

## TRAINING UPDATE

**Lab Location:** SGAH and WAH      **Date Implemented:** 2.28.2014  
**Department:** Blood Bank      **Due Date:** 3.15.2014

### DESCRIPTION OF PROCEDURE REVISION

#### **Name of procedure:**

HemoTemp II Temperature Indicators

#### **Description of change(s):**

- The manufacturer's instructions for the HemoTemp II Temperature Indicators was recently updated.
- The indicators must now be activated at temperatures between 38-42°C.
- The irreversible flower will only stay activated for 48 hours (used to be 72 hours)
- The irreversible flower loses its blue color when the unit reaches temperatures of 6-10°C (used to be 10°C).
- The indicator will NOT return to blue if the blood product is warmed to unacceptable temperatures and is subsequently re-refrigerated.

Non-Technical SOP

<b>Title</b>	<b>HemoTemp II Temperature Indicators</b>	
<b>Prepared by</b>	Stephanie Codina	Date: 3/3/2011
<b>Owner</b>	Stephanie Codina	Date: 3/3/2011

<b>Laboratory Approval</b>		
<b>Print Name and Title</b>	<b>Signature</b>	<b>Date</b>
<i>Refer to the electronic signature page for approval and approval dates.</i>		
<b>Local Issue Date:</b>		<b>Local Effective Date:</b>

<b>Review:</b>		
<b>Print Name</b>	<b>Signature</b>	<b>Date</b>

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Form revised 3/31/00

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**1. PURPOSE**

The HemoTemp II Indicator is a core correlated combination irreversible liquid crystal blood temperature indicator and a reversible liquid crystal thermometer for blood products during transit and storage outside the blood bank.

The reversible portion (the numbers) acts as a blood bag thermometer. It is calibrated to display the internal core temperature of the blood between 1-9°C under ambient conditions and is accurate to ± 0.5°C. If the blood product temperature falls below 1°C or rises above 9°C, no number will be visible.

The irreversible portion (the flower) warns when the core temperature of the blood product has exceeded a temperature of approximately 6-10°C. The irreversible indicator is heat activated before it is applied to the blood bag. Once activated, it retains its blue color for at least 48 hours. If the blood is warmed, the irreversible indicator changes from blue to light-blue to a non-blue color to gray and finally to a brownish color. Interpretation of the irreversible indicator depends upon the present or absence of a blue color. The indicator will lose its blue color when the core temperature of the blood product is approximately 10 ± 0.5°C. The indicator will not return to blue even if the blood bank is subsequently cooled again.

**2. SCOPE**

This procedure applies to any situation in which a HemoTemp II Indicator is used to monitor the temperature of a refrigerated blood product.

**3. RESPONSIBILITY**

All blood bank staff members must understand how to use and interpret HemoTemp II Indicators.

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**4. DEFINITIONS**  
 N/A

**5. PROCEDURE**

**Activating and Applying the Indicator**

Step	Action
1	Tear a HemoTemp II Indicator at the perforation (leave the backing on). The irreversible portion "flower" will be a non-blue color under ambient conditions.
2	Write the date of activation on the HemoTemp II indicator in permanent pen or marker (sharpie).
3	Heat the indicator to a temperature of 38-42°C for a minimum of 60 seconds and maximum of 28 days. The indicator is ready for use when the flower turns a blue color. If the HemoTemp II activator is used, place the indicator in the slot flower side down.
4	Remove the backing on the indicator and press it onto the center or near bottom of a refrigerated blood product unit. The indicator has now been activated. <ul style="list-style-type: none"> <li>A. Ensure the blood product bag is wiped free of moisture and oils prior to applying the HemoTemp II device.</li> <li>B. Place the blood product with the face of the indicator down on a flat (not heated) surface. Rotate the bag back and forth to ensure proper adhesion.</li> </ul>
5	Check the "flower" on the indicator. Return to step 3 if the flower is a non-blue color. This indicates the HemoTemp Indicator has not been properly activated.

**Reading an Indicator**

Step	Action
1	When a blood product that contains a HemoTemp II Indicator is returned from issue or transport, the HemoTemp II Indicator can help to ensure the blood product has been maintained at appropriate temperature levels.  The HemoTemp II Indicator should not be the sole method of determining the clinical acceptability of blood products. It is used as part of a good overall blood product monitoring process.

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Step	Action
2	<p>Examine the irreversible indicator "flower."</p> <p>A. If the flower is a blue color, the product has maintained appropriate temperatures.</p> <p>B. If the flower is a non-blue color, the product should be discarded per procedure, "Disposal of Blood and Blood Products."</p> <p>Note: A HemoTemp II Indicator that has been applied to a blood product for <math>\geq 48</math> hours may lose its blue color even if the blood product has been stored at appropriate temperatures. If the blood product was stored in a blood bank refrigerator, use the temperature chart of the refrigerator to determine appropriate storage (such as for GEC).</p>
3	<p>Examine the reversible indicator (numbers).</p> <p>A. A red "1-3" indicates the blood product is approximately 1°C.</p> <p>B. A green "1-3" indicates the blood product is approximately 2°C.</p> <p>C. A blue "1-3" indicates the blood product is approximately 3°C.</p> <p>D. A red "4-6" indicates the blood product is approximately 4°C.</p> <p>E. A green "4-6" indicates the blood product is approximately 5°C.</p> <p>F. A blue "4-6" indicates the blood product is approximately 6°C.</p> <p>G. A red "7-9" indicates the blood product is approximately 7°C.</p> <p>H. A green "7-9" indicates the blood product is approximately 8°C.</p> <p>I. A blue "7-9" indicates the blood product is approximately 9°C.</p> <p>J. Invisible numbers indicate the product has not been maintained at appropriate temperature and it should be discarded per procedure, "Disposal of Blood and Blood Components."</p>

**6. RELATED DOCUMENTS**

- SOP: Disposal of Blood and Blood Products
- SOP: HemoTemp II Activator

**7. REFERENCES**

- HemoTemp II Manufacturer's Instructions. Biosynergy, Inc. Elk Grove Village, IL. 10.25.2013.

Form revised 3/31/09

**8. REVISION HISTORY**

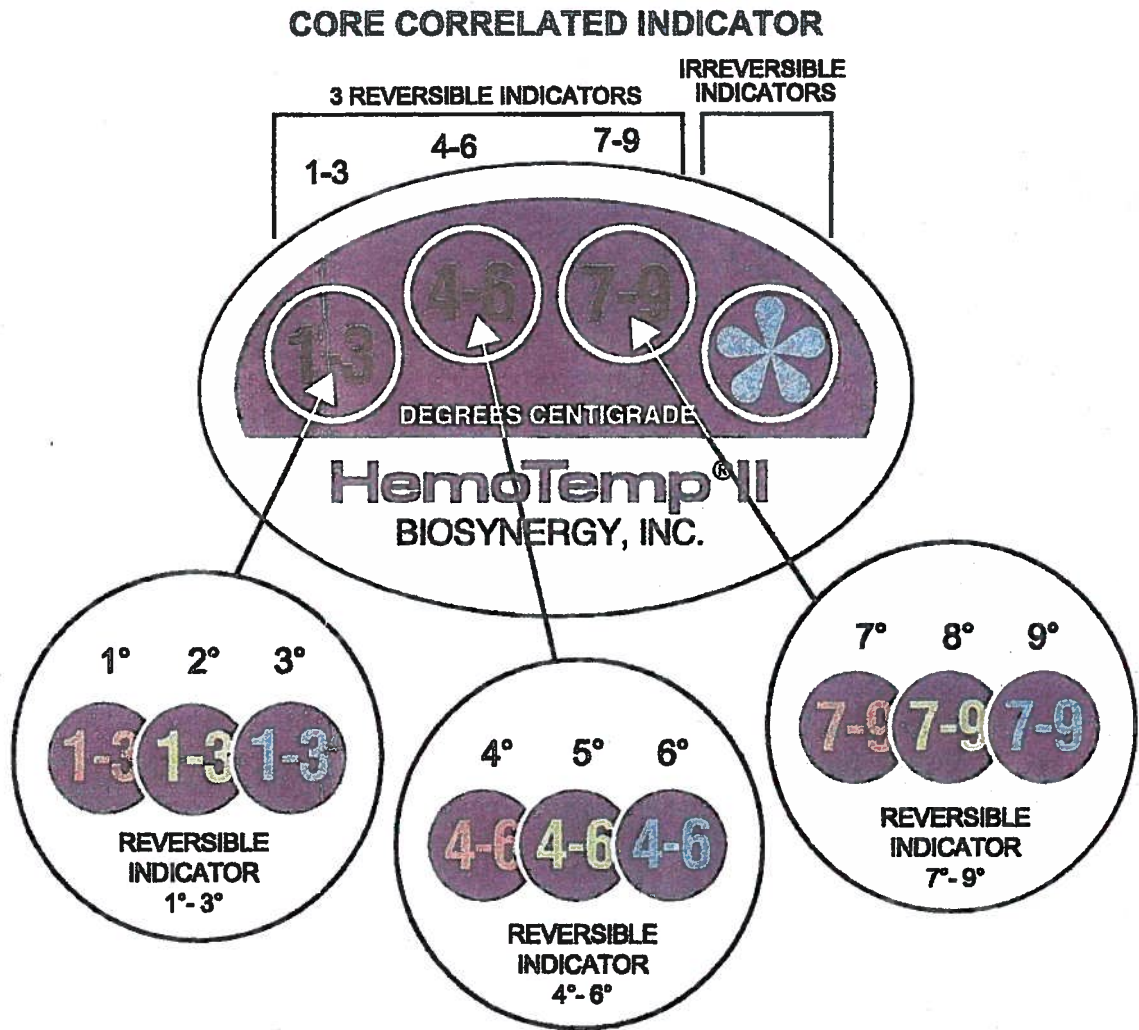
Version	Date	Reason for Revision	Revised By	Approved By
000	2.12.14	Sections 1 & 5: Updated to reflect new manufacturer's instructions: irreversible flower changes to a non-blue color at temps approx. 6-10C instead of 10C; irreversible flower will maintain blue color at acceptable temps for 48 hours instead of 72 hours; activation temperature changed to 38-42C. Section 6: Added HemoTemp II Activator.	SCodina	NCacciabeve
		Footer: version # leading zero's dropped due to new EDCS in use as of 10/7/13.	LBarrett	

**9. ADDENDA AND APPENDICES**  
Appendix A: How to Read the HemoTemp II Indicator

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**Appendix A**  
**How to Read the HemoTemp II Indicator**



**COLOR-TEMPERATURE INTERPRETATION**

- Temperature is in the lower number of the indicator range.  
(1°C, 4°C, 7°C)
- Temperature is in the middle of the indicator range.  
(2°C, 5°C, 8°C)
- Temperature is in the higher number of the indicator range.  
(3°C, 6°C, 9°C)

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