**Purpose:**

To describe the Harborview Medical Transfusion Service’s policy for the storage and transport of blood products.

**Policy:**

|  |  |  |
| --- | --- | --- |
| **Step** | **Action** | **Related Documents** |
| **General Statements** | | |
| 1 | The Transfusion Service is responsible for maintaining the appropriate storage conditions for blood products while they are in TSL, in a monitored portable blood refrigerator or designated storage locations outside of TSL.  While in the TSL, red blood cells and thawed plasma will be stored in Refrigerators R1, R5, or R6. Optional refrigerators may be used during equipment maintenance and/or repair situations or disaster response. | Table A: Blood Product Storage Temperatures  Critical Equipment List  Airlift Northwest  Medic One  Management of Emergency Department Refrigerator |
| 2 | Red blood cells (RBCs), thawed plasma and liquid plasma will be stored in monitored refrigeration between 1º C and 6º C, in an effort to reduce the risk of bacterial contamination. These components must not be out of monitored refrigeration for more than 30 minutes. | Critical Equipment List |
| 3 | Platelets will be stored and agitated in a controlled environment between 20 -24°C, in Platelet Incubator Helmer #1 or Helmer #2. Platelet shipping containers can be used during equipment maintenance and/or repair situations or disaster response. |  |
| 4 | Thawed Cryoprecipitate will be stored **without** agitation in a controlled environment between 20-24°C, in Platelet Incubator Helmer #1 or Helmer #2. Platelet shipping containers can be used during equipment maintenance and/or repair situations or disaster response. |  |
| 5 | Frozen Plasma and Cryoprecipitate will be stored in monitored freezers, F1, F2, or F3 ≤ -18°C. The Ultralow freezers can be used during equipment maintenance and/or repair situations or disaster response. | Critical Equipment List |
| 6 | Only TSL staff is authorized to remove a blood product from Lab storage locations.  Clinical staff assigned to patient care are allowed to remove products from a portable refrigerator or designated storage location for a specific patient in their care during a massive transfusion event. Units removed from or returned to a portable refrigerator or designated storage location must be logged on the appropriate form. | Using Portable Blood Refrigerators  Urgent Release Unit Record  Credo Cooler Unit Record  Credo Cooler Log |
| **Organization of Units** | | |
| 1 | Older blood products will be moved to the front with fresher products stored in the rear. |  |
| 2 | Autologous and Directed blood products will be segregated from the general allogeneic inventory. There will be no “crossing over” of autologous or directed components to the general inventory. |  |
| 3 | RBCs will be initially sequestered on the Type Confirmation Incomplete shelf until appropriate ABO/Rh testing has been completed. |  |
| 4 | Red Blood Cells and Whole Blood will be organized by ABO and Rh type. |  |
| 5 | Platelets will be organized by expiration |  |
| 6 | Plasma will be organized by ABO type. Rh type is not applicable in plasma or cryoprecipitate selection. |  |
| 7 | Units selected and labeled for EMERGENCY transfusion will be segregated from the general inventory. |  |
| 8 | Units allocated for specific patient use will be stored:   * In alphabetical order by patient last name separate from the general inventory * In outdate order, oldest first within patient group |  |
| 9 | Products with transfusion tags will be stored:   * + In alphabetical order by patient last name.   + In outdate order, oldest first within patient group |  |
| **Special Inventory Locations** | | |
| 1 | Designated quarantine areas will be maintained for each temperature storage range in TSL and designated storage locations. |  |
| 2 | Specific holding areas may be designated for special units. *Example: antigen negative units for a scheduled sickle cell exchange procedure* |  |
| 3 | Units awaiting physician acceptance will be in a designated location. |  |
| 4 | Granulocytes require 20 – 24 °C **without** agitation. They will be kept in the designated RT storage area between temperature stabilizers while not being tested or processed. |  |
| **Portable Monitored Storage** | | |
| **Refrigerators** | | |
| 1 | Products to be issued in a portable refrigerator include:   * Stock uncrossmatched group O RBCs & universal usage plasma * Plasma issued for therapeutic plasma exchange (TPE) * > 2 crossmatched units of RBCs * > 2 units of plasma   ***NOTE:*** *Ask the clinician if a portable monitored refrigerator is necessary whenever more than 2 units of blood products are requested at the same time.* |  |
| **Credo Cooler** | | |
| 1 | Products to be issued in a Credo Cooler include:   * Stock uncrossmatched group O RBC/Whole Blood & universal usage plasma * Crossmatched RBCs and allocated plasma to clinical care areas during periods of mass casualties and/or disaster when no portable refrigerator is available. |  |

**Table A: Temperature for Blood Product Storage and Transport:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Blood Product** | **Storage Temperature (°C)** | **Transport Temperature (°C)** | **Related Documents** |
| Red Blood Cells and Whole Blood | 1 - 6 | 1 - 10 | Packing Blood Products for Transport |
| Frozen Plasma and Cryoprecipitate | ≤ -18 | Maintain Frozen State |
| Thawed Plasma  Fresh Frozen Plasma, thawed  Liquid Plasma | 1 - 6 | 1 - 10 |
| Platelets with agitation | 20 - 24 | 20 - 24 |
| Thawed Cryoprecipitate without agitation | 20 - 24 | 20 - 24 |
| Granulocytes without agitation | 20 - 24 | 20 - 24 |

**References**

Standards for Blood Banks and Transfusion Services, Current Edition, AABB, Bethesda, MD