#### 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.
* 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.
* 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 labeled with MTP/emergent Non-RBC tag and 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 Unit Tag
* MTP/Emergent Non-RBC 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) | * Complete the information required on Uncrossmatched Call Sheet form
* Remove the appropriate Emergent RBC packet from refrigerator and label 6 units O RBC and 3 Jumbo Emergent plasma (2-AB and 1- A pre-thawed plasma)
* Issue using Downtime Manual Issue process by verifying patient and unit identification and performing visual inspection of products prior to packing in Hand Held Biohazard Cooler.
* Complete Visual ✓ and tech column on Manual Issue Log
* Continue to next step
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| MTP is activated after order for UNXM blood | Skip to step 3  |
| Testing has been completed  | * Prepare Cooler with 6 labeled UNXM or crossmatched, if completed, or any combination of RBC units and 3 Jumbo Emergent plasma
* Create Manual Issue log for units to be issued.
* Issue using Downtime Manual Issue process by verifying patient and unit identification and performing visual inspection of products prior to packing in Hand Held Biohazard Cooler.
* Complete Visual ✓ and tech column on Manual Issue Log
* Continue to next step
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|  | Deliver Cooler to specified location and have receiver date/time and sign for receipt of the products on the Manual Issue log. |
|  | 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. |

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|  |  | If: | Then: |  |
|  |  | Monitored mobile storage device is available | Proceed to step 5. |  |
|  |  | Delay in availability of mobile storage device  | * Continue preparing blood and plasma for issue as directed in steps 1-3.
* 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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| 5. | Locate a charged monitored mobile storage device and verify that the device is within 1-6C. |
| 6. | Does patient have previously crossmatched blood available for transfusion? *Note: Retain labeled segment for each uncrossmatched unit* |
|  |  | **If:** | **Then:** |  |
|  |  | Yes | Remove labeled units from refrigerator |  |
|  |  | No: ABORh type has not been completed **and** Patient is **male or female over 50 and** O Pos pre-labeled packet is available | Remove O Pos RBC Emergent pack from refrigeratorRemove paperwork, segments and units from sealed bag. |  |
|  |  | No: ABORh type has not been completed **and** Patient is **male or female over 50 and** O Pos pre-labeled packet is **NOT** available | Select 6 O Pos RBC units from general inventory |  |
|  |  | No: ABORh type has not been completed **and** the patient is **female under 50** | Select 6 O Neg RBC units from general inventory |  |
|  |  | No: ABORh testing is complete and has been confirmed as Rh Pos **or** patient is **male or female over 50** | Select Rh Pos Type Specific RBC units from general inventoryLabel each unit with Type Specific Uncrossmatched unit tag. |  |
|  |  | No: ABORh testing is complete and has been confirmed as Rh Neg **and** patient is **female under 50** | Select Rh Neg Type Specific RBC units from general inventoryLabel each unit with Type Specific Uncrossmatched unit tag. |  |
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| 7. | Add a patient identification sticker or write the patient name and MRN on each Uncrossmatched unit tag.*Note: In extreme situations Universal Donor units may be issued without the addition of patient information on each unit.* |
| 8. | Create a Manual Issue Log by: placing a patient identification sticker or writing the patient name and MRN on a Downtime Issue Log and placing a donor number sticker on the log in the appropriate product section of the log for each product issued. |
| 9. | Verify that the patient and donor information is correct on the unit tag and Downtime Issue log and perform a visual inspection of the unit. |
| 10. | Complete the visual ✓ and tech column on the log. |
|  11. | Place 6 RBC/3 Jumbo or a combination of products equivalent to 6 adult plasma in the refrigerated section of the mobile monitored device and the platelet and Cryo in the Room Temperature compartment at the bottom of the device. Retain segment rack in Transfusion Service. |
| 12. | Record the digital temperature of the device and device number on the Manual Issue log. |
| 13. | Move the toggle switch on the Data Logger from Alarm to Min/Max.Clear the minimum/maximum display on the Data logger. |
| 14. | Press the clear button to reset the minimum/maximum display on the Data Logger. |
| 15. | Move the toggle switch back to alarm. |
| 16. | Disconnect the mobile storage device from the cord. |
| 17. | Deliver the mobile storage device to requesting location. |
| 18. | Have nursing staff check patient information on Down time Issue Log and sign for storage device containing units.  |
| 19. | Bring signed copy of the Downtime Issue log back to Transfusion Service. |
| 20. | Complete compatibility testing as time permits. |
| 21. | Once crossmatches have been completed, issue units in the computer (with ETC code REER, if appropriate) using information recorded on the Downtime Issue Log. |
| 22. | Continue preparing units according to Massive Transfusion protocol. |
| 23. | Nursing unit may return mobile storage device for resupply or request delivery of exchange storage device until Massive Transfusion Protocol has been discontinued. |
| 24. | 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, 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. |
| 25. | Upon return of the monitored mobile storage device, locate the Manual Issue log that was used to those products. |
| 26. |

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| If: | Then: |
| RBC units are issued/returned in Hand Held Cooler | * Evaluate unit(s) for return to inventory.
* Check Safe-T-Vue sticker to determine if units have been maintained within acceptable storage range. Process according to Return in a Cooler procedure.
* Note disposition on original Downtime Issue log
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| FFP units were issued/returned in Hand Held Cooler  | * Evaluate for return to inventory.
* If Safe-T-Vue sticker is present, determine if units have been maintained within acceptable storage range. Process according to Return in a Cooler procedure.
* If Safe-T-Vue indicator is absent, refer to Temp Check device for return acceptability.
* Note disposition on original Downtime Issue log
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| RBC/FFP products issued/returned in a monitored mobile device | * Press Min/Max display for probe 1.
* If display is **within** 1-6C, product temperature is **acceptable** for reissue, if other return requirements are met.
* If display **exceeds** 1-6C, product **requires additional investigation** before it can be accepted for reissue. Place product on Quarantine shelf. Leave note in communication log explaining what is needed.
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| Platelets/Cryo were issued and returned in the Room Temperature compartment of the monitored mobile device. | * Press Min/Max display for probe 2
* If display is **within** 20-24C, product temperature is **acceptable** for reissue, if other return requirements are met.
* If display **exceeds** 20-24C, product **requires additional investigation** before it can be accepted for reissue. Place product on Quarantine shelf. Leave note in communication log explaining what is needed.
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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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| 27. | Update each returned unit’s disposition in computer. Place form in Downtime Issue log folder |
| 28. | Restock Emergent packs in refrigerator, if not already done. |
| 29. | Plug device into charging cord and return monitored mobile device to storage area. |

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| Related Documents | * Processing and Issuing Uncrossmatched Blood
* Uncrossmatched Blood Policy
* Massive Transfusion Protocol
* Issue of Blood Components for Patient Transfusion
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| Attachments | A. Massive Transfusion Checklist |