# Applicable Laboratory(s)):

North Carolina Baptist Hospital (NCBH)

Lexington Medical Center (LMC)

Davie Medical Center (DMC)

Wilkes Medical Center (WMC)

High Point Medical Center (HPMC)

Westchester

Clemmons

# Procedure Statement

The purpose of this policy is to outline the proper storage and usage for the blood bank coolers. These coolers are used to keep the blood products regulated at their proper temperatures during transport and while awaiting transfusions. This protocol also clarifies the agreement that has been made between Air Care at WFBMC/ County EMS and Blood Bank at WFBMC to supply blood units on each helicopter in a storage capacity in case of need meeting all of the regulatory and accreditation requirements for storage and transfusion of blood. This protocol discusses how to use and resolve any issues with the SPOT Tracking System. Not only does the Blood Bank need to monitor the temperature of the units but also their location.

# Scope

This policy applies to Blood Bank staff.

# Definitions

1. Policy: As defined in the Policy on Creating and Amending Policy, a statement of principle that is developed for the purpose of guiding decisions and activities related to governance, administration, or management of care, treatment, services or other activities of WFBH.  A policy may help to ensure compliance with applicable laws and regulations, promote one or more of the missions of WFBH, contain guidelines for governance, and set parameters within which faculty, staff, students, visitors and others are expected to operate.
2. WFBH Lab System: Wake Forest Baptist Lab System is a health system that includes Wake Forest Baptist Medical Center and all affiliated organizations including Wake Forest University Health Sciences (WFUHS), North Carolina Baptist Hospital (NCBH), Lexington Medical Center (LMC), Davie Medical Center (DMC), Wilkes Medical Center (WMC), High Point Medical Center (HPMC), Lab at Westchester and Lab at Clemmons.
3. SPOT Tracking System- a program that has been installed throughout the hospital that tracks hospital equipment.
4. RFID Tag- a radio frequency identification locator that is attached to the coolers which allows them to be tracked by the SPOT tracking system.
5. Air Care- Air Care services at Wake Forest Baptist Medical Center
6. Air Care coolers- Pelican (formerly Minnesota Thermal Coolers)-Series EMT canvas bag, 4L Volume
7. Blood Bank- Blood Bank at Wake Forest Baptist Medical Center
8. Safe-T-Vue- indicator applied to the back of the blood unit that monitors the temperature the unit has been exposed from 1-10°C.
9. WFBMC- Wake Forest Baptist Medical Center-main campus – North Carolina Baptist Hospital
10. SEMS – Surry County EMS
11. FEMS1/2 – Forsyth County EMS
12. STOK1 – Stokes County EMS
13. SCC – Soft Computer Consultants
14. Max Q coolers – cooler from PackMaxQ validated to hold blood products at 1 to 6C
15. Insert/ Lid- Golden Hour cooler insert with lid
16. Panels- Credo inserts (set of 6 panels)
17. Bricks- MaxQ inserts (blue gel and white Koolit gel packs)
18. MTP- Massive Transfusion Protocol
19. ED- Emergency Department

# Policy Guidelines

Section I- Blood Bank Cooler Protocol

Procedure- Conditioning of Cooler inserts/panels for use- Golden Hour, Credo and small Canvas blood coolers

Section II- Air Care or Forsyth/Stokes/Surry County EMS Protocol

Procedures-

Packing Air Care and EMS Canvas blood coolers

Returning Air Care and EMS Canvas blood coolers

Section III- MTP Pack for Adult ED Emerge Refrigerator Protocols

Procedures-

Conditioning and packing of MTP Pack coolers

Creating MTP Packs in Blood Track and adding to Emerge

Reconciliation of returned MTP Packs

Section IV- MaxQ coolers (not MTP packs) Protocols

Conditioning and packing of MaxQ coolers for Routine blood transport

Section V- SPOT Tracking System Protocol

Section VI- MTP Pack for Pediatric ED Emerge Refrigerator Protocols

1. Blood Cooler Protocols

**Section I- Blood Bank Cooler Protocol**

1. The Blood Bank will use various validated coolers to store blood and blood products when multiple units are requested for a single patient in the Operating Room, the Emergency Department and remotely located outpatient clinics facilities to maintain the proper storage temperature of issued blood and blood components. Blood products sent to outpatient dialysis centers will be packed in Red Cross boxes since these are not returned quickly.
2. Issue one (1) patient's blood in a cooler at one time. Do not proceed to issue multiple patients with multiple coolers at the same time. Complete the process for one patient prior to starting the process for a second patient.
3. Coolers are inspected for intactness and cleanliness at each issue. Coolers that are not intact or are dirty are quarantined. (If a floor brings a floor cooler that is not intact or dirty, then a Blood Bank cooler may be used to issue product until the floor cooler is repaired or cleaned.)
4. **Validated coolers must be approved by management and prepared as below:**
   1. Validated coolers will be assigned an ID number.
   2. A cooler identification tag will be attached to the side of the cooler. The following information must be on the identification tag:
      1. For BLOOD coolers:
         * Cooler ID Number
         * Return to Blood Bank ASAP
         * Do not store platelets in this cooler
         * KEEP ALL LIDS CLOSED after opening
         * BIOHAZARD
      2. For PLATELET cooler
         * Cooler ID Number
         * Return to Blood Bank ASAP
         * FOR PLATELET TRANSPORT ONLY
         * BIOHAZARD
5. All new cooler shells, inserts, lids, panels and bricks will be validated upon receipt and added to the list for QC.
   1. After initial validation inserts, lids, bricks, and panels will only need to be QC’d every other year.
   2. After initial validation cooler shells do not need to be QC’d again unless repaired or quality of the cooler is questioned.
   3. Each cooler shell, insert/lid, panel and brick will be assigned an ID #/name.
   4. Validated, tagged coolers will be assigned an RFID tag which will be securely affixed on the side of the cooler.

a. Contact SPOT at SpotSupport\_DL@wakehealth.edu to have RFID

tag placed and made available for use in the SPOT Tracking System.

*Go to procedure (FD): SPOT Tracking System* (BB.FD.1021)

* 1. Any new coolers, inserts/lids/panels/bricks must be added to the equipment list by the designated techs.
  2. For cooler QC schedule:

*Go To procedure (QC): Cooler Validation, QC and Cleaning*

1. The minimum freezing times required for inserts/lids, panels and bricks before use are listed below

|  |  |  |
| --- | --- | --- |
| **Cooler Type** | **Freezer T°** | **Minimum freezing time** |
| Golden Hour® O.R Container  (Golden Hours) | -18 to -30°C | 8 hours |
| Crēdo Cube™ O.R. Container  (Crēdos) | -18 to -30°C | 12 hours |
| Crēdo Cube™  (canvas coolers)  (Crēdo Cubes) | -18 to -30°C | 12 hours |
| Platelet coolers | Not applicable  Store at Room Temp | Not applicable |
| MaxQ Cooler bricks | -18 to -30°C | 24 hours |

* 1. Cooler Prep Flag must be used for all inner inserts/lids/panels/bricks being frozen and must follow the cooler as it is conditioned and used.

1. **Golden Hour (insert and lid) and Credo inserts must be conditioned before being used in the coolers with blood products**
   1. After freezing, the inserts, lids, and panels must also be conditioned at room temperature (RT) before being used in the coolers with blood products.
   2. Inserts and lids are conditioned at room temperature until the infrared thermometer measured temperature is between 2-5°C for either IMMEDIATE use or storage in refrigerator for future use.
2. **Conditioned Golden Hour and Credo cooler inserts and panels**
   1. Will be stored in a refrigerator maintained at 2-5°C for a maximum of 72 hours.
   2. Unused cooler inserts and /or panels remaining at 2-5°C for >72 hours must be returned to the freezer for re-freezing as stated in Step 7 above.
3. **MaxQ bricks:** 
   1. Small blue MaxQ and Large red MaxQ coolers, used for normal blood transport, do not require conditioning, they are used directly from the freezer.
   2. Large red MaxQ coolers that are to be kept refrigerated in the ED Emerge refrigerator for MTP packs need to be conditioned at refrigerator temperatures before use.
      1. DO NOT use frozen bricks for the MTP pack coolers, this will cause the temperature of the cooler to dip below freezing and damage the blood products.
4. Each cooler and insert/panel/brick are treated differently. Below is a quick reference chart showing the differences:

| **COOLER TYPES – INSERT CONDITIONING REQUIRED** | | | |
| --- | --- | --- | --- |
| **Cooler Type** | **Insert type** | **Minimum Freeze time** | **Conditioning required** |
| **Golden Hour®**  Routine product transport | Golden Hour insert and lid | 8 hrs | Set at RT° until 2-5°C  Store in fridge\* up to 72 hrs |
| **Small**  **Canvas Bags**  Clemmons Cooler | Golden Hour insert and lid | 8 hrs | Set at RT° until 2-5°C  Store in fridge\* up to 72 hrs |
| **Crēdo ™**  Routine product transport | Crēdo panels | 12 hrs | Set at RT° until 2-5°C  Store in fridge\* up to 72 hrs |
| **Large**  **Canvas Cooler**  **AIRCARE / EMS**  (MTP pack backup cooler) | AirCare panels  6 panels | 12 hrs | Set at RT° until 2-5°C  Used immediately in cooler |
| **MAX Q Coolers**  **2 Liter (Small blue)**  Routine product transport | White Koolit gel packs (bricks)  2 bricks | 24 hrs | None  Use frozen |
| **MAX Q Coolers**  **4 Liter (Large red)**  Routine product transport | Blue gel packs (bricks)  3 bricks | 24 hrs | None  Use frozen |
| **MAX Q Coolers**  **4 Liter (Large red)**  MTP packs | Blue gel packs (bricks)  3 bricks | 24 hrs | Set in fridge\* for 24-48 hrs before use |

\*1-6°C

1. **Issued coolers will be tracked via their RFID tag and the SPOT Tracking System**
2. **Return of coolers:**
   1. Any cooler insert, panels and/or bricks used in a cooler for blood storage will be returned to the freezer for the required freezing time upon return to the blood bank.

**Exception:** provided the Golden Hour or Credo cooler insert and/or panels are within the acceptable temperature range of 2-5° C and the maximum allowable time of use has not been exceeded, coolers may be re-used.

1. The “return” time must remain as determined with the initial issue of the cooler.
2. Cooler inserts and/or panels shall be left in the cooler with the cooler flag attached to the outside of the cooler.
3. The initial “return time” must be documented on the initial issue slip which will be maintained with the cooler.
4. Subsequent use of the cooler will be followed by attaching the second issue slip to the original issue slip and cooler prep flag and recording the internal temperature of the cooler on the issue slip.
5. The return time for the cooler will be the same as for the initial issue.
   1. MAX Q Coolers may be re-used within the 10 hour expiration date of the cooler.
6. Bricks shall be left in the cooler with the cooler flag attached to the outside of the cooler.
7. The initial “return time” must be documented on the initial issue slip which will be maintained with the cooler.
8. Subsequent use of the cooler will be followed by attaching the second issue slip to the original issue slip and cooler prep flag.
9. The return time for the cooler will be the same as for the initial issue.
10. This **does not** include the red MaxQ MTP pack coolers.
    1. Issued coolers which have exceeded their allowable storage time will be flagged by the SPOT Tracking system. Cooler conditions are indicated by the following codes:

|  |  |
| --- | --- |
| **CODE INDICATOR** | **COOLER CONDITION** |
| 1. Home Base | 1. Cooler is inside the Blood Bank and available for use or located at the designated “Home Base” on the floor. Blood Bank is considered the cooler “Home Base” for BB coolers. |
| 1. Issued | 1. Cooler has been issued and has been detected by the SPOT System as having left the Blood Bank. The location of the cooler will be displayed. This status indicates in use. |

* 1. Any blood product returned after the maximum allowable cooler storage time must be scanned for temperature using a ThermoTrace thermometer.

1. Units maintaining a temperature of 1-6°C may be returned to inventory. A comment must be included in SCC in unit history stating the temperature of the unit(s) upon their return.
2. Units maintaining a temperature of 7-10°C should be quarantined for 24 hours. Consult management about disposal.
3. **Cleaning and storage of coolers**
   1. All plastic coolers stored within the Blood Bank will be cleaned, disinfected and dried annually by assigned staff.
   2. Canvas coolers and MaxQ coolers will be inspected and replaced as necessary.

*Go to procedure (QC): Cooler Validation, QC and Cleaning* (BB.QC.1005)

* 1. All coolers will be stored on the shelving provided at Front Desk.

1. **Cooler Descriptions and Intentions**

*See attachment 1*

1. **The Blood Bank may validate other containers for the storage of blood and blood products as necessary.**
2. **Exceptions to QC will be the Large Credo Cubes and floor platelet coolers.**
   1. The Large Credo Cubes are used infrequently and will be monitored when used with a Global Sensor.
   2. They are validated upon receipt but not annually.
   3. Platelets are transported in coolers to the floors and should be transfused as soon as possible upon arrival so are not subject to the quality control procedure.
3. **Management will be informed of any damaged or missing coolers.**
4. **Any problems with the SPOT Tracking System must be reported to management.** 
   1. Document problem using the *“Cooler/Insert Maintenance Log”*
   2. Email SPOT at [SpotSupport\_DL@wakehealth.edu](mailto:SpotSupport_DL@wakehealth.edu) or Page at 336-806-8952.
   3. If there is no response during the shift, call the Help Desk and report the problem with the SPOT Tracking System.

*Go to procedure (FD): SPOT Tracking System*

**Conditioning of Cooler inserts/panels for use- Golden Hour, Credo and small**

**Canvas blood coolers**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler Prep Flag

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Fill out Cooler Prep flag for each insert/lid or panel set to be frozen.**   1. Document the inserts/lid or panels set number on the cooler prep flag. 2. The unique ID number for the insert/lid or panel set can be found on the underside of each part of the container. 3. Make sure that the insert ID matches the lid ID. 4. Make sure that all the panels in a set have matching IDs. 5. If the numbers don’t match setup off to the side to await the matching insert, lid or panel. |
| **2.0** | **Store insert/lid or panel set in designated Freezer**   1. Document the Date and Time the insert/lid or panels are being placed in the freezer to be frozen. 2. **For Inserts:**     1. Place lid of insert upright inside insert    2. Place Cooler Prep flag in insert    3. Place all 3 items in designated freezer near Front Desk.    4. Inserts and lids must be frozen for a minimum of **8 hours** before they can be removed from the freezer for conditioning and use. 3. **For Panels:**     1. Stack 1 set of panels on top of each other    2. Place Cooler Prep Flag in between 2 of the panels.    3. Place all items in designated freezer near Front Desk.    4. Panels must be frozen for a minimum of **12 hours** before they can be removed from the freezer for conditioning and use. |
| **3.0** | **Remove insert/lid or panel from freezer when ready to condition.**   1. Document the date and time the insert/lid or panels are taken out of the freezer to be conditioned for use on cooler prep flag. |
| **4.0** | **Condition insert/lid or panels**   1. Place cooler inner, lid, and/or panels removed from the freezer on a towel lined shelf at Front Desk to condition at Room Temperature. 2. Lay inserts on their side, prop lid against insert. 3. Set panels in the rack provided at Front Desk in the cooler conditioning area. 4. If rack is full, prop panels up against the walls adjacent to the thawing shelf. 5. Set a timer for 15- 20 minutes. 6. Upon alarm of timer, scan the inside face of each insert, lid, and/or panel with a ThermoTrace scanner.    1. See chart below for acceptable and non-acceptable temperatures.  |  |  |  | | --- | --- | --- | | **Insert/Panel Temperature** | **Acceptable?** | **Action** | | **2-5ºC** | **Y** | Store in Front Desk Refrigerator *or*  Place in cooler for immediate use | | **Less than 2ºC** | **N** | Reset timer for 5-10 min  Check temps again | | **7º or warmer** | **N** | Return to freezer  Golden hour Coolers: 8 hrs  Crēdo panels: 12 hrs | |
| **5.0** | **Document temperature before storing in refrigerator or using immediately.**   1. Acceptable range 2-5ºC 2. Document final temperatures of inserts/panels, taken with the ThermoTrace in the spaces provided before storing in the Front Desk refrigerator or placing in cooler for immediate use.   *See attachment 2 area 6* |
| **6.0** | **Document the date and time the insert/panels are acceptably conditioned and placed into the refrigerator or cooler.**  5.1 Appropriately conditioned inserts/panels may be used immediately.  *5.2 See attachment 2 area 5*  **NOTE:** After 72 hours in the refrigerator –must place back in freezer and reconditioned.  Golden hour insert/lid for 8 hrs / Crēdo panels for 12 hrs |

**Section II- Air Care or Forsyth/Stokes/Surry County EMS Protocol**

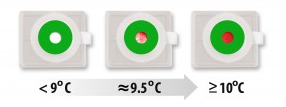
1. The coolers will be maintained, stocked with Group O neg or Group O pos units of blood *(when Group O neg shortages)* , dispensed to Air Care employees or designated courier to support the Medical Centers mission of providing emergent care for blood transfusion when necessary to the communities it serves.
   1. *Refer to Attachment 3: Critical Care Transport: Infusion of Blood.*
2. Air Care or Forsyth/Stokes/Surry County EMS will notify Blood Bank when there is a need for additional blood/or an exchange of coolers.
3. The conditioning of the cooler liners will only be prepared by the Blood Bank at the time of notification.
   1. Do not use the preconditioned liners because we want to maximize the time for use.
   2. Precondition liners when Air Care/Surry County EMS notifies the Blood Bank.

Condition the interior the cooler by adding refrigerated gel packs when phone call is received in order to maximize the cooler time.

1. The cooler will have conditioned liners inserted along with a global sensor data logger. The data logger will be programmed for 30 minute intervals.
2. The cooler lids, inserts, bricks, and panels will have quality control performed every other year by the Blood Bank once they have been validated at receipt (new).
3. Blood units will be maintained in the cooler and routinely returned to us prior to the expiration date.
   1. During June through September the coolers will be evaluated to determine if return time will be shorter.
4. All units will have Safe-T-Vue indicators attached to the back of the unit to monitor the temperature during storage outside the Blood Bank environment.

**Acceptable criteria: white, white speckled with red (1- 10C)**

**Unacceptable criteria: completely red (greater than 10C or less than 1C)**

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1. No other blood units will be stored in the coolers except Group O units from WFBMC Blood Bank.
2. Blood Bank will provide the following in each cooler:

|  |  |  |  |
| --- | --- | --- | --- |
| **Air Care** | **Surry EMS** | **Forsyth EMS** | **Stokes EMS** |
| 2 units: Group O low titer Whole Blood  1 unit: Group O neg red cell  1 unit: Group A plasma | 2 units:  Group O neg  (Surry will not routinely obtain products from us.) | 1 Unit: Group O low titer Whole Blood  OR  Group O red cells  Group A plasma  (If WB not available) | 2 units: Group O low titer Whole Blood  OR  Group O red cells  Group A plasma  (If WB not available) |

* 1. In times of blood shortages, Group O negative red cell units may not be available and Group O positive red cell units may be substituted.

1. Do not attach any transfusion product tags to units.
2. All units transfused must have a Blood Bank Emergency Release Form completed for the patient and signed by the ordering physician and returned to the Blood Bank.
   1. These completed forms can be stored in the returned cooler, scanned and emailed or faxed by Air Care or Forsyth/Stokes/Surry County EMS within 24 hours of transfusion.
3. Coolers for the blood units will be refreshed or restocked by Blood Bank routinely prior to cooler expiration whether or not the blood units issued to Air Care/Surry County EMS have been transfused.
4. The cooler holds 1-6°C temperature for longer periods of time as predetermined by validation testing but Air Care will return the coolers for reconditioning on the 4th day or sooner if units of blood are needed.
5. Air Care or Forsyth/Stokes/Surry County EMS will obtain blood units only from the Blood Bank at WFBMC.
6. Air Care or Forsyth/Stokes/Surry County EMS will not store any other blood units in the coolers except the blood issued by Blood Bank at WFBMC.
7. Blood units will not be removed from the cooler to be stored in another location.
8. Coolers will not be stored in refrigerators or freezers outside the Blood Bank.
9. Utilization review of the blood units issued to Air Care/Surry County EMS will be reported: units issued, transfused, wasted.
10. Patients transfused with any blood units MUST be identified on the Emergency Release form.
11. Store any returned Blood Bank Emergency Release forms in the container labeled, AIR

CARE/ County EMS located at Front Desk.

1. The coolers will have RFID tags on the outside and be tracked by the SPOT program on screen as coolers.
2. Each unit transfusion will be audited by Blood Bank.
3. When a transfusion reaction is reported, the policies and procedures for nursing will be followed.
   * 1. A blood specimen and the unit will be returned to the Blood Bank for investigation.
4. See Attachment 1- Cooler Descriptions and Intentions

**Procedure: Packing Air Care and EMS Canvas blood coolers**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler Prep Flag

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Condition panels per procedure and condition cooler interior by filling it with refrigerated gel packs until the panels are ready.**   1. Go to *Section I: Conditioning of Cooler inserts/panels for use- Golden Hour, Credo and Canvas blood coolers*  |  |  | | --- | --- | | Air Care | Forsyth/Stokes/Surry EMS | | 4 – Day panels | 5-Day panels |  1. Condition 5 of the 6 panels to a temperature of 2-5**°**C 2. The **6th panel must remain frozen** until ready to place in cooler 3. Document on cooler prep flag as stated in the procedure in section I.    1. Time removed from freezer    2. Temperature readings when conditioning |
| **2.0** | **Immediately prepare the following units:**   |  |  |  |  | | --- | --- | --- | --- | | **Air Care** | **Surry EMS** | **Forsyth EMS** | **Stokes EMS** | | 2 units: Group O low titer  Whole Blood  1 unit: Group O neg red cell  1 unit: Group A plasma | 2 units:  Group O neg  (Surry will not routinely obtain products from us.) | 1 Unit: Group O low titer Whole Blood  OR  Group O red cells  Group A plasma  (If WB not available) | 2 units: Group O low titer Whole Blood  OR  Group O red cells  Group A plasma  (If WB not available) |  1. Make certain the units will not outdate during the time they are at Air Care/Surry County EMS. 2. Apply a Safe-T-Vue to each unit. 3. Attach label to each unit bag, “Uncrossmatched Blood”. |
| **3.0** | **Change the Location for each unit in SCC.**   1. In SCC go to **Inventory > Edit > Location** 2. Scan unit (also scan product code if prompted) 3. Select New Location from drop down list:     **NOTE:** location BMC is for use when units are returned |
| **4.0** | **Pack the cooler.**   1. Remove the gel packs from the cooler interior and return to refrigerator. 2. Place the thawed panels into the cooler, leaving the top frozen off. Then put the units into the cooler. 3. The data logger probe must be placed either:    1. between the units and secured to one of the units with tape so that the probe remains in contact with the unit.    2. Between the single unit and the gel pack and secured with tape to the unit.   C:\Documents and Settings\cisoto\My Documents\New Image.JPG   1. Add one of the smaller polar packs with temperature range of 2-5**°**C on top of the two units or single unit/gel pack.   cid:image014.jpg@01CED64B.EC105E30   1. Obtain the frozen panel from the freezer and place on the top. *This must be placed on the top and should not come into direct contact with the units (thus the polar pack)*   cid:image017.jpg@01CED64B.EC105E30   1. Securely close the inner liner lid. Close the Velcro straps.   cid:image022.jpg@01CED64B.EC105E30   1. Zip up the cooler and secure the cooler with a red fastener. |
| **5.0** | **Insert Emergency Release forms, one for each unit in cooler**.   1. The forms must be folded and inserted in the outside pocket. |
| **6.0** | **Calculate the “Return by” date/time and attach to cooler.**   |  |  | | --- | --- | | Air Care | EMS | | 4 – day return | 5 – day return | | Decrease to 3 days during summer | Decrease to 4 days during summer |  1. In the clear plastic pocket attached to the cooler place the “Return by” card with the date and time that the cooler must be returned to the Blood Bank. |
| **7.0** | **Fill out a Blood Bank Issue form.**   1. On the Issue form    1. Record all of the unit #s and product codes (E code) in the cooler    2. Record the date to be returned    3. Record the temperature of cooler at time of issuing from the Data logger. 2. Air Care or Forsyth/Stokes/Surry County EMS must sign the Blood Bank Issue slip before removal from the Blood Bank.    1. The pink copy of the issue form goes with AirCare or Forsyth/Stokes/Surry County EMS. 3. Attach the top copy of the Issue form to the cooler prep flag and store in the clip for Air Care or Forsyth/Stokes/Surry County EMS at front desk.    1. Any copies of ISBT labels of the units (photocopy or reprinted ISBT label) should be stapled to the form. |

**Procedure: Returning Air Care and EMS Canvas blood coolers**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler Prep Flag

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Check the temperature of the returned cooler using the attached data logger.**   1. If the temperature is 2-6°C the units may be placed back into inventory. 2. If the temperature is 6-10°C quarantine units and consult management. 3. If the temperature is over 10°C discard unit (physically and in SCC) and write a QA for management. |
| **2.0** | **Change the Location for each unit in SCC back to Baptist.**   1. In SCC go to **Inventory > Edit > Location** 2. Scan unit (also scan product code if prompted) 3. Select New Location of BMC. |
| **3.0** | **Pull the Issue form from the front desk and file with other issue slips.** |
| **4.0** | **Place all 6 inserts back in freezer and place gel pack in refrigerator.**  Go to *Section I: Conditioning of Cooler inserts/panels for use- Golden Hour, Credo and Canvas blood coolers* |
| **5.0** | **Emergency issue (in SCC) any units transfused by Air Care or Forsyth/Stokes/Surry EMS.**   1. Patient information should be on the Emergency Release form filled out by the Air Care or EMS team. 2. If units were given to a patient that was taken to another facility:    1. Air Care or EMS will provide the Blood Bank the identity of the other hospital and the patient on the Blood Bank Emergency Release form.    2. The Blood Bank will arrange the transfer of blood units to the other facility if possible.       1. Units are to be transferred in SCC if unable to issue unit to patient.          * Add patient information in a unit comment in SCC.       2. Units need to be transferred by the supplier to ensure proper charging:  |  |  | | --- | --- | | **For:** | **Do:** | | **ARC** | Transfer in Blood Hub | | **Non ARC** | Notify management to invoice the other facility | |

**Section III- MTP Pack for Adult ED Emerge Refrigerator Protocols**

1. O Pos MTP packs are to be used in the adult ED refrigerator only.
2. Each MTP pack will contain 2 O Positive Whole Blood units
3. MTP packs are to be removed from the ED refrigerator for patients who are on massive protocol and more than one unit of whole blood may be required.
4. MTP packs will last up to 7 days in a refrigerator.
5. Once the cooler has been removed from the ED refrigerator the pack will expire in 5 hours.
   1. Once a MTP pack has been removed for use it cannot be returned to the refrigerator, it must be returned to the Blood Bank.
6. The standard cooler to be used for MTP packs is a red MaxQ cooler. The canvas coolers can be used as a backup when needed (to be packed in the same way as for Air Care, see Section II- Air Care/Surry County EMS Protocol).
7. MTP packs are **not** be placed in the Peds ED or L&D refrigerator.
8. Two (2) extra sets of bricks are to be conditioning in the refrigerator at all times.
   1. Due to the extended amount of time it takes to condition a cooler 2 sets of bricks should be in the process of coming to refrigerator temperature or ready in the 24-48 hour waiting period.
9. See Attachment 1- Cooler Descriptions and Intentions
10. For nursing steps on removing MTP Pack and returning used pack see

*Attachment 6: Using MTP Pack from Emerge Refrigerator*

**Procedure: Conditioning and packing of MTP Pack coolers**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler Prep Flag

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Fill out Cooler Prep flag for each brick set (3 bricks) to be frozen.**   1. Document the brick set number on the cooler prep flag. 2. The unique ID number for the brick set can be found on the underside of each part of the container. 3. Make sure that all the bricks in a set have matching IDs. 4. If the numbers don’t match setup off to the side to await the matching brick. |
| **2.0** | **Store brick set in designated Freezer**   1. Document the Date and Time the bricks are being placed in the freezer to be frozen.    1. Date/Time may be documented manually or by passing the Cooler Prep Flag through a time stamper at the Front Desk. 2. Bundle 3 bricks into 1 set by wrapping a rubber band around them.    1. Place Cooler Prep Flag in between 2 of the bricks.    2. Place all items in designated freezer near Front Desk.    3. Panels must be frozen for a minimum of **24 hours** before they can be removed from the freezer for conditioning and use. |
| **3.0** | **Remove bricks from freezer when ready to condition.**   1. Document the date and time the bricks are taken out of the freezer to be conditioned for use. |
| **4.0** | **Condition bricks**   1. Place frozen bricks on a towel lined shelf in the designated refrigerator to condition at refrigerator temperature. 2. Lay bricks out on towel side by side. 3. Set a timer for 24 hours. 4. Upon alarm of timer:    1. **For immediate use**:       1. Place the bricks inside the MaxQ cooler as seen in picture below and continue on to next step (5.0):   See *Attachment 3: Packing a MTP Pack Cooler*   * 1. If a cooler is **not needed immediately** keep the bricks where they are and set timer for another 24 hours.      1. Bricks can be used for 24 to 48 hours after they have been removed from the freezer.      2. If not used within the second 24 hours (a total of 48 hours since removal from freezer) return bricks to freezer (see steps 1.0 and 2.0) |
| **5.0** | **Record the prepared date/time**   1. Write on a Prepared Date/Time card and slip in the attached clear badge holder.     **Prepared on:**  **Date:**  **Time:**  See *Attachment 3: Packing a MTP Pack Cooler* |
| **6.0** | **Select 2 O positive whole blood units that have more than 7 days expiration left.**   1. MTP packs are good for 7 days unopened in the refrigerator. 2. Attach a Save-T-Vue to each unit   See *Section II- Air Care/Surry County EMS Protocol; protocol 7.0*   1. Photocopy units (or reprint ISBT label in SCC) and place copies in clear sleeve on top of cooler.   See *Attachment 3: Packing a MTP Pack Cooler* |
| **7.0** | **Build MTP pack in Blood Track**   1. See next section:Creating MTP Packs in Blood Track and adding to Emerge   See *Attachment 4: How to create a MTP Pack in Blood Track* |
| **8.0** | **Remove a new set of frozen bricks to start conditioning for the next cooler.**   1. Repeat steps 3.0 and 4.0 |

**Procedure: Creating MTP Packs in Blood Track and adding to Emerge**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Create an MTP pack in Blood Track**   1. In Blood Track Manager go to **Transactions > Activate Out** 2. Once the units are Activated out, on the same screen click on **Prepare MTP Packs** 3. Select the MTP Pack type: **MTP PACK O POS WB** 4. The MTP Pack # will auto fill 5. Select the Transport Method: **Cooler** 6. Scan the unit # 7. Scan the 2nd unit # 8. The # of units will tally on the screen:      1. The MTP Pack label will automatically print on the zebra printer by BB Monitor1. 2. Scan the MTP Pack label to verify the barcode. 3. The pack is now built in Blood Track.   **NOTE:** If for some reason the barcode is not scanned then Blood Track will disassemble the pack and the whole blood units are free to be added to another MTP Pack.  See *Attachment 4: How to create a MTP Pack in Blood Track* |
| **2.0** | **Place the MTP Pack label in the clear badge holder attached to the cooler.**   1. Use the same badge holder as in step 5.0 making sure that the MTP pack label and the Prepared card are both visible. 2. This label will be used to scan the pack into and out of the Emerge refrigerator.   See *Attachment 4: How to create a MTP Pack in Blood Track* |
| **3.0** | **Place the 2 units in the prepared cooler and close cooler.**   1. The cooler is now ready to go to the ED Emerge. 2. Keep the cooler refrigerated in Blood Bank if unable to take to the ED immediately.   See *Attachment 4: How to create a MTP Pack in Blood Track* |
| **4.0** | **Take MTP pack to the adult ED Emerge.** |
| **5.0** | **Scan pack into ED Emerge**   1. Scan badge at Kiosk 2. Enter password 3. Select **Putting In** 4. Select Transport Method: **Cooler** 5. Scan the MTP pack barcode as the unit# 6. Door will open 7. Place pack on designated shelf in fridge.   **NOTE:** When adding or removing the pack the MTP Pack barcode is to be scanned, the individual units are not to be scanned at the Kiosk. Once the pack has been removed from the refrigerator it expires in 5 hours and must be returned directly to the Blood Bank before the 5 hours is up.  See *Attachment 5: How to Scan a MTP Pack into Emerge Refrigerator* |

**Procedure: Reconciliation of returned MTP Packs**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Examine the MTP pack cooler immediately upon its return.**   1. Match up the MTP pack with the print out from Blood Track that was printed when it was removed by the ED. 2. Check the time on the print out to see if the cooler has been returned within 5 hours of removal from ED fridge.    1. If the cooler has been **returned within 5 hours**:       1. Open cooler and remove any remaining units       2. Return any remaining units in Blood Track: Transactions > Return Stock       3. Return units to BB inventory, place in designated refrigerator.       4. Emergency Issue in SCC any units transfused to patient.          1. Use the copy of the unit placed in the clear sleeve on top of cooler.    2. If the cooler has been **returned more than 5 hours** since removal:       1. Open cooler and take the temperature of any units remaining in cooler.       2. If the temps are 1-6°C return units in Blood Track and to BB inventory (see previous steps in 1.2.a).       3. If the temps are *greater than* 6°C          1. Quarantine units in SCC and place on quarantine shelf.          2. Write a QA for management review, making sure to include the temps taken.       4. If there are no units left in cooler a QA does not need to be written.       5. Emergency Issue in SCC any units transfused to patient.          1. Use the copy of the unit placed in the clear sleeve on top of cooler.   See *Attachment 7: Reconciliation of used MTP Packs* |

**Section IV- MaxQ coolers (not MTP packs) Protocols**

1. There are 2 types of MaxQ coolers available in the Blood Bank:
   1. Small 2L blue MaxQ cooler
      1. These are to be used for routine blood transport within the hospital
      2. They are for refrigerated products only (red cells, whole blood and plasma)
      3. They are validated for use for 10 hours
   2. Large 4L red MaxQ cooler
      1. These can be used for routine blood transport within the hospital OR can be used for MTP packs for the ED refrigerator.
      2. They are for refrigerated products only (red cells, whole blood and plasma)
      3. For each of these uses they are conditioned and packed differently
      4. For routine blood transport they are validated for use for 10 hours
      5. For MTP packs see section III-MTP Pack for Adult ED Emerge Refrigerator
2. The red and blue MaxQ coolers for routine blood transport use gel packs frozen for at least **24 hours** in the designated freezer at front desk.
3. See Attachment 1- Cooler Descriptions and Intentions

**Procedure: Conditioning and packing of MaxQ coolers for Routine blood transport**

Chemical Risk Assessment: None

Biological Risk Assessment: None

Protective Equipment: Gloves

Supplies: Cooler Prep Flag

Reagents: N/A

Equipment: Cooler Inserts and Panels

Specimen Requirements: N/A

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Fill out Cooler Prep flag for each brick set to be frozen.**   1. Document the brick set number on the cooler prep flag. 2. The unique ID number for the brick set can be found on the underside of each part of the container. 3. Make sure that all the bricks in a set have matching IDs. 4. If the numbers don’t match setup off to the side to await the matching brick. |
| **2.0** | **Store brick set in designated Freezer**   1. Document the Date and Time the bricks are being placed in the freezer to be frozen. 2. Bundle bricks into 1 set by wrapping a rubber band around them.    1. Set of bricks #s:       1. For small blue MaxQ a set is 2 white Koolit gel packs       2. For the large red MaxQ a set is 3 blue gel packs    2. Place Cooler Prep Flag in between the rubber bank and the bricks.    3. Place all items in designated freezer near Front Desk.    4. Panels must be frozen for a minimum of **24 hours** before they can be removed from the freezer for conditioning and use. |
| **3.0** | **Prepare cooler for use.**   1. MaxQ bricks do not need to be conditioned (thawed). 2. The bricks go straight from the freezer to the cooler.    1. MTP Pack red coolers are the exception- they are to be conditioned 3. **Small blue MaxQ:**    1. Place a frozen white Koolit gel pack on the right and left in the cooler, between the walls and insert for units.     Cooler insert for units   1. **Large red MaxQ cooler:**    1. Place a frozen blue gel pack on the right, front and left in the cooler, between the walls and insert for units.     Cooler insert for units |
| **4.0** | **Document the cooler expiration (10 hours) on the outside of the cooler with a piece of colored tape.** |

**Section V- SPOT Tracking System Protocol**

1. The SPOT Tracking system is designed to track Blood Bank coolers once they are issued using radio frequency ID (RFID) tags secured to the outside of all Blood Bank coolers.
2. All validated coolers will be assigned an RFID tag and will be programmed to be followed by the SPOT system.
3. The SPOT system displays the location of all Blood Bank coolers throughout the hospital and tracks the amount of time the cooler has been out of the Blood Bank.
   1. The cooler status is differentiated by a code and is displayed on a computer monitor at Front Desk.
   2. The username and password for the SPOT login is “BBFront”.
   3. Each code indicates a specific cooler condition as stated below:

|  |  |
| --- | --- |
| **CODE INDICATOR** | **COOLER CONDITION** |
| 1. Home Base | 1. Cooler is inside the Blood Bank and available for use or located at the designated “Home Base” on the floor. Blood Bank is considered the cooler “Home Base” for BB coolers. |
| 1. Issued | 1. Cooler has been issued and has been detected by the SPOT System as having left the Blood Bank. The location of the cooler will be displayed. This status indicates in use. |

* 1. Blood bank technologists will monitor coolers return time via issue slips. Every effort should be made to notify locations to return the cooler before the cooler outdates.

1. **Any problems with the SPOT system or the RFID tags must be brought to the attention**

**of Blood Bank management and should be logged in the Golden Hour Maintenance Log located at Front Desk.**

* 1. If a cooler is returned to the Blood Bank but remains “issued” according to the SPOT system, the cooler may be held up to one of the tracker antennae in the ceiling at front desk. Wait approximately 10 minutes for the tracking system to “see” the cooler. If exposure to the antenna does not rectify the issue, set the cooler aside and call SPOT or Help Desk to report the problem. Log the problem into the Cooler/Insert Maintenance Log located at Front Desk.
  2. If coolers are missing and showing “red” on the SPOT display, call the location on the display and ask for the cooler to be returned. If the location fails to return the cooler, call the charge nurse/person of that location, report the problem and ask that the cooler be returned. If the cooler is not returned after these two phone calls then notify management.
  3. Power surges and SPOT program updates may freeze the system. This will be evident when the recent activity of multiple coolers is not appearing on the SPOT screen. Call SPOT or Help Desk for resolution. Log the problem into the Cooler/Insert Maintenance Log located at Front Desk.
  4. If a single cooler fails to register its activity on the SPOT screen, the battery in the RFID tag may be exhausted. Call SPOT (8am to 5pm) or email if after hours for resolution. Log the problem into the Cooler/Insert Maintenance Log located at Front Desk.

1. **Coolers may be used for more than one issue episode providing:**
2. The cooler is returned with time remaining on the insert used.
3. The insert temperature is within the acceptable range upon return and at the time of desired reuse.
4. Tracking of coolers issued for subsequent use after return to the Blood Bank must be tracked carefully using the issue slip and SPOT.

**Section VI- MTP Pack for Pediatric ED Refrigerator Protocols**

**Protocol**

1. O negative low titer <50 WB MTP packs are to be used in the PED refrigerator only.
2. Each MTP pack will contain 1 O Negative low titer <50 Whole Blood unit.
3. MTP packs are to be removed from the PED refrigerator for traumatically injured children 3

years and older weighing 15kg or more.

Refer to *Titration and Use of Whole Blood for Use by the Pediatric ED*

1. 2 MTP Packs (2 units of O neg low titer <50 WB) will be routinely stocked in the PED.
   1. MTP packs will be inspected daily and replaced by first shift when needed.
   2. Other shifts may replace MTP packs if time permits and no units of WB are available.
2. Once a pack/unit has been removed from the PED refrigerator, the patient care team has

20 minutes to return the unit to the PED fridge for it to be reusable.

* 1. Unit must be brought back to blood bank, inspected and returned in Blood Track

before the unit can be reused.

1. There may be times when O negative WB with titer < 50 is not available. If no WB

Available to be stocked in PED:

* 1. Call 336-702-8055, PED Charge Nurse to inform them that WB is currently

Unavailable.

* 1. Place sign on PED fridge: “Whole Blood Currently Unavailable.”

**Procedure**

| **STEPS** | **INSTRUCTIONS** |
| --- | --- |
| **1.0** | **Create an MTP pack in Blood Track**   1. In Blood Track Manager go to **Transactions > Activate Out** 2. Once the unit is Activated out, on the same screen click on **Prepare**   **MTP Packs**   1. Select the MTP Pack type: **MTP PEDS O NEG** 2. The MTP Pack # will auto fill 3. Select the Transport Method: **Cooler** 4. Scan the unit # 5. The # of units will tally on the screen:      1. The MTP Pack label will automatically print on the zebra printer by   BB Monitor1.   1. Scan the MTP Pack label to verify the barcode. 2. The pack is now built in Blood Track.   **NOTE:** If for some reason the barcode is not scanned then Blood Track will disassemble the pack and the whole blood unit is free to be added to another MTP Pack.  See *Attachment 4: How to create a MTP Pack in Blood Track* |
| **2.0** | **Place the O negative low titer <50 WB unit into a plastic bag.**   * 1. Place sticker “MTP Pack: O NEG Whole Blood Scan This Barcode” on back of bag where barcodes are not visible.   2. If any barcodes are visible, ensure they are covered to prevent scanning errors (turn satellite bag over, etc.) |
| **3.0** | **Place the MTP Pack label sticker on the back of the plastic bag containing the O neg low titer <50 WB unit beneath MTP Pack sticker.**   * 1. This label will be used to scan the pack into and out of the Emerge   refrigerator.  See *Attachment 4: How to create a MTP Pack in Blood Track*  Note: Placing this label on the back of the WB unit will prevent a scanning error when nursing removes the WB from the PED fridge. |
| **4.0** | **Transport the unit to the PED in a cooler per SOP.**  4.1. O negative low titer <50 WB will not be stored in coolers in the PED. Units will be placed on the designated shelf. |
| **5.0** | **Take MTP pack to the Peds ED.** |
| **6.0** | **Scan pack into PED fridge.**   1. Scan badge at Kiosk, or enter user ID manually 2. Enter password 3. Select **Putting In** 4. Select Transport Method: **Cooler** 5. Scan the MTP pack barcode as the unit# 6. Door will open 7. Place unit on designated shelf in fridge.   **NOTE:** When adding or removing the pack the MTP Pack barcode is to be scanned, the individual unit DINs are not to be scanned at the Kiosk. Once removed, the unit must be returned within 20 minutes to be acceptable for return to the blood bank. See *Attachment 5: How to Scan a MTP Pack into Emerge Refrigerator* |

# References

# Related policies/procedures (navex)

QC: Cooler Validation, QC and Cleaning

FD: Blood Cooler Issue

FD: Blood and Blood Products: Storage, Transport, Return and Reissue Blood Cooler Issue

FD: SPOT Tracking System Log-in

P: Regulated Blood Coolers (Intranet)

# Attachments/Linked documents (title 21)

Cooler Prep flag

Attachment 1- Cooler Descriptions and Intentions

Attachment 3- Packing a MTP Pack cooler

Attachment 4- How to create a MTP Pack in Blood Track

Attachment 5- How to scan a MTP Pack into Emerge Refrigerator

Attachment 6- Using MTP Pack from Emerge Refrigerator

Attachment 7- Reconciliation of used MTP Packs

Attachment 8- MTP Pack Training for Blood Bank Staff

# Revision Dates: Review Change Summary as represented in Title 21.

***Cooler Descriptions and Intentions***

**Attachment 1**

| **Cooler Type** | **Maximum Storage Hours** | **Validated Storage Temp** | **Cooler Description** | **Photo** |
| --- | --- | --- | --- | --- |
| Golden Hour®  O.R Container  (Golden Hours) | 10 hours | 1-6°C | An “operating room” container designed to safely and efficiently store blood. Maintains the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 3 units of blood / thawed plasma** | Description: http://www.mnthermalscience.com/Resources/Images/ProductSplashImages/GH02AORC4C_sm.jpg |
| Crēdo Cube™  O.R. Container  (Crēdos) | 10 hours | 1-6°C | An “operating room” container designed to safely and efficiently store blood. Maintains the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes reusable insert panels that must be properly frozen and conditioned before use.  **This cooler can hold up to 12 units of blood / thawed plasma.** | Description: http://www.mnthermalscience.com/Resources/Images/ProductSplashImages/Series_4_824OR_splash.jpg |
| Crēdo Cube™  (Crēdo Cubes) | 7 days | 1-6°C | Designed for the storage of a large number of red blood cells units in the event of a hospital wide power outage or the storage of extra blood in the event of a major disaster (Code Triage). The container is iceless and includes reusable insert panels that must be properly frozen and conditioned before use.  **This storage cooler is designed to hold up to 50 units of red blood cells**. | Description: http://www.mnthermalscience.com/Resources/Images/ProductSplashImages/GH17ATRANS4C_sm.jpg |
| Golden Hour®  Series-4 EMT  Canvas Bag  Clemmons Cooler | 10 hours | 1-6°C | A lightweight container designed for use by emergency medical technicians (Volume:2L). This container can maintain the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 3 units of blood / thawed plasma.** | Description: http://www.mnthermalscience.com/Resources/Images/ProductSplashImages/GH02AEMT4C_sm.jpg |
| Golden Hour®  Series-4 EMT  Canvas Bag  Clemmons Cooler  (shown in tan but ordered in blue) | 24 hours | 1-6°C and 20-24°C Will be used primarily for platelets but validated for blood also for times of high demand. | A lightweight container designed for use by emergency medical technicians (Volume:2L). This container can maintain the FDA temperature so that unused blood and platelets may be returned to the.  Room Temperature for platelets.  **This cooler can hold up to 3 units of platelets.** | Description: http://www.mnthermalscience.com/Resources/Images/ProductSplashImages/GH02AEMT4C_sm.jpg  Shown in tan but ordered in blue. |
| AIRCARE  Cooler | 4 days  (use 4-day panels)  3 days (summer) | 1-6°C | A lightweight container, similar in appearance to the Series-4 Canvas Bag but larger in size (Volume: 4L), designed for use by emergency medical technicians. This container is able to maintain the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 4 units of blood / thawed plasma.** | Description: http://www.mnthermalscience.com/sites/default/files/styles/product-photo/public/4-496_0.jpg |
| Forsyth/Stokes/  Surry EMS  Cooler | 5 days  (use 5-day panels)  4 days (summer) | 1-6°C | A lightweight container, similar in appearance to the Series-4 Canvas Bag but larger in size (Volume: 4L), designed for use by emergency medical technicians. This container is able to maintain the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 3 units of blood / thawed plasma.** | Description: http://www.mnthermalscience.com/sites/default/files/styles/product-photo/public/4-496_0.jpg |
| Rubbermaid ®  Platelet  Coolers  (Platelet Coolers) | 24 hours | 20-24°C | These coolers have been validated to maintain acceptable temperature for Room Temperature products such as platelets or thawed cryoprecipitated AHF which are being issued to the Operating Room. | Description: http://www.rubbermaid.com/Assets/images/Product/2a09-modrnblue-large.jpg[Description: http://www.rubbermaid.com/Assets/images/product/2a09-modrnred-medium.jpg](http://www.rubbermaid.com/Category/Pages/ProductDetail.aspx?CatName=Coolers&SubcatId=PersonalCoolers&Prod_ID=RP091807) |
| MAX Q Coolers  2 Liter (Small blue) | 10 hours | 1-6°C | A lightweight card board container, designed for use by emergency medical technicians. This container is able to maintain the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 3 units of blood / thawed plasma. (300ml per unit so may hold more if small units.)** |  |
| MAX Q Coolers  4 Liter (Large red) | 10 hours- with frozen inserts  MTP packs- 7 days refrigerated, 5 hours room temperature | 1-6°C | A lightweight card board container, designed for use by emergency medical technicians. This container is able to maintain the FDA temperature so that unused blood may be returned to the supply. The container is iceless and includes a reusable insert that must be properly frozen and conditioned before use.  **This cooler can hold up to 8 units of blood / thawed plasma.** **(300ml per unit so may hold more if small units.)** |  |