABO compatible thawed plasma can be provided.
  - If there is difficulty in obtaining a patient specimen and eight units of AB thawed plasma have been issued, contact the pathologist and explain the situation. The switch to group A thawed plasma can be made by the pathologist depending on the situation. This is to avoid depleting our AB thawed plasma inventory.
- xvi. Continue to periodically request a type and crossmatch specimen if one has not been received. Contact the pathologist if help is needed in obtaining a specimen from the unit.
- xvii. Continue providing group O uncrossmatched red blood cells, ABO/Rh(D) compatible uncrossmatched red blood cells, or ABO/Rh(D) compatible crossmatched red blood cell units (when possible) and other blood components as needed until the MTP is cancelled.
- xviii. Contact the pathologist to confirm if the MTP is still active when the number of blood components being requested has subsided and the physician who initiated the MTP has not called to cancel the MTP.
- xix. Continue requesting the Blood and Blood Component Order Form until one is received.
- xx. Refer to step 5.3.17 below once a specimen is received and serological testing is complete.
- xxi. Refer to step 5.3.18 below if a specimen is never received.

**5.2. Use of the Emergency Release Group O uncrossmatched red blood cells stored in remote refrigerators:**

5.2.1. The Emergency Department or Operating Room is to perform the following:

- a. Immediately notify the Transfusion Service each time the O negative uncrossmatched red blood cells are transfused.
- b. Document the following on the crossmatch tags prior to transfusing the O negative uncrossmatched red blood cell units:
  - i. Patient's complete name
  - ii. Patient's medical record number
  - iii. The date and time the units were transfused
- c. Return the middle copy of the crossmatch tags to the Transfusion Service.
- d. Complete the patient information section of the Blood and Blood Component Order form with the following:
  - i. Patient's complete name
  - ii. Patient's medical record number
- e. Complete the emergency release section of the Blood and Blood Component Order form with the following:
  - i. Date and time
  - ii. Physician's name (printed)
  - iii. Physician's signature

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- f. Fax, send via the tube system, or hand deliver the Blood and Blood Component Order form to the Transfusion Service as soon as possible.
  - g. If the patient is not current, collect a specimen on the patient as soon as possible and send it to the Transfusion Service so ABO/Rh(D) compatible blood components and crossmatch compatible red blood cell units can be provided.
- 5.2.2. The Transfusion Service personnel will:
- a. Immediately order a XM/XME in the laboratory computer system, if one isn't already ordered.
    - i. When there is a specimen being processed on the patient, allocate the units to the patient using that accession number.
    - ii. When there is a current specimen, allocate the units to that accession number.
    - iii. Refer to Allocation of Blood Components for Transfusion and Blood Order Processing.
      - For red cells, leaving the crossmatch test results grid blank, enter "UXM" (Issued uncrossmatched at the request of physician) in the **Interp** box and click "Apply".
      - Enter the transfusion status in the **TS** box by using the right bracket (]) to result it as "OK". A technical override will be required.
        - The override code **XMNC** may be used
  - b. Issue the O Rh(D) negative uncrossmatched red blood cell units using "Emergency Release" in the laboratory computer system when it's been confirmed the patient has been transfused the units stored in the remote refrigerators.
    - i. Type "UXM" (Issued uncrossmatched at the request of physician) in the issuing comment area (where the badge is usually scanned).
    - ii. Refer to Blood Product Issue.
  - c. Provide additional group O uncrossmatched red blood cell units until the patient's specimen arrives and/or ABO/Rh(D) compatible red blood cells can be provided. If the patient ***is not*** massively bleeding, continue to provide O Rh(D) negative uncrossmatched red blood cells. If the patient ***is*** massively bleeding, use the following guidelines to determine the appropriate red blood cells to provide:
    - i. If the patient is a male of any age, or a female 51 years of age or greater, O Rh(D) positive red blood cells should be used. Notify the pathologist when time permits of the switch to Rh(D) positive red blood cells if the patient types as Rh(D) negative.
    - ii. If the patient is a female who is 50 years of age or younger and is Rh(D) negative and massively bleeding, provide O Rh(D) positive red blood cells only until the emergent situation has ceased, then switch back to Rh(D) negative red blood cells. If the patient is not massively bleeding, provide Rh(D) negative red blood cells. The switch to Rh(D) positive red blood cells should be made as early as possible and requires permission from the pathologist or the physician requesting the uncrossmatched red cells. If unable to contact the pathologist, follow up with them as soon as possible.
  - d. Ensure that all O Rh(D) negative (or Rh(D) positive) uncrossmatched red blood cell units are crossmatched with the patient's specimen when received and/or testing is completed.
    - i. Refer to step 5.3.17 for how to handle crossmatch resulting.
    - ii. Refer to 5.3.18 if a specimen is never received.
- 5.3. **Stat request for uncrossmatched red blood cells (no current specimen available):**
- 5.3.1 Obtain the following information:
- a. Patient's complete name
  - b. Patient's medical record number
  - c. Gender and age (if known)
  - d. Name of physician requesting uncrossmatched red blood cells
  - e. Number of uncrossmatched red blood cells and other blood components needed
- 5.3.2 Request a Blood and Blood Component Order Form be completed, signed by the physician (or other approved clinical practitioner) and sent to the Transfusion Service as soon as possible.

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- ix. DO NOT DELAY TRANSFUSION FOR ANY REASON INCLUDING NO CURRENT SAMPLE, NO WRITTEN ORDER OR PATIENT ANTIBODIES.**
- a. Continue to periodically request the Blood and Blood Component Order Form until it is obtained.
- 5.3.3 Remind the physician and/or caregiver that a type and crossmatch specimen should be collected prior to transfusion and sent to the Transfusion Service as soon as possible.
- 5.3.4 Immediately check the patient's history in the laboratory computer system.
- a. If the patient has an allo or auto antibody, continue to prepare uncrossmatched units selecting antigen negative units, when available.
  - b. Notify the pathologist when time permits.
- 5.3.5 Group O red blood cells and AB thawed plasma must be issued until an ABO/Rh(D) type is completed on a current specimen, regardless of the patient's historical blood type or antibody history.
- 5.3.6 The first uncrossmatched red blood cells may be either O Rh(D) negative or in certain cases O Rh(D) positive.
- a. If the patient is a male of any age, or a female 51 years of age or greater, O Rh(D) positive red blood cells should be used. Notify the pathologist, when time permits, of the switch to Rh(D) positive red blood cells if the patient types as Rh(D) negative.
  - b. If the patient is a female who is 50 years of age or younger and is Rh(D) negative and massively bleeding, provide O Rh(D) positive red blood cells only until the emergent situation has ceased, then switch back to Rh(D) negative red blood cells. If the patient is not massively bleeding, provide Rh(D) negative red blood cells. The switch to Rh(D) positive red blood cells should be made as early as possible and requires permission from the pathologist or the physician requesting the uncrossmatched red cells. If unable to contact the pathologist, follow up with them as soon as possible.
- 5.3.7 Order a XM/XME, if one isn't already ordered. Other component accessions (TFFP, TCRY and TPLT or UHE specific codes) should also be ordered at this time in case other blood components are requested.
- a. Refer to Order Entry
- 5.3.8 Select the oldest group O red blood cell units in the inventory. Refer to step 5.3.6 above to determine if Rh(D) positive or Rh(D) negative cells are to be used.
- a. Place an "Uncrossmatched" sticker on each units of red blood cells.
  - b. Remove a segment from each red blood cell unit for crossmatching (and antigen typing, if needed) with the specimen when it arrives.
    - i. Place the segment in a 12 x 75 mm test tube labeled with:
      - Donor Identification Number
      - Indicate the appropriate component code when using apheresis products
- 5.3.9 Allocate the components under the appropriate accession number (red cells under the XM/XME, thawed plasma under the TFFP, platelet components under the TPLT, and cryoprecipitate under the TCRY).
- a. **When time does not permit allocating the units in the computer, prepare the crossmatch tags as in Preparation and Replacement of Emergency Release Blood Components.**
  - b. For red cells, leaving the crossmatch test results grid blank, enter "UXM" (Issued uncrossmatched at the request of physician) in the **Interp** box and click "Apply".
  - c. Enter the transfusion status in the **TS** box by using the right bracket (]) to result it as "OK". A technical override will be required.
    - i. The override code **XMNC** may be used.
  - d. Stamp each crossmatch tag with "Crossmatch Not Done".
  - e. Refer to Allocation of Blood Components for Transfusion.
  - f. Refer to Blood Order Processing.
- 5.3.10 Perform a Technical Label Check prior to the products being sent to the floor to ensure that the crossmatch tags are completed correctly and the units are labeled appropriately.
- a. Refer to Allocation of Blood Components for Transfusion.
- 5.3.11 Issue the units using "Emergency Release" in the laboratory computer system.



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- a. After scanning the courier's badge, tab then type "UXM" (Issued uncrossmatched at the request of physician) in the issuing comment area.
  - b. If the courier isn't at the blood bank, type in "UXM" (Issued uncrossmatched at the request of physician) in issuing comment area.
  - c. Refer to Blood Product Issue.
- 5.3.12 If more than two blood components are being sent at one time, prepare a large Igloo style cooler.
- a. No more than four red blood cell units should be sent at one time.
  - b. Refer to Use of Igloo Coolers.
- 5.3.13 Maintain proper identification of the blood components being used by:
- a. Segregating the middle copies of the crossmatch tags until the emergent situation is over.
  - b. Keeping the retained segments for crossmatching together labeled with the patient's name and medical record number and then with the sample after it arrives at the Transfusion Service.
- 5.3.14 Continue to periodically request a type and crossmatch specimen if one has not been received. Explain to the floor that a specimen must be obtained so type ABO/Rh(D) compatible red blood cells and thawed plasma can be transfused.
- a. Contact the pathologist if help is needed in obtaining a specimen from the unit.
- 5.3.15 Process the specimen as soon as it arrives.
- 5.3.16 Continue providing group O red blood cells if there is a problem with the patient's ABO blood typing.
- 5.3.17 **Perform an IS or IS-AHG (when necessary) serological crossmatch with the retained segments on all uncrossmatched red blood cell units that were allocated and/or issued, including units that were transfused from the remote refrigerators, even if the units are ultimately returned to the Transfusion Service.**
- a. Refer to Crossmatch.
  - b. If the units are crossmatch compatible, record the results in the crossmatch test results grid and enter "UXMC" (Issued uncrossmatched at the request of physician, crossmatch compatible after issue) in the **Interp** box and click "Apply".
  - c. If the units are crossmatch incompatible, record the results in the crossmatch test results grid and re-enter "UXM" (Issued uncrossmatched at the request of physician) in the **Intrep** box and click "Apply".
    - i. Notify the pathologist immediately if any clerical or serological issue (positive antibody screen, incompatible crossmatch, etc.) occurs during testing.
    - ii. Add a Blood Bank Comment (BBC) and result Critical Value Notification.
      - Refer to Transfusion Service Critical Values.
  - d. Obtain a second specimen when additional units require a serological crossmatch and the first specimen is used up.
    - i. Perform an IS or IS-AHG (when necessary) serological crossmatch on any red blood cell units that had been issued prior to testing with the second specimen if they had not already been tested.
    - ii. Refer to step 5.3.19 if a second specimen cannot be obtained.
- 5.3.18 Perform the following when a specimen is never received for testing:
- a. Enter "ND" (Not Done) in the ABO/Rh(D) test results grid
  - b. Enter "BTND" at the **Interp** box for "Blood Type not Performed".
  - c. Enter "ND" (Not Done) in the Antibody Screen test results grid.
  - d. Enter "TNPX" at the **Interp** box for "Test not Performed".
  - e. Enter "ND" (Not Done) in the crossmatch test results grid.
  - f. Enter "UXM" at the **Interp** box for "Issued uncrossmatched at the request of physician".
  - g. Enter "OK" at the **TS** box to print a crossmatch tag if needed or just to complete the pending status.
  - h. Add a Blood Bank Comment (BBC) stating that a sample was not received.
  - i. Credit the ABO/Rh(D) by ordering test code (semicolon ";;") "CABR", then tab and add (semicolon ";;") 1 for the billing.
  - j. Credit the Antibody Screen by ordering test code (semicolon ";;") "CRAS", then tab and add (semicolon ";;") 1 for the billing.

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- 5.3.19 Perform the following when the first specimen is used up and a second specimen cannot be obtained:
- a. Enter “ND” (Not Done) in the crossmatch test results grid.
  - b. Enter “UXM” at the **Interp** for “Issued uncrossmatched at the request of physician”.
  - c. Enter “OK” at the **TS** box to print a crossmatch tag if needed or just to complete the pending status.
  - d. Add a Blood Bank Comment (BBC) stating that a second sample was not received.
- 5.4. **Stat request for red blood cells and other blood components (current specimen available – ABO/Rh(D) completed but antibody screen and crossmatch not completed)**
- 5.4.1. Follow steps 5.3.1 – 5.3.2.
- 5.4.2. Immediately check the patient’s history in the laboratory computer system.
- a. If the patient has an allo or auto antibody, continue to prepare uncrossmatched units selecting antigen negative units, when available.
  - b. Notify the pathologist when time permits.
- 5.4.3. Select the oldest ABO/Rh(D) compatible red blood cell units in the inventory.
- a. Place an “Uncrossmatched” sticker on each unit of red blood cells.
  - b. Remove a segment from each red blood cell unit for crossmatching with the specimen (and antigen typing, if needed).
    - i. Place the segment in a 12 x 75 mm test tube labeled with:
      - Donor Identification Number
      - Indicate the component code when using apheresis products
- 5.4.4. Follow steps 5.3.9 – 5.3.12.
- 5.4.5. Select other blood components:
- a. ABO compatible thawed plasma units
  - b. Platelet products dependent on the inventory available
  - c. Any ABO/Rh(D) cryoprecipitate
  - d. Issue these products as normal.
    - i. Refer to Blood Product Issue
- 5.4.6. Continue processing the specimen.
- 5.4.7. Perform step 5.3.17 once testing is complete and crossmatches can be performed.
- 5.4.8. Perform step 5.3.19 when there is not sufficient specimen to crossmatch units issued uncrossmatched and a second specimen cannot be collected.
- 5.5. **Stat request for red blood cells and other blood components (current specimen available – ABO/Rh(D) and antibody screen completed but crossmatch not completed)**
- 5.5.1. Follow steps 5.3.1 – 5.3.2
- 5.5.2. Immediately check the patient’s history in the laboratory computer system.
- a. If the patient has an allo or auto antibody, continue to prepare uncrossmatched units selecting antigen negative units, when available.
  - b. Notify the pathologist when time permits.
- 5.5.3. **Patients with negative antibody screen results:**
- a. Select the oldest ABO/Rh(D) compatible red blood cells available.
  - b. Perform an Electronic Crossmatch prior to issue.
    - i. Refer to Review of Orders for Transfusion of Blood Components.
    - ii. Refer to Allocation of Blood Components for Transfusion.
    - iii. Refer to Crossmatch.
    - iv. Refer to Issue and Transfusion of Blood Components.
    - v. Refer to Blood Product Issue.
  - c. **When the laboratory computer system is non-operational and electronic crossmatches cannot be done:**
    - i. Remove a segment from each red blood cell unit for crossmatching.
      - Place the segment in a 12 x 75 mm test tube labeled with:
        - Donor Identification Number
        - Indicate the component code when using apheresis products

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- ii. Perform an Immediate Spin Crossmatch.
    - Refer to Crossmatch
  - d. Selection of non-red blood cell components:
    - i. ABO compatible thawed plasma
    - ii. Platelet products dependent on the inventory available
    - iii. Any ABO/Rh(D) cryoprecipitate
    - iv. Issue these products as normal
      - Refer to Blood Product Issue
- 5.5.4. **Patients with positive antibody screen results:**
- a. **DO NOT DELAY PROVIDING THE UNCROSSMATCHED RED BLOOD CELLS AND THAWED PLASMA FOR ANY REASON INCLUDING NO CURRENT SAMPLE, NO WRITTEN ORDER OR PATIENT ANTIBODIES.**
  - b. Issue any previously crossmatched units first, if available.
  - c. Notify the pathologist when time permits when there is no time to complete the serological crossmatch, if antigen negative units are not available, or if the patient has an auto-antibody that is demonstrable.
  - d. Select the oldest ABO/Rh(D) compatible red blood cells that are antigen negative, when available, for all allo antibodies that have been identified.
  - e. Place an “Uncrossmatched” sticker on each unit of red blood cells.
  - f. Remove a segment from each red blood cell unit for crossmatching (and antigen typing, if needed).
  - g. Place the segment in a 12 x 75 mm test tube labeled with:
    - i. Donor Identification Number
    - ii. Indicate the component code when using apheresis products
  - h. Follow steps 5.3.9 - 5.3.12
  - i. Perform appropriate serological crossmatches (and antigen typing, if needed) using the retained segments on any uncrossmatched red blood cell units that were issued.
    - i. Refer to Crossmatch
  - j. Perform step 5.3.19 when there is not sufficient specimen to crossmatch units issued uncrossmatched and a second specimen cannot be collected.
- 5.5. **Stat request for red blood cells (current specimen available – ABO/Rh(D) and antibody screen completed, but serological problem(s) not completely resolved):**
- 5.6.1. Follow steps 5.3.1 – 5.3.2
  - 5.6.2. If the problems are with the patient’s ABO/Rh(D):
    - a. Provide uncrossmatched group O, Rh(D) negative red blood cells.
    - b. Select antigen negative units, when available and applicable.
    - c. Follow steps 5.3.8 – 5.3.12
  - 5.6.3. Patients with positive antibody screen results.
    - a. Follow step 5.5.4 above.
  - 5.6.4. Always follow the pathologist’s instructions.
  - 5.6.5. Notify the pathologist when all serological and compatibility testing is completed.
  - 5.6.6. Document which pathologist was notified as documented in critical value notification.
    - a. Refer to Transfusion Service Critical Values.
- 5.7. **Emergency release of plasma products (no current ABO/Rh or armband):**
- 5.7.1. Obtain the following information:
    - a. Patient’s complete name
    - b. Patient’s medical record number
    - c. Name of physician requesting plasma products
    - d. Number of plasma products needed
  - 5.7.2. Request a Blood and Blood Component Order Form be completed, signed by the physician (or other approved clinical practitioner) and sent to the Transfusion Service as soon as possible.

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- a. **DO NOT DELAY TRANSFUSION WAITING ON THE BLOOD AND BLOOD COMPONENT ORDER FORM.**
  - b. Continue to periodically request the Blood and Blood Component Order Form until it is obtained.
- 5.7.3. Remind the physician and/or caregiver that a type and crossmatch specimen should be collected prior to transfusion and sent to the Transfusion Service as soon as possible.
- 5.7.4. Order a TFFP in the laboratory computer system as soon as possible.
- a. Refer to Order Entry.
- 5.7.5. AB plasma must be issued until an ABO/Rh(D) type is completed on a current specimen, regardless of the patient's historical blood type.
- 5.7.6. Allocate the AB thawed plasma units on the TFFP accession number.
- a. Refer to Blood Order Processing.
  - b. Refer to Allocation of Blood for Transfusion.
  - c. Prepare hand written crossmatch tags, when there is not sufficient time to perform 5.7.4 and/or 5.7.6 that contain:
    - i. Patient's complete name
    - ii. Patient's medical record number
    - iii. "Unknown" for Patient Type
    - iv. "Blood Type" of the plasma product
    - v. "Thawed Plasma" for the product name, the component code of the unit, plus appropriate attributes when needed.
    - vi. Donor identification number
    - vii. "ND" by the crossmatch interpretation
    - viii. "Technologist Initials" (person who is preparing the crossmatch tag)
    - ix. Month/day/year the units were prepared for use
- 5.7.7. Perform a Technical Label Check prior to the products being sent to the floor to ensure that the crossmatch tags are completed correctly and the units are labeled appropriately:
- a. Refer to Allocation of Blood Components for Transfusion.
- 5.7.8. Issue the units using "Emergency Release" in the laboratory computer system.
- a. After scanning the courier's badge, tab then type "UXM" (Issued uncrossmatch at the request of the physician) in issuing comment area.
  - b. If the courier isn't at the blood bank, type in "UXM" (Issued uncrossmatched at the request of the physician) in the issue comment area.
  - c. Refer to Blood Product Issue.
- 5.8. **Emergent release of platelets and cryoprecipitate (no current ABO/Rh or armband):**
- 5.8.1. Perform steps 5.7.1 - 5.7.3 above and determine how many platelets and/or cryoprecipitate are needed.
- 5.8.2. Select platelet components dependent on the inventory available.
- a. Select platelet pheresis components with the lowest volume.
- 5.8.3. Select any ABO/Rh(D) of cryoprecipitate.
- 5.8.4. Order a TPLT and/or a TCRY in the laboratory computer system.
- a. Refer to Order Entry.
- 5.8.5. Allocate the platelets and/or cryoprecipitate units from step 5.8.2 and/or 5.8.3 to the appropriate accession number.
- a. Refer to Blood Order Processing.
  - b. Refer to Allocation of Blood Components for Transfusion.
- 5.8.6. Prepare hand written crossmatch tags, when there is not sufficient time to perform steps 5.8.4 - 5.8.5 that contain:
- a. Patient's complete name
  - b. Patient's medical record number
  - c. "Unknown" for Patient Type
  - d. "Blood Type" of the platelet or cryoprecipitate product
  - e. "Platelets, Pooled Leukoreduced", "Platelet Pheresis", or "Pooled Cryoprecipitate" for the product name, the component code of the unit, plus appropriate attributes when needed.

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- f. Donor identification number
  - g. “ND” by the crossmatch interpretation
  - h. “Technologist Initials” (person who is preparing the crossmatch tag)
  - i. Month/day/year the units were prepared for use
- 5.8.7. Perform a Technical Label Check prior to the products being sent to the floor to ensure that the crossmatch tags are completed correctly and the units are labeled appropriately:
- a. Refer to Allocation of Blood Components for Transfusion.
- 5.8.8. Issue the units using “Emergency Release” in the laboratory computer system.
- a. After scanning the courier’s badge, tab then type “UXM” (Issued uncrossmatch at the request of the physician) in issuing comment area.
  - b. If the courier isn’t at the blood bank, type in “UXM” (Issued uncrossmatched at the request of the physician) in the issue comment area.
  - c. Refer to Blood Product Issue.

**6. REFERENCES**

- 6.1. American Association of Blood Banks. Technical Manual. Bethesda, MD: AABB; Current Version
- 6.2. American Association of Blood Banks. Standards for Blood Banks and Transfusion Services. Bethesda, MD: AABB Current Version
- 6.3. College of American Pathologists. Transfusion Medicine Checklist. Northfield, IL: CAP Current Version
- 6.4. FDA. Code of Federal Regulations. Rockville, MD: FDA, Title 21, Parts 200 and 600, Current Version

**7. RELATED DOCUMENTS**

- 7.1. Refer to QPulse System or Document Detail Report for related Laboratory Policies, Procedures, and Master Forms

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**ATTACHMENT 1**

<b>Situations for: Emergency Release of Uncrossmatched Blood Products or a MTP</b>	<b>Red Blood Cell Product ABO</b>	<b>Additional Information</b>
No ABO/Rh or Antibody Screen completed	O Negative	<ul style="list-style-type: none"> <li>➤ For all men and women over 50 years of age give O Positive</li> <li>➤ &gt;2 units use Igloo Cooler</li> <li>➤ &gt; 8-10 units switch to Rh(D) Pos, when massively bleeding</li> </ul>
ABO/Rh completed but Antibody Screen not completed	ABO Compatible	<ul style="list-style-type: none"> <li>➤ &gt;2 units use Igloo Cooler</li> <li>➤ &gt; 8-10 units switch to Rh(D) Pos, when massively bleeding</li> </ul>
ABO/Rh and Negative Antibody Screen	ABO Compatible	<ul style="list-style-type: none"> <li>➤ &gt;2 units use Igloo Cooler</li> <li>➤ &gt; 8-10 units switch to Rh(D) Pos, when massively bleeding</li> </ul>
ABO/Rh and Positive Antibody Screen	ABO Compatible	<ul style="list-style-type: none"> <li>➤ Consult pathologist when time permits</li> </ul>

**ATTACHMENT 2**

<b>MASSIVE TRANSFUSION PROTOCOL PACK (MTP)</b>			
<b>Product</b>	<b>Number of Units UH/UHE</b>	<b>Container Type/Temperature</b>	<b>Time before discard required</b>
<b>Red Blood Cells</b>	4/2	*Igloo Cooler	Use of Igloo Coolers or Use of Igloo Coolers-UHE
<b>Plasma</b>	4/2	*Igloo Cooler	Use of Igloo Coolers or Use of Igloo Coolers-UHE
<b>Platelets**</b>	1 pool or pheresis	Room Temperature	60 minutes and within acceptable temperature range. If the component is out greater than 60 minutes and meets all the reissue criteria, quarantine the component and contact a pathologist.

**\*4 units of red blood cells and 4 units of plasma may be put into one large Igloo Cooler (UH)**

**\*2 units of red blood cells and 2 units of plasma may be put into 2 small Igloo Coolers (UHE)**

**\*\*Platelets may need to be specifically requested to be part of the MTP pack.**