



HEALTH HOLDING

HAFER ALBATIN HEALTH  
CLUSTER  
MATERNITY AND  
CHILDREN HOSPITAL

<b>Department:</b>	Neonatal Intensive Care Unit (NICU)		
<b>Document:</b>	Departmental Policy and Procedure		
<b>Title:</b>	Thermoregulation		
<b>Applies To:</b>	All NICU Staff		
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## 1. PURPOSE:

- 1.1 To provide the nurse with guidelines for thermoregulation of a neonate on radiant warmers and in incubators.

## 2. DEFINITIONS:

- 2.1 Thermoregulation is the ability to balance heat production and heat loss in order to maintain body temperature within a certain normal range.

## 3. POLICY:

- 3.1 Newborn who have mild hypothermia should be continuously monitored as per physician order.
- 3.2 A physician should be consulted when temperature drops below 36°C.

## 4. PROCEDURE:

- 4.1 All newborn will be maintained in a neutral thermal environment (NTE) according to the following guidelines:
  - 4.1.1 Servo control should be turned on with a starting point of 36.5°C. Based on the newborn's axillary temperature, the set point should be lowered or increased to maintain a NTE.
  - 4.1.2 Incubators may be used in servo control or air mode when the newborn is stable and thermoregulatory support is being weaned. The NTE table/ comfort zone on the incubator may be used for guidelines of where to start the set point.
  - 4.1.3 Ensure that the probe is securely positioned on the newborn's abdomen if supine and on the back below the rib cage if prone. Do not allow the newborn to lie on the probe. A false temperature will result thereby increasing or decreasing heater output causing the newborn to become hypothermic or hyper thermic.
  - 4.1.4 Observe for good contact between the probe cover and the skin. Do not place the probe/ probe cover over the excoriated areas.
- 4.2 Newborn requiring multiple invasive procedures are nursed in an open warmer. More stable infants are nursed in closed incubators. Unstable infants are weighed on in bed scales.
- 4.3 Select type of bed required.
- 4.4 Set the servo control at 36.5°C and then adjust to maintain the temperature in the NTE on the radiant warmer. Select servo control or air mode on the incubator.
- 4.5 Pre-warm the beds before placing the newborn on the mattress.
- 4.6 Place supplies/ linens in drawers.
- 4.7 Take the axillary temperature. If newborn is hypothermic, place on a radiant warmer and adjust the servo set point 0.5°C higher than the skin temperature. When the skin temperature reaches the set point, the servo should be increased 0.5°C, and the procedure repeated. Obtain axillary temperatures every 15 minutes until rewarmed.

**Note:** Incubators do not warm newborn, they conserve heat loss. A cold baby will not always warm in an incubator, especially if it is a high risk newborn. Never use manual mode for the radiant warmer for more than 5-10 minutes as it will cause overheating of the newborn.

- 4.8 Maintain axillary temperatures at 36.5-37.5°C for the term newborn and 36.3-36.9°C for the preterm newborn.
- 4.9 Obtain temperature on admission, then every 30 minutes x 2, every hour x 2, and if stable then every 4 hours along with vital signs.
- 4.10 When opening the incubator portholes, activate the air curtain to decrease/ prevent heat loss.
- 4.11 Report any temperature instability to the physician immediately.
- 4.12 NTE will be checked each shift and temperature adjusted to newborn's requirements (weight, age, prematurity and illness).
- 4.13 Weaning from the incubator: opening the incubator portholes, activate the air curtain to decrease/ prevent heat loss.
  - 4.13.1 Criteria include a weight of at least 1500gm with consecutive, stable weight gain and absence of significant disease.
  - 4.13.2 Dress newborn and begin to reduce incubator temperature gradually.
  - 4.13.3 Decrease incubator temperature in accordance with maintaining axillary temperature between 36.5- 37°C.
  - 4.13.4 When the incubator temperature has been successfully weaned to 27°C place newborn in an open crib ensuring sufficient clothing and blankets.
  - 4.13.5 Keep incubator at the bedside. Monitor axillary temperature hourly x 4 hours. If stable, the incubator can be removed from the bedside. If temperature is unstable, then place the newborn into the incubator at the proper NTE and attempt weaning in a couple of days.
- 4.14 Documentation:
  - 4.14.1 When maintained on a radiant warmer, record axillary temperature, skin temperature and set point of servo control.
  - 4.14.2 When maintained in an incubator record axillary temperature, skin temperature, set point of servo control/ air mode and air temperature.
  - 4.14.3 Record when moving to an incubator or to open crib.
  - 4.14.4 Document the newborn's tolerance to weaning, and any changes in the need for supplemental oxygen.
  - 4.14.5 Observe pattern of weight gain for failure to grow/ slow growth when weaning or in open crib.
  - 4.14.6 Parent education provided.

## **5. MATERIAL AND EQUIPMENT:**

- 5.1 Radiant warmer
- 5.2 Incubator
- 5.3 Combination of warmer and incubator (e.g. Giraffe bed).

## **6. RESPONSIBILITIES:**

- 6.1 Physician
- 6.2 Nurse

## **7. APPENDICES:**








N/A

## **8. REFERENCES:**

- 8.1 Ministry of Health, Policies and Procedures in Neonatology, Guidelines for Neonatal Care, page no: 315-317.



## 9. APPROVALS:

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