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Critical Points

1. Servo-control is the mode of management unless otherwise clinically indicated (e.g., when weaning infant from incubator).
2. Set starting set temperature at 36.5°C. Adjust as needed to maintain the infant’s temperature within a range of 36.5 – 37.5°C. This mode continues until thermal weaning is started. See Thermal Weaning (Incubator to Open Crib Transfer of Infant) Nursing procedure.
3. Infants less than 28 Weeks and/or less than 1 kg are maintained in a humidified incubator unless otherwise ordered. See Incubator Humidity Procedure.
4. Incubator port holes and side panels are closed at all times when care is not being delivered.
5. All care should be delivered through the portholes when possible.
6. When opening the side door or working through the portholes, press the Boost Air Curtain button to reduce heat loss.
7. Air circulation will be unobstructed and objects kept within the incubator are at a minimum.
8. It is recommended infant not be dressed when on servo mode. Hats are allowed. Dressing is appropriate when the thermal weaning process is initiated.
9. Incubators are kept away from cold walls, windows, drafts and direct sunlight, whenever possible.
10. Maintain axillary temperature 36.5 – 37.5°C.

Supplies

- Incubator
- Skin temperature probe (PMM: 261221)
- Reflective probe cover (regular size PMM: 42361, small size PMM: 36723)

Procedure

Servo Mode

1. Plug incubator into wall outlet.
2. Preheat incubator with linens in place prior to admitting infant by placing incubator in AIR MODE and set temperature to 35°C.
3. Once warm, place infant (without clothing) into incubator. (Hat ok).
4. Place skin temperature probe below the infants armpit at the nipple, midaxillary line. Cover probe with reflective temperature cover. Connect probe to incubator.
   - If armpit is not accessible, an alternate placement location is the right lower quadrant of the abdomen, preferably over the liver.
   - Avoid placement in bony prominences.
   - Do not allow the infant to lie directly on the probe as the increased skin temperature will prevent an appropriate adjustment in environmental temperature.
   - Temperature probe maintains good contact and an adequate seal between the probe, probe cover, and patient's skin. Over-heating may occur if there is an inadequate seal or probe becomes dislodged.
   - Probe may be left in place and plugged in while infant is being held or during kangaroo care so as to assist with monitoring infant's temperature.
   - Change probe site daily and as needed. Inspect skin under old site.
5. Change incubator to SERVO MODE, and set temperature to 36.5°C.
6. Measure and document axillary temperature within 30 minutes after placement of infant into incubator.
7. Measure and document axillary temperature every hour x 2 and every 1 hour until stable between 36.5 – 37.5°C.

**Air Mode**

1. Use for thermal weaning only. See [Thermal Weaning (Incubator to Open Crib Transfer of Infant)](#) procedure.

**Maintenance of Incubator**

1. Change incubators every two weeks and as needed if excessively soiled. If patient is in humidified incubator, incubator should be changed every seven days.
2. Wipe down doors at the beginning of each shift and as needed.

**Documentation and Education**

1. Monitor and document in the EMR at ordered intervals: axillary temperature, skin probe temperature, air temperature, servo temperature set, and any thermal aids present in incubator.
2. Provide education to infant’s family/guardian.

**Troubleshooting**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Suspected issue</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulty keeping probe adhered to preterm skin</td>
<td>• Preterm or sensitive skin</td>
<td>• May use silicone tape (i.e. Mepitac or 3M Silicone blue tape) to adhere the probe to skin, then place hydrogel reflective probe cover over</td>
</tr>
<tr>
<td>Inaccurate temperature reading</td>
<td>• Probe not adhering to patient well; probe soiled; probe faulty</td>
<td>• Check probe placement and that it is properly adhered to patient • Ensure probe is clean and free of sticky residue. May clean with alcohol if needed. • Reapply probe and reassess</td>
</tr>
</tbody>
</table>
**INCUBATOR, CARE OF INFANT IN SERVO CONTROL (continued)**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Suspected issue</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical Failure</td>
<td>• Electrical failure of incubator</td>
<td>• Submit ticket to Clinical Engineering, place red tag on incubator and remove from patient use.</td>
</tr>
<tr>
<td></td>
<td>• Calibration/service required for safe operation</td>
<td></td>
</tr>
<tr>
<td>Skin probe failure alarm</td>
<td>• Skin probe not connected properly or not functioning properly</td>
<td>• Attempt to reconnect the skin probe. If this does not work, obtain a new skin probe.</td>
</tr>
<tr>
<td>Skin temperature alarm HIGH or LOW</td>
<td>• When in servo mode, the warmer will alarm when the patient temperature differs from the SET temperature by &gt; 0.5°C</td>
<td>• Confirm patient temp by checking axillary temperature, notify provider if temp is out of ordered range. • Apply new temp probe and adjust probe site</td>
</tr>
<tr>
<td>Unable to diagnose an issue</td>
<td></td>
<td>• Submit ticket to Clinical Engineering, place red tag on incubator and remove from patient use.</td>
</tr>
</tbody>
</table>

**References**

<table>
<thead>
<tr>
<th>Level of Evidence (FAME*)</th>
<th>Reference</th>
</tr>
</thead>
</table>

* FAME Scale details: See nursing policy Policy, Procedure, & Competency Development, Review, & Approval

**Procedure History**

- **Originated:** 06/89
- **Resources:** Jeannie Chan, RN, MS, CNS; Elizabeth Papp, RN, MSN, CNS; Mary Kay Stratigos, RNC
- **Reviewed:** 01/04 Mary Kay Stratigos, RNC
- **Reviewed / Revised:** 06/96, 10/00, 11/03, 06/07
  - 06/14 Linda LeFrak, RN, MS, CNS
  - 06/16 Stephanie Mazely, RNC
  - 11/18 Jeannie Chan RN, MS, CNS; Elizabeth Papp RN, MSN, CNS; Mary Kay Stratigos, RNC-NIC
  - 02/22 Jeannie Chan RN, MS, CNS
Appendix A: Omnibed® Operation as an Incubator

Always preheat the bed before placing the baby in the bed.

1. Select air control mode. If the baby mode is desired, preheat the bed in air mode.
2. Select a temperature setting using the temperature/power buttons (35 C).
3. Place all linen in bed to preheat before placing infant in the bed.
4. Place the baby in the bed.
5. For baby mode operation (SERVO), connect the skin temperature probe to probe jack 1.
6. Press the Baby mode button.
7. Select a temperature (36.5 C) setting using the temperature/power buttons.
8. Secure skin probe to infant using probe cover. Place probe in the axillary line, but not in the axilla or over a boney prominence. Preferred location is the upper right lateral of the abdomen.

**Air Control Mode**

The Air Mode Indicator lights when air mode is selected. Two temperature values are shown in the lower third of the display: the value shown in the larger numerals at the top is the air temperature measured by the compartment probe, the value shown below in smaller numerals is the air set temperature. The set temperature can be adjusted using the temperature/power buttons located at the left of the mode buttons. Temperature settings from 20° to 37°C can be entered in 0.1 °C increments. Temperatures from 37° to 39°C can only be entered after pressing the >37°C Button.

Note: When operating the OmniBed as an incubator in the air mode with a probe attached to the infant's skin, the infant's temperature will also be shown in the baby temperature section at the top of the display.

**Baby Control Mode**

The Baby Mode Indicator lights when baby mode is selected. Two temperature values are shown in the upper third of the display: the value shown in larger numerals at the top is the temperature measured by the probe on the infant's skin, the value shown below in smaller numerals is the baby set temperature. The set temperature can be adjusted by using the temperature/power buttons located to the left of the mode buttons. Temperature settings from 35° to 37°C can be entered in 0.1°C increments. Temperature settings from 37° to 37.5°C can only be entered after pressing the >37°C Button.

Note: When operating the OmniBed as a warmer in the baby mode, the bar graph in the middle of the display will also indicate the percentage of power at which the heater is currently running.

**Warmer Operation**

When operating as a radiant warmer, select the control mode by pushing the Manual Mode Button in the middle or the Baby Mode Button at the top of the controls.