#### Issuing Blood during a Massive Transfusion Protocol

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| Purpose | This procedure describes how to issue blood during a massive transfusion protocol. |

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| Policy | * A Massive Transfusion Protocol must be activated in order to use this procedure.
* Mobile storage device will be initiated as soon as possible after initial Cooler and stay with the patient while the MT Protocol is in effect.
* MTP order will supercede historical need for specialty products while MTP is in progress
* O Pos RBC units will be considered Universal donor units except in the cases of female patients less than 50 years of age.
* O Neg RBC units will be provided for female patients less than 50 years of age as long as supply lasts.
* All blood types on units MUST be confirmed prior to use.
* RBC and FFP products may only be stored in compartments at temperatures between 1-6C.
* Platelets must be stored at RT or in compartments between 20-24C
* Only “O” units prelabeled as Universal Donor may be issued without patient identification on each unit tag.
* “AB” and small volumes of “A” plasma and “A” platelets will be used until the patient’s Blood Type is determined and plasma compatible products can be provided.
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| Equipment/ Reagents/ Supplies | **Equipment*** Mobile storage device
* Blood Cooler
 | **Reagents*** “O” Universal Donor Red Cells
* Type Specific Donor Red Cells
 | **Supplies*** Uncrossmatched release form
* Uncrossmatched Unit Tag
* Downtime Issue log
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| Procedure | Follow the steps below to perform this procedure. |

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| Step | Action |
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| If: | Then: |
| If UNXM blood has not been ordered (MTP is first blood order) | * Prepare Cooler with 6 units O RBC and 3 Jumbo Emergent plasma (2-AB and 1- A pre-thawed plasma)
* Continue to next step
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| MTP is activated subsequent to order for UNXM blood | Skip to step 3  |
| Testing has been completed  | * Prepare Cooler with appropriately labeled available RBC units and 2 Jumbo Emergent plasma
* Continue to next step
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|  | Issue Cooler using standard SOP for “Issuing Blood in a Cooler”. |
| 3. |  |
|  |  | If: | Then: |  |
|  |  | Mobile storage device is available | Proceed to step 4. |  |
|  |  | Delay in availability of mobile storage device  | * Continue preparing blood and plasma for issue.
* Issue for rapid infusion or in cooler, as requested, until the mobile storage device is available or Massive Transfusion Protocol is discontinued.
* Continue to next step
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| 4.. | Preparing mobile storage device for issue |
|  |  | **If:** | **Then:** |  |
|  |  | Mobile storage device is packed with pre-labeled Universal Donor (O Pos) units **and** the patient is **male or female over 50** | Continue to step 5 |  |
|  |  | Mobile storage device is packed with pre-labeled Universal Donor (O Pos) units **and** the patient is **female under 50** | Proceed to step 13. |  |
|  |  | No pre-labeled Universal Donor (O Pos) units packed in mobile storage device | Proceed to step 14 |  |
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| 5. | Initiate thawing of additional plasma to achieve the equivalent of 6 units (or 3 Jumbo) AB or Type Compatible plasma to maintain 1:1 ratio of transfused RBC units. |
|  6. | Record patient information given at time of Massive Transfusion Protocol activation on pre-prepared Request for Issue of Uncrossmatched Blood form and Downtime Issue Log on top of mobile refrigerator.  |
|  7. | Remove the sealed zip lock bag containing units and segment rack from the refrigerator. |
|  8. | Remove the units from the sealed zip lock bags. |
|  9. | Perform a quick visual inspection of the units. |
|  10. | Document the acceptability of the visual inspection on the Down time Issue Log. |
| 11. | Does patient have blood available for transfusion? |
|  |  | **If:** | **Then:** |  |
|  |  | Yes | Add patient identification information to each unit |  |
|  |  | No | Add patient identification information to each unit, if possible.OK to issue units tagged as Universal Donor units without adding patient identification to each unit tag, if necessary. |  |
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|  12. | Return units to mobile storage device. Retain segment rack in Transfusion Service. Skip to step 17. |
| 13. | Move the pre-labeled O Pos sealed pack located in the mobile storage device and corresponding paperwork (Downtime Issue Log and pre-prepared Release of Uncrossmatched Blood form) to the top right hand shelf of the Helmer double door refrigerator for temporary storage. |

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| 14. | Best, **most expediently available** units should be utilized in cases of emergency. Revert to Uncrossmatched units if unable to keep up with demand. Include thawed plasma components as they become available. |
|  |  | If: | Then: |  |
|  |  | Universal Donor units | * Prepare 6 units of O Neg/Pos (as appropriate) red blood cells for Uncrossmatched, Universal Donor units and available plasma (including Hematemp sticker if issued in cooler or unmonitored storage device).
* Label with Universal Donor Uncrossmatched unit tags.
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|  |  | Type specific Uncrossmatched | * Prepare 6units of Type specific RBCs and available plasma for Uncrossmatched issue (include Hematemp sticker if issued in cooler).
* Label each unit with Type Specific Uncrossmatched unit tag. **Patient identification, Blood Type and BB Armband number for RBC are required to be completed on each unit tag**.
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|  |  | Crossmatched | * Use units that are tagged for patient
* If issued in Cooler, attach Hematemp II stickers
* Supplement with Type Specific Uncrossmatched units as needed. **Patient identification, Blood Type and BB Armband number are required to be completed on each RBC unit tag prior to issue.**
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| 15. | Before handing each unit to assistant:* Remove 3 unit number stickers from the back of each bag.
* Pull segment from unit. Label tube with one of the unit number stickers and segment with 2nd sticker. Retain segment in lab for testing.
* Place remaining unit number sticker on the Down time Issue log.
* Record the unit number on the Request for Issue of Uncrossmatched Blood form.
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| 16. | Record unit numbers of thawed plasma and plateletphersis on Downtime Issue Log. |
| 17. | Have assistant:* Double check unit information on bag and on Issue log
* Complete visual inspection column on Downtime Issue Log. Place 6 units of red blood cells and available plasma for this patient in the mobile storage device. **If the units are type specific or crossmatched RBC, patient information including Blood Bank Armband number must also be checked.**
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| 18. | Place “Store at Room Temperature Sticker” on Platelet paperwork. |
| 19. | Place plateletpheresis and Cryo, if indicated, on top of refrigerator or in monitored RT compartment of storage device. |
| 20. | Record temperatures of compartments in mobile storage device on the top of the Downtime Issue log. |
| 21. | Make photocopy of Downtime Issue log. |
| 22. | Attach original of Downtime Issue Log to top of mobile storage device.  |
| 23. | Retain the Request for Uncrossmatched Blood form in the Transfusion Service. |
| 24. | Unplug mobile storage device. |
| 25. | Deliver original and copy of Downtime Issue log and mobile storage device to requesting location. |
| 26. | Have nursing staff check patient information on Down time Issue Log and sign for storage device containing units on both copies of the log.  |
| 27. | Bring signed copy of the Downtime Issue log back to Transfusion Service. |
| 28. | Complete compatibility testing as time permits. |
| 29. | Once crossmatches have been completed, issue units in the computer (with ETC code REER, if appropriate) using information recorded on the copy of the Downtime Issue Log. |
| 30. | Continue preparing units according to Massive Transfusion protocol. |
| 31. | Nursing unit may return mobile storage device for resupply or request delivery of exchange storage device until Massive Transfusion Protocol has been discontinued. |
| 32. | The mobile storage device may accompany the patient during in-house transfers until the Massive Transfusion Protocol has been discontinued. It is the responsibility of the patient care staff to transport the mobile storage device with the patient, keep it plugged in if indicated, notify Transfusion Service staff when products are becoming depleted and report alarms while it is outside of the Transfusion Service. The nursing unit will be responsible for returning the mobile storage device to the Transfusion Service as soon as the Massive Transfusion Protocol has been discontinued. |
| 33. | Upon return of the mobile storage device, remove original Issue log from top of storage unit. |
| 34. |

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| If: | Then: |
| RBC units are in storage device/cooler | * Evaluate unit(s) for return to inventory.
* Check monitoring device on storage unit to determine if units have been maintained within acceptable storage range or process according to Return in a Cooler procedure whichever is appropriate.
* Note disposition on original Downtime Issue log
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| FFP are in storage device/Cooler | * Evaluate for return to inventory.
* Check monitoring device on storage unit to determine if units have been maintained within acceptable storage range
* If in Cooler, process according to *Return in a Cooler* procedure.
* Note disposition on original Downtime Issue log
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| Platelets or Cryo are in Cooler or refrigerated compartment of storage device | * Discard.
* Note disposition on original Issue log
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| 35. | Update each returned unit’s disposition in computer. Place form in Downtime Issue log folder |
| 36. | Restock mobile storage device with new units or use units from step 13, as applicable. Refer to *Storing and Rotating Uncrossmatched RBCs in Mobile Storage Device* procedure. |
| 37. | Return mobile refrigeration unit to storage area. |

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| Related Documents | Processing and Issuing Uncrossmatched Blood Uncrossmatched Blood PolicyIssuing Blood in a CoolerMassive Transfusion ProtocolIssue of Blood Components for Patient Transfusion |

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| Attachments | A. Massive Transfusion Checklist |