



University of Washington Medical Center 1959 NE Pacific Street. Seattle, WA 98195 Transfusion Services Laboratory Policies and Procedures Manual	Original Effective Date: 10-28-2020	Number: PC-0084.01
	Revision Effective Date:	
TITLE: Issuing Blood Components in a Blood Cooler at Northwest Campus		

PURPOSE:

To provide instructions for packing blood components in a validated, temperature-controlled, blood cooler when more than one blood product must be issued to a patient on the Northwest campus.

LOCATION

Northwest Transfusion Support Service (TSS)

PRINCIPLE & CLINICAL SIGNIFICANCE:

Blood and blood components are stored in a manner to maintain the safety, efficacy and potency of the component for transfusion from collection to transfusion. The Thermosafe Blood Transport Cooler is validated to provide a stable temperature of 1 to 6°C for up to 4 hours and may be used for the storage and transport of 1 to 6 units of refrigerated blood components.

HemoTemp II indicators are used to ensure that the blood component temperature does exceed 1-10°C.

POLICIES:

- Refrigerated blood components may only be transported in validated blood coolers. Thermosafe coolers are validated to the following parameters:
 - Temperature maintained between 1 to 6°C
 - Maximum load of 4 blood components
 - Maximum time of storage is 4 hours
- Blood components are issued in a cooler when it is medically necessary to issue more than one component. (i.e. emergent release of multiple blood products during a bleeding emergency or Massive Transfusion Protocol and plasma or red cell exchanges).
- Coolers may contain components for only one patient to reduce the possibility of patient transfusion errors.
- Red blood cells and plasma components should be issued in separate coolers.
- Platelet and cryoprecipitate components should not be transported in a refrigerated cooler.
- Refrigerated blood components issued for transfusion in a cooler must have a HemoTemp II indicator applied to ensure the temperature of the blood component does not exceed 10°C while the component is outside of the temperature control storage device in the laboratory.
 - Blood components should be refrigerated at 1 to 6°C for at least 10 hours prior to adhering a HemoTemp indicator

- HemoTemp indicators must be activated prior to use. To activate, the indicator is placed in heat block maintained at 38-42°C for a minimum of 60 seconds
- HemoTemp II indicators may be stored in the heat block for up to 4 weeks or at room temperature until the expiration on the box.
- A minimum of 4 HemoTemp II indicators should be stored in the heat block at all times.
- Do not place activated HemoTemp indicators back in the heat block once removed.
- Discard unused activated indicators in the trash.
- **Warm plasma (>6°C):**
 - HemoTemp indicators should not be affixed to recently thawed plasma that has not reached an internal temperature between 1 to 6°C.
 - It is acceptable to issue warm plasma in a cooler without indicators
 - If returned, the temperature of the plasma will be checked for acceptability before accepting back into inventory – refer to *SOP Returning Issued Blood Components to Inventory on the Northwest Campus*.
- **Coolant for ThermoSafe Coolers**
 - Only blue freeze bottles intended for use with ThermoSafe coolers may be used as a coolant
 - Freezers bottles must be stored in a -20°C or -30°C freezer for 24 hours. Storage at -70°C is not acceptable.
- Blood components returned in a cooler will be accepted back into inventory or rejected according to *SOP Returning Issued Blood Components to Inventory on the Northwest Campus*

SPECIMEN REQUIREMENTS:
N/A

REAGENTS/SUPPLIES/EQUIPMENT:

Reagents:	Supplies:	Equipment:
N/A	<ul style="list-style-type: none"> ● HemoTemp II Temperature Indicators 	<ul style="list-style-type: none"> ● ThermoSafe Blood Transport Cooler ● Heat Block ● Blue frozen gel bottles

QUALITY CONTROL:
N/A

INSTRUCTIONS:

- [Activating HemoTemp II Indicators](#)
- [Applying HemoTemp II Indicators](#)
- [Packing ThermoSafe Cooler](#)
- [Appendix 1: HemoTemp Activation](#)
- [Appendix 2: Packing ThermoSafe Cooler](#)

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Activating HemoTemp II Indicator

STEP	ACTION
1	Pull strip from box and tear off individual HemoTemp II Indicators at the perforation (leaving the back on). IMPORTANT: The irreversible “flower” portion will remain black (non-blue) in color when stored at room temperature (18-26°C).
2	Record the following on the back of the indicator <ul style="list-style-type: none"> • Open date/time • Expiration date - 4 weeks from the day of activation
3	Roll individual indicators and place into the heat block for a minimum time of 60 seconds or until ready for use – up to 4 weeks

Applying HemoTemp II Indicators

STEP	ACTION						
1	Remove a HemoTemp indicator from the heat block.						
2	Allow 60-80 seconds for the irreversible “flower” to turn blue – refer to Appendix 1 <table border="1"> <thead> <tr> <th>If flower</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>Turns blue</td> <td>Remove the backing of the indicator sticker and apply it to the back of the blood bag in the center of the unit.</td> </tr> <tr> <td>Remains black</td> <td> <ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block </td> </tr> </tbody> </table>	If flower	Then	Turns blue	Remove the backing of the indicator sticker and apply it to the back of the blood bag in the center of the unit.	Remains black	<ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block
If flower	Then						
Turns blue	Remove the backing of the indicator sticker and apply it to the back of the blood bag in the center of the unit.						
Remains black	<ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block 						
3	Place the blood bag back side down on the counter and rotate to ensure proper adhesion of the indicator.						
4	Verify that the flower color remains blue <table border="1"> <thead> <tr> <th>If flower</th> <th>Then</th> </tr> </thead> <tbody> <tr> <td>Remains blue</td> <td>Unit is OK to load component in cooler</td> </tr> <tr> <td>Turns black</td> <td> HemoTemp indicator was not properly activated <ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block </td> </tr> </tbody> </table>	If flower	Then	Remains blue	Unit is OK to load component in cooler	Turns black	HemoTemp indicator was not properly activated <ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block
If flower	Then						
Remains blue	Unit is OK to load component in cooler						
Turns black	HemoTemp indicator was not properly activated <ul style="list-style-type: none"> • Discard the indicator • Select a new activated indicator from the heat block 						
5	Repeat steps 1-4 for all components to be issued in a cooler.						

Packing Thermosafe Cooler

STEP	ACTION
1	Obtain 3 blue frozen gel bottles from the appropriate freezer and a plastic product tray from the blood bank refrigerator.
2	Place the plastic product tray in the center of the cooler and place 2 blue frozen gel bottles on each side and 1 blue frozen gel bottle on the in front or back of the product tray - refer to Appendix 2

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STEP	ACTION	
3	Perform and document the issue process according to the following	
	If order is for	Then
	MTP, OB bleed or other bleeding emergency	Issue according to SOP <i>Massive Transfusion Protocol & Emergency Release of Blood Products on the Northwest Campus</i>
	NOT for a MTP or emergency	Issue according to the SOP <i>Issuing Blood Components at Northwest Campus</i>
4	Place blood components in the plastic product tray in the center of the cooler and secure lid.	

CALIBRATION:

PROCEDURE NOTES AND LIMITATIONS:

REFERENCES:

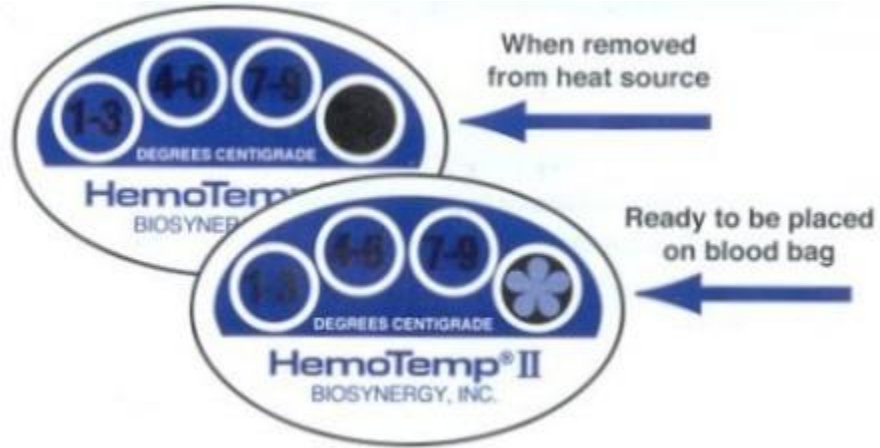
- ThermoSafe Blood Transport Cooler Qualification Report and Packing Instructions. Performed by ISC labs. 5240 West Buckeye Road Phoenix, Arizona 85043-4720. Telephone (602) 484-9745. www.Thermosafe.com
- HemoTemp II Product Insert. BioSynergy, Inc. 1940 East Devon Avenue, Elk Grove Village, IL. 60007. Telephone (800) 255-5274. www.biosynergyinc.com or email bsi@icsp.net

RELATED DOCUMENTS:

SOP *Returning Issued Blood Components to Inventory on the Northwest Campus*
 SOP *Massive Transfusion Protocol & Emergency Release of Blood Products on the Northwest Campus*
 SOP *Issuing Blood Components at Northwest Campus*

APPENDICES:

Appendix 1: HemoTemp Activation



Appendix 2: Packing Thermosafe Cooler



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UWMC SOP Approval:

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Date 10/16/20

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Date 10-16-2020

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Date 10-19-2020

UWMC Biennial Review:

Date _____

Date _____