



## NEONATAL CARE

### NEONATAL CARE ON THE WARD

## NEONATAL HYPOTHERMIA: MANAGEMENT IF TEMPERATURE $<36.5^{\circ}\text{C}$

**Keywords:** Thermoregulation, neonatal hypothermia, neonatal temperature instability, cold neonate

See [Neonatal Clinical Care Guidelines Section 4 Thermoregulation](#) for information on modes of heat loss and normal temperature ranges for neonates.

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### KEY POINTS

1. Normal axillary temperature range for the term neonate at KEMH is classified at  $36.5^{\circ}\text{C} - 37.4^{\circ}\text{C}$ .<sup>1</sup>
2. Neonatal hypothermia can lead to increased oxygen consumption<sup>2</sup>, increased risk of hypoglycaemia<sup>2</sup> and if untreated can lead to neurological complications, hyperbilirubinemia, clotting disorders, and even death.<sup>3</sup>
3. Monitor the neonatal temperature 15 minutely during warming.<sup>1</sup>
4. A neonate under a radiant cot warmer **must not** be left unattended.
5. Maternal and neonatal history should be reviewed for any neonate with hypothermia to exclude any conditions which may lead to hypothermia. Consideration should be given to infection being the cause.
6. The paediatric resident or registrar should be informed if a neonate, after treatment/management of hypothermia, is unable to maintain its temperature within the normal range.

### MILD HYPOTHERMIA - NEONATAL TEMPERATURE BETWEEN $36^{\circ}\text{C} - 36.5^{\circ}\text{C}$

1. Where possible initiate skin-to-skin contact with the mother to improve thermoregulation, promote maternal bonding, and decrease the need to separate the neonate from the mother. This is done by placing the undressed, nappy clad neonate against the mother's chest between her breasts facing her and covering the infant and mother with warm blankets. The blankets should cover the neonate up to the neck, but should not cover the head. Ensure the maternal skin is dry and the infant has a bonnet on.<sup>3</sup>
2. If the neonatal temperature is still decreasing after 30 minutes of skin-to-skin contact, or if there are any symptoms of neonatal distress<sup>3</sup>, cease skin-to-skin contact. Take the neonate to the ward nursery and place on the radiant warmer, request the medical staff to review the neonate, and inform the shift co-ordinator.
3. Assess for any risk factors or signs of an underlying pathological condition which may cause neonatal hypothermia.<sup>3</sup>
4. When the neonatal temperature returns to the normal range the neonate may be dressed with warmed clothing, including a bonnet, and wrapped warmly.
5. Monitor the neonatal temperature hourly for 3 hours to ensure the neonate's temperature remains stable.
6. Inform the shift co-ordinator and paediatric resident / registrar if the neonatal temperature is unstable despite these measures.
7. Document the management contemporaneously.

## MANAGEMENT FOR NEONATAL TEMPERATURE BELOW 36°C

In circumstances requiring rapid rewarming the neonate should be placed under an overhead radiation heat source.<sup>4</sup> In the wards at KEMH a neonatal resuscitation cot is used.

When placing the neonate under the radiant heater:

- Inform the shift co-ordinator and Paediatric resident / registrar.
- Ensure the radiation heat source/resuscitation cot is not near an open door or exposed to draughts.
- Ensure the heater is on and warmed prior to undressing and placing the neonate under the heater.
- The neonate **must not** be left unattended while under the warmer.
- The neonate is placed under the warmer naked except for a bonnet. Ensure the neonate is dry to prevent evaporative heat loss.<sup>2</sup>
- Attach servocontrol (if available) to the abdominal skin and set it at 36.5°C – 37°C.<sup>2</sup>
- Monitor the neonatal temperature and record 15 minutely while under the warmer.
- When the neonatal temperature is 36.5°C or above, remove from the warmer, dress including a bonnet and wrap well in pre-warmed clothing and blankets. Document management.
- Monitor the neonatal temperature hourly for 3 hours after removal from the radiant heat source.
- Delay bathing until six<sup>5</sup> consecutive hours of normal temperature range has been maintained.
- If the neonatal temperature does not increase while under the warmer inform the shift Co-ordinator. Inform the Paediatric Resident / Registrar if the neonate is not increasing its temperature or maintaining a normal temperature range with treatment.

### REFERENCES / STANDARDS

1. Neonatology Clinical Care Unit. Section 4 Neonatal Temperature Ranges. **King Edward Hospital Neonatology Clinical Guidelines**. Revised 2009.
2. Gomelia TL, Cunningham MD, Fabien GE. Temperature Regulation. **Neonatology: Management, Procedures, On-call Problems, Diseases, and Drugs**. 5th ed. New York: McGraw-Hill; 2004.
3. Galligan M. Proposed Guidelines for Skin-to-Skin Treatment of Neonatal Hypothermia. **Maternal Child Health Journal**. 2006;31(5):298-304.
4. Blake WW, Murray JA. Heat balance. In: Merenstein GB, Garner SL, editors. **Handbook of Neonatal Intensive Care**. 6th ed. St Louis: Mosby; 2006. p. 122-36.
5. World Health Organization Department of Reproductive Health and Research. **Pregnancy, Childbirth, Postpartum and Newborn Care: A Guide for Essential Practice (Section K10)** 2006. Available from: [http://www.searo.who.int/LinkFiles/Making\\_Pregnancy\\_Safer\\_PCPNC\\_2006.pdf](http://www.searo.who.int/LinkFiles/Making_Pregnancy_Safer_PCPNC_2006.pdf)

National Standards – 1- Care provided by the clinical workforce is guided by current best practice  
4- Recognising and Responding to Clinical Deterioration in Acute Health Care.

Legislation - Nil

Related Policies - Nil

Other related documents – [NCCU Clinical Guidelines Section 4: Thermoregulation](#)

### RESPONSIBILITY

<b>Policy Sponsor</b>	<b>Nursing &amp; Midwifery Director OGCCU</b>
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