

TITLE: MaxPlus MTP Cooler 2.0®**PRINCIPLE:**

MaxPlus MTP cooler 2.0® is an All-in-one cooler designed specifically for Massive Transfusion Protocol (MTP). This cooler holds and transports packed red blood cells (RBCs), thawed plasma (FFPs), platelets (PLTs) and cryoprecipitates (CRYOs) safely in one, easy to pack cooler. This dynamic cooler stands up to in-hospital use, STAT transport, transfusion deliveries, bedside storage and more. This procedure will provide instructions for packing, transporting, and temporary storage of blood products in a validated cooler(s).

CLINICAL SIGNIFICANCE:

Rush Copley Medical Center (RCMC) will utilize the MaxPlus MTP cooler 2.0® in situations where MTP is activated. Runner from activating location will arrive in Blood Bank (BB) to retrieve cooler(s) for patient use.

PERSONNEL:

All blood bank staff must be familiar with this procedure.

SPECIMEN:

N/A

REAGENTS AND EQUIPMENT:

1. MaxPlus MTP cooler 2.0®
2. 3 x Frozen BR0P gel packs
3. 2 x Refrigerated S6 gel packs
4. 1 x Room Temperature SG22 gel packs
5. MTP cooler packing slip
6. Corrugated foams (Eggcrate foams)
7. Time Stamper
8. Paper
9. Rubber bands

DEFINITIONS:

1. MTP: Massive Transfusion Protocol
2. RBCs: Packed Red Blood Cells
3. FFPs: Thawed Plasmas
4. PLTs: Platelets
5. CRYOs: Cryoprecipitates
6. STAT: Urgent
7. RCMC: Rush Copley Medical Center

8. BB: Blood Bank

NOTE AND LIMITATIONS:

1. RCMC BB does not transport or ship products via coolers. The coolers are to be picked up and dropped off by MTP runner.
2. The insulated gel packs used for this purpose has to be prepared as specified in stepwise procedure below. Failure to follow specified instructions will lead to coolers temperature not meeting expectations, OR possible hemolysis of RBCs if pRBCs are in direct contact with the frozen ice packs.
3. All coolers validated for RCMC transportation or storage must be:
 - a. On wheels;
 - b. Labeled with differentiated identifier;
 - c. On file containing – ID of cooler, date validated, date expired, and how long the cooler is expected to maintain acceptable temperature for the method specified.
4. Payload:
 - a. Type: Red Blood Cells, Plasma (Cold or Warm), and Platelet
 - b. Capacity: 2 to 6 units of RBC, 2 to 6 units of Plasma, 1 to 2 units of Platelets
 - c. Temperature for cold RBC/Plasma: 1 – 6 °C
 - d. Temperature for thawed Plasma: Cooling down towards 1-6°C
 - e. Temperature for Platelets: 20-24°C
 - f. Validated storage duration: 12 hours
5. Coolers are re-validated at least annually.

STEPWISE PROCEDURE:

 1. Storage and preparation of gel packs:

	Frozen BR0P gel packs	Refrigerated S6 gel packs	Room Temperature SG22 gel packs	Corrugated (Eggcrate) foam
Location	Freezer (-18°C or below)	Uncrossmatched Blood Refrigerator	Stays within MTP Cooler Platelet pouch	
Condition	Must be charged in specified location/temperature for a minimum of 12 hours		N/A	

 2. Packing cooler:

- a. Place two frozen BR0P gel packs against the two opposite walls of the container and one in the designated lid pouch, see PROC.#4840-BB-415.1JA.

- b. Place two refrigerated S6 gel packs against the two opposite walls of the container making sure to place them on the **inside face** of the frozen gel packs to avoid putting blood components in close contact with the frozen coolant.
 - c. Place RBCs and FFPs inside the container and close the lid, ensuring that it is sealed properly.
NOTE: RBCs from the refrigerator and warm FFPs from the thawer should be placed in separate compartments specifically labeled for each component.
 - d. Place PLTs inside the platelet pouch in front of the SG22 gel pack coolant bottle and the eggcrate foam.
 - e. Close the platelet pouch lid making sure the front latch is properly connected.
 - f. Obtain a MaxPlus MTP Cooler 2.0 Packing Slip [PROC.#4840-BB-415.1F].
 - g. Write/Affix patient information, and cooler expiration on [PROC.#4840-BB-415.1F].
 - h. Place completed [PROC.#4840-BB-415.1F] in cooler information pouch on top of cooler.
3. Returning cooler and gel pack re-conditioning:
***** To prevent running out of properly charged gel packs, cooler can be refilled and reused without changing gel packs and expiration of the cooler for the same patient having multiple tiers of MTP *****
 - a. Remove products and gels packs from cooler
 - b. All returned frozen gel packs and refrigerated gel packs must be rubber banded together according to their storage conditions
 - c. Time stamp two (2) plain sheet of papers
 - d. Secure the time stamped papers on top of the rubber banded gel packs
NOTE: All frozen gel packs and refrigerated gel packs must be charged for at least twelve (12) hours prior to next use.
4. Cooler maintenance – Cleaning:
The MaxPlus MTP Coolers is manufactured with a plastic that is chemically inert, with a NIL pH factor. Most oils, solvents and water have no effect, allowing it to perform even when exposed to harsh chemicals.

- a. Wipe the cooler clean after each use with one of the following commercially available cleaning products that can be used on plastic surfaces:
 - i. Sani-Cloth
 - ii. Virex
 - iii. OR wipes
 - iv. 6 – 8% Hydrogen Peroxide solution
 - v. 6-10% Bleach solution

CALIBRATION:

Calibration should be done quarterly, see PROC.#4840-BB-_____

QUALITY CONTROL:

N/A

REPORTING RESULTS:

N/A

CALCULATIONS:

N/A

RELATED DOCUMENTS:

1. PROC.#4840-BB-415.1F (MaxPlus MTP Cooler 2.0 Packing Slip)
2. PROC.#4840-BB-415.2F (Cooler Location Form)

REFERENCES:

1. AABB, Standards for Blood Banks and Transfusion Services, *current edition*
2. MaxPlus MTP Cooler 2.0[®] Quick Reference Guide, *version 2.0*

JOB AIDS:

1. PROC.#4840-BB-415.1JA (MaxPlus MTP Cooler 2.0[®] Job Aid)