**Purpose**

To provide instructions on the appropriate usage of the Credo Coolers. This will include preconditioning the coolers, packing the appropriate blood products, activating the temperature recorder, and cooler return processing.

The Credo coolers are used for storing blood products that require storage at 1oC to 6oC. They must be appropriately preconditioned before use and can hold a maximum of four red blood cell and/or liquid plasma units. When a cooler is packed, a temperature logger will also be placed in the cooler to record temperatures allowing assessment of blood product return to inventory or discard.

**Equipment**

* Credo Series 4 EMT Coolers
* Data Recorder and sealable, water tight plastic bag
* Credo Cooler Log

**Procedure**

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| **Step** | **Action** | **Related Documents** |
| **Credo Specifications** | | |
| **1** | **Credo Cooler System consists of 3 parts**   * TIC System: internal base and lid which are “preconditioned” prior to blood storage and transport * VIP System: **V**acuum **I**nsulation **P**anel base with hinged lid * Outer bag with zipper closure lid   **Overview**   * Light weight pack designed for use by emergency medical staff * Holds blood and other chilled medical supplies for 24+ hours even in harsh ambient conditions. * Reusable, iceless medical container has removable two liter TIC Insert that is preconditioned in a standard freezer.   **Ensuring Performance**   * All components are clean and not damaged * Avoid opening container unnecessarily * Bag has not been torn or damaged during use * Both TIC and VIP lids are secure before sealing for transport * Avoid removing VIP base from the outer bag unless replacement or cleaning are required |  |
| **Conditioning the Credo Series 4 EMT Cooler** | | |
| **1** | **Prepare a Credo Cooler Log.**   * Record cooler number * Record Tech ID, date and time on the Cooler Log as indicated. * Comments section available throughout process for documentation. | Credo Cooler Log |
| **2** | **Inspect Credo Cooler:**   * Verify VIP Replacement date is not expired * Inspect for punctures, scratches, bends, tears and/or dents * Ensure zipper is functioning and closes securely   **Condition the cooler:**   * Remove the black, inner container from cooler (Box and Lid) * Place it in a minimum -18°C freezer * Leave in freezer for at least 8 hours (no maximum time) * Record Tech ID, Date/Time on Cooler Log under “Conditioned” for time placed in freezer.. * Clip cooler log to the door of the freezer.   **Prepare cooler for loading**:   * Remove the black container from the freezer * ***NOTE: Minimum 8 hours in freezer*** * Record Tech ID, Date/Time removed from freezer under “Prepared” on cooler log. * Leave at room temperature for 25 minutes (surface frost has melted) * *Conditioned black container can be refrigerated for up to 48 hours before requiring reconditioning.* |  |
| **Loading Credo Series 4 EMT Cooler** | | |
| **1** | * Select products per location policy. All blood products must have different unit #s. Do not place products from same donor in one cooler. * Ensure products are at or below 4oC prior to loading. * Transfer product to appropriate location in LIS. * Prepare and attach Transfusion Record. * Prepare and attach appropriate unit record: * ALNW or HMC Urgent Release Unit Record * Circle **Location** in upper right corner * Record unit number on the form using a sticker and/or written unit number and aliquot designation * Check product type box: RBC or Plasma   + LTP: add Low Titer Plasma sticker * Record tech number for preparer. * Cooler log: Attach sticker or handwrite unit number and aliquot, if applicable | Changing Blood Product Location in SQ  Stock Trauma Pack Maintenance  Airlift Northwest (ALNW)  Using TAG for Emergency Release of Blood Products  Credo Cooler Log |

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| **2** | **Red Blood Cells:**   * Label glass 12x75 tube with RBC unit number including aliquot designation. * Place one segment from RBC unit in the labeled tube. * Store in the ALNW RBC rack in TSL. |  |

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| **Step** | **Action** | **Related Documents** |
| **Loading Credo Series 4 EMT Cooler**  (continued) | | |
| **3** | **Temperature data recorder:**   * Prepare per SOP * Record Data Recorder number on Cooler Log with Tech ID and Date/Time | Using the Marathon MicroDL Temperature Data Loggers |
| **4** | **2nd tech reviews ALNW “pack”:**   * Unit numbers match between face labels and Credo Cooler log. * Verify LIS location transfer, Transfusion Record and unit record. * Data Logger displays **REC** * Cooler expiration is 7 days or 2 days prior to expiration of shortest date product. * Record review on Credo Cooler Log and ALNW unit cards |  |
| **5** | * Load Credo Cooler: * Units lay on a side, ports pointing either right or left. * Do NOT lay units flat, stacking from the bottom. * Place data logger between middle units. | Using the Marathon MicroDL Temperature Data Loggers |
| **6** | * Place the lid of the black, inner container back on * Place the inner unit into the outer cooler. * Close the white lid * Secure it using the Velcro strap. * Zip shut the cooler. * Attach a tie strip to the zipper handles to secure the closure. * Confirm Destination is accurate on the top of the Credo Cooler. * Packaged: Record Tech ID, Date/Time on Cooler Log |  |
| **7** | * Record issue/release information on the Cooler Log. * Highlight EXPIRATION DATE on cooler log * Post Cooler Log in TSL. |  |
| **Monitoring Issued/Released Coolers** | | |
| **1** | * Credo Coolers will return to TSL:   + If cooler has remained refrigerated     - Every 7 days **OR**     - With 2 days remaining on products whichever is shortest.   + As soon as possible after removal from refrigerator. *Note: Cooler can be out of refrigeration for 24 hours and maintain acceptable temperatures if the unit is not opened repeatedly.*   + If refrigeration is unavailable at ALNW |  |
| **2** | * Daily:   + TSL staff will examine Credo Cooler Log(s) for expiration date   + Weekly routine exchange by ALNW courier is scheduled. Schedule posted in TSL.   + Outside weekly scheduled exchange:     - Contact facility to schedule return and replacement prior to expiration.     - Record on cooler log. |  |
| **Step** | **Action** | **Related Documents** |
| **Returned Coolers** | | |
| **1** | * When the cooler is returned: * Record the time and date of return * Inspection: Determine if the cooler has been opened by examining the tie strip. Note OPENED or NOT OPENED on the Cooler Log. * Remove tie strip, if present, and unpack the cooler * Notify TSL Lead. | **Credo Cooler Log** |
| **2** | * Reconcile cooler inventory: * Compare product to Credo Cooler Log. * Record “In Cooler? Yes (Y) or No (N) “ |  |
| **Returned Blood Products** | | |
| **3** | * Transfer location to “H” in Sunquest * Quarantine all units pending Lead review * Place data recorder in Quarantine with product. * Discard Transfusion Records and **blank** Unit Cards * Record “Quarantine” Yes, Tech ID and date on the cooler log. | Changing Blood Product Location in SQ  Quarantine of Blood Products |
| **4** | * Lead Review of data recorder and Credo Cooler Log: * Review data * Record findings and final disposition on Credo Cooler Log   + Data Recorder Status: Alarm/No Alarm   + Data Downloaded and Reviewed: Tech ID/Date/Time * Release acceptable products from Quarantine and store in stock inventory * Investigate any paperwork discrepancies   + *Example: Unit card completed but unit in cooler* * Complete QIM for units found to be unacceptable. * Discard units after consultation with TS Manager and/or Medical Director | Blood Product Storage Policy  Data Recorder SOP  QP: Management of Nonconforming Events |
| **Transfused Blood Products** | | |
| **5** | * Process transfused blood products from unit cards, Transfusion Records and Credo Cooler Log: * Cooler Log: Answer “Transfused at another facility” question * Apply ORCA/EPIC or hand write patient information in bottom right hand corner of cooler log * Perform allocation and appropriate testing. * HMC Patients: Send post Transfusion Records to HIM * Non-HMC Patients: Staple post Transfusion Records to Unit Cards * Staple Unit Cards and original Transfusion Records to the Credo Cooler Log and/or Trauma paperwork. * *Note: Transfusion Records for transfused products will be returned to TSL for storage with the unit cards. ALNW has a separate record of transfusion.* | Compatibility Process |

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| **Step** | **Action** | **Related Documents** |
| **Transfused Blood Products** | | |
| **6** | * Obtain 2nd tech review. | SQ Blood Order Processing |
| **7** | File paperwork in the Trauma Log Notebook. |  |

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| **Storage and Cleaning Credo Components** | | |
| **1** | Upon return: Inspect and clean Credo Cooler |  |
| **2** | **Inspection:**  Examine all components of the Credo Cooler to insure integrity:   * Tears * Crush damage * Zipper not functioning * Loose or broken straps * Lids fit securely |  |
| **3** | **Cleaning:**  Lid and Base:   * Clean using warm water and soap or alcohol. Disinfect with gray wipes * Do NOT use abrasive cleaners, acetone, or extreme heat   Outer bag and liner:   * Damp rag with soap or alcohol |  |
| **4** | **Storage and Rotation:**   * Lid and Base:   + As needed to meet needs: Store in a -30 or colder freezer   + Adequate number in freezer: Store at Room Temperature   + Remove an inner container, place a RT container in the freezer. * Outer Bag and Liner: Store at Room Temperature |  |

**References**

Credo Cooler Reference Manual

Standards for Blood Banks and Transfusion Services, Current Edition, American Association of Blood Banks, Bethesda, MD