

| Institutional Handbook of Operating Procedures Policy 09.13.40 | |
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| Section: Clinical Policies | Responsible Vice President: Senior Vice President, Chief Medical & Clinical Innovation Officer |
| Subject: General Procedures | Responsible Entity: Nursing Services |

I. Title

Blanket and Fluid Warmer Operating Temperatures

II. Policy

This policy outlines the appropriate use of warming cabinets and monitoring of warming cabinet temperatures to ensure their safe use in patient-care areas. Warming cabinets will only be used for blankets and appropriate fluids, and will be maintained, utilized and monitored in such a manner to minimize the risk of thermal injury to patients and staff.

III. Procedures

A. General Instructions:

1. Blankets and fluids will be warmed in separate, dedicated compartments with separate heating elements and temperature controls.
2. Warming cabinets of any kind will be labeled on the outside of the cabinet to identify the intended content (blankets or fluids: irrigation pour bottles, irrigation bags, IV fluids).
3. Warming cabinets of any kind will be labeled with the appropriate temperature range for the intended content.
4. The blanket or fluid warming cabinets are not to be used for blood or blood products.
5. If the warmer exceeds the recommended range:
 - a. Remove the fluids or blankets.
 - b. Adjust the temperature and document the ACTION taken on the appropriate form.
 - c. Recheck the temperature approximately one hour post adjustment and document. If unable to regulate the temperature, notify the Clinical Equipment Services (CES) department and document the ACTION.
 - d. Clinical warming cabinets will be inspected annually by CES or as needed to assure safe operating temperature settings and performance.

B. Temperature Regulation:

1. A thermometer or digital display must be present in each warming cabinet.
2. Warmers will be set at a constant temperature based on the intended content.
3. Since the temperature settings are adjustable, staff is cautioned not to change the settings outside of the posted ranges.
4. Ongoing temperature monitoring of blanket warmers will be performed by staff working in the vicinity by visual observation of the posted maximum temperature and the temperature gauges on the equipment.
5. Temperature monitoring of fluid warmers will be performed daily and recorded on a temperature log.
6. Do not overfill warming cabinet compartments.

C. Blanket Warming:

The maximum temperature for warming blankets is 130° Fahrenheit or 54° Centigrade.

D. All Warmed Fluids:

1. Operators are cautioned not to put fluids in the blanket compartment due to the higher operating temperature of the blanket compartment.
2. If irrigation pour bottles and irrigation bags (and/ or IV fluids) are warmed in the same compartment, the lower maximum temperature (104°F) must be used.
3. Solutions that are not patient specific should be placed behind the solutions already in the warming cabinet so that stock is rotated.
4. When placed in the warmer, containers will be labeled to indicate that the solution has been warmed (ex. mark “warmed”). In addition, mark the solution with a “use by” date, using the appropriate discard date, calculated with information found in this policy.
5. The only fluid that may be re-warmed once it has been removed from the warming cabinet is Dakin’s solution. Lactated Ringers, irrigation fluid bags and plastic pour bottles should not be re-warmed.
6. Check the integrity of all containers prior to use. If the outlet port protector is damaged, detached, or not present, discard the container as sterility may be impaired. If squeezing the inner bag firmly produces a leak, discard the solution as sterility may be impaired.

E. Irrigation Solutions in bag (within plastic overpouch):

1. Irrigation solution bags may be warmed to a maximum temperature of 104° Fahrenheit or 40° Centigrade for a maximum of 14 days.
2. When placing the solution in the warmer, mark the container to indicate that the solution has been warmed (ex. mark “warmed”). In addition, mark the solution with a “use by” date (calculated as today plus 14 days.)
3. Once an irrigation solution has been removed from the warmer, it should be used or discarded. Do not return it to the warmer or to room temperature storage.
4. If not used within the 14-day warming period, the product should be removed from the warmer and discarded.

F. Irrigation Solutions in plastic pour bottles:

1. The maximum temperature for warming irrigation solutions in plastic pour bottles is 122° Fahrenheit or 50° Centigrade for a maximum of 60 days.
2. When placing the plastic pour bottle in the warmer, mark the container to indicate that the solution has been warmed (ex. mark “warmed”). In addition, mark the solution with a “use by” date (calculated as today plus 60 days).
3. If stored in the same compartment with IV solutions or bags of irrigation solution, the lower of the recommended temperatures must be used.
4. An irrigation pour bottle should be used at the time it is removed from the warmer, or it should be discarded. Do not return it to the warmer or to room temperature storage.
5. If not used within the 60-day warming period, the plastic pour bottle irrigation solution that has been warmed shall be removed from the warmer and discarded.

G. Lactated Ringers IV solution with volumes ≥ 150 mL (within plastic overpouch):

1. Lactated Ringers (LR) may be warmed to a maximum temperature of 104° Fahrenheit or 40° Centigrade for a period of no longer than 14 days if ≥ 3 months expiry remain on the product.

2. When placing LR in the warmer, mark the container to indicate that the solution has been warmed (ex. mark “warmed”). In addition, mark the solution with a “use by” date (calculated as today plus 14 days).
3. LR should be used at the time it is removed from the warmer, or it should be discarded. Do not return it to the warmer or to room temperature storage.
4. If not used within the 14-day warming period, the product should be removed from the warmer and discarded.

H. Dakin’s Solution

1. Dakin’s solution compounded by UTMB pharmacy may be warmed to a maximum temperature of 104° Fahrenheit or 40° Centigrade for a maximum of 7 days.
2. Dakin’s solution that is commercially prepared may be warmed to a maximum temperature of 104° Fahrenheit or 40° Centigrade for a maximum of 3 months.
3. When placing Dakin’s solution in the warmer, mark the solution with a “use by” date.
4. At 7 days or 3 months (as appropriate for the preparation methods stated above) the Dakin’s solution must be discarded.
5. Dakin’s solution may be returned to the warmer and re-warmed (even if opened) up until the “use by” date written on the bottle representing the end of the 7 day or 3-month period.

IV. Related Documents

[Fluid Warming Guidelines](#)

V. Additional References

Baxter Healthcare Corporation, (2019). Letter concerning Baxter medical information. Deerfield, IL: Zuleida Hahn, RPh, Manager, Medical Affairs.

ECRI, “*ECRI Institute Continues to Recommend Maximum Temperature Setting of 130 degrees Fahrenheit for Blanket Warming Cabinets*” ECRI Institute, News, April 1, 2014.

Bujdoso, Paul J, “*Blanket Warming: Comfort and Safety,*” *AORN Journal*, April 2009, Vol 89, No 4, page 717-722.

House Lorna R. “*Blankets Warmed to 200 Degrees °F Do No Harm*”. *Enthermics Medical Systems white paper*.

Kelly, P.A., et al “*Thermal Comfort and Safety of Cotton Blankets Warmed at 130°F and 200°F.*” *Journal of PeriAnesthesia Nursing*, Dec., 2013, Vol. 28(6), p.337 (10).

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CPI Century Pharmaceuticals, INC. (2012). *UTMB Compatibility Study Dakin’s Solutions 0.025% w/v*. Indianapolis, IN: Suchinda Stithit, Director of Regulatory Affairs.

VI. Dates Approved or Amended

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VII. Contact Information

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