NCCU CLINICAL GUIDELINES
SECTION: 4

THERMOREGULATION

Section 4: Thermoregulation
Admission of infants onto radiant warmers
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ADMISSION OF INFANTS ONTO A RADIANT WARMER ≤ 32 WEEKS GESTATION OR ≤ 1500GMS BIRTH WEIGHT

The use of radiant warmers is not without risk of overheating and cooling of infants, practices are required to prevent this from occurring. Radiant warmers should be placed in a draft free zone to prevent convective heat loss.

EQUIPMENT

- Radiant warmer
- Polyethylene wrap such as NeoWrap
- Temperature probe
- Hat
- Thermal tunnel
- Plastic sheeting with sticky tape (only for intubated infants)
- Plastic cling wrap
- External humidification unit and tubing (2-3 may be required)
- Hypotonic water for injection (1000mL bag)

PROCEDURE

1. On admission, weigh the infant using radiant warmer scales. Polyethylene wrap should be left around the infant to reduce heat loss or a pre warmed wrap be placed over the infant to prevent heat loss. (See section 1: Admission to NICU)

   (if no radiant warmer scales present weigh infant in blankets then subtract blanket weight from overall to give infant birth weight.).

2. Place the infant on a pre-warmed radiant warmer, which is set at 36.6^{0}C, on infant servo control (ISC).
3. Place a pre-warmed hat on the infant.
4. Attach the skin temperature probe (ISC) under the axilla.
5. Check the infant's axilla temperature. Ascertain correlation with the skin temperature probe.
6. Humidification is to be provided as quickly as possible when admitted onto a radiant warmer, if the infant is ≤32 weeks gestation or ≤1500grams.
7. Set up 2 - 3 external humidifier units with the base temperatures set at 37^{0}C, each attached to airflow of 10L/min of air *(prior to admission and warmed).*
8. Cover the infant with a pre-warmed plastic wrap. Do not cover the head and face unless the infant is ventilated. If necessary a perspex thermal tunnel may be used in addition to the plastic wrap. The wrap may be laid over the tunnel to prevent cooler air circulating around the infant.

Note: plastic thermal tunnels can limit the radiant heat transfer to the infant and therefore require more heat generation from the radiant warmer. Thermal tunnels are only to be used on radiant warmers in conjunction with humidifiers.

9. Position the humidifier tubing so that it directs humidified air inside the tunnel. Never have the humidified air directed straight at the infant as burns may occur, always position it on the opposite side to the face,
10. Cling wrap can be used to cover the entire warmer if the infant is required to stay on the warmer for any extended length of time. Stretch the plastic cling wrap from one wall of the radiant warmer to the opposite wall. Continue this procedure along the length of the radiant warmer bed until it is completely covered, again only if the infant is ventilated.
11. Observe the heater output reading to ascertain effectiveness of external humidity. Ideally heater output should be less than or equal to 50%.
12. Practice minimal handling principles. When access is needed to the infant remove as little of the plastic coverings as possible.
13. Transfer the infant to an incubator when the admission procedure is completed and the infant is stable.
14. PA temperature should be checked hourly until within normal limits and documentation should include the infants PA admission temperature along with the heater output, radiant heater set temperature and the temperature probe reading.

ADMISSION OF INFANTS ONTO A RADIANT WARMER >32 WEEKS GESTATION OR >1500GMS BIRTH WEIGHT

EQUIPMENT

- Radiant warmer
- Temperature probe
- Hat

PROCEDURE

1. On admission, weigh the infant. Ideally using radiant warmer weighing scales.
   (if no radiant warmer scales present weigh infant in blankets then subtract blanket weight from overall to give infant birth weight.)
2. Place the infant on a pre-warmed radiant warmer, which is set at 36.6^{0}C, on infant servo control (ISC). Remove the blankets from the infant.
3. Place a pre-warmed hat on the infant.
4. Attach the skin temperature probe (ISC) under the axilla.
5. Check the infant's axilla temperature. Ascertain correlation with the skin temperature probe.
6. Transfer the infant to an incubator or an open cot as soon as they are stable and their temperature is within the target range. Documentation should include the infants PA admission temperature along with the amount of heater output, radiant heater set temperature and the temperature probe reading.

FURTHER READING

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