



## Standard Treatment Workflow (STW) THERMAL CARE OF NEWBORN ICD-10-P81.8

Temperature measurement for neonates is mandatory in the given settings to diagnose hypothermia

Delivery room - in the first hour after delivery

Prior to and during transport

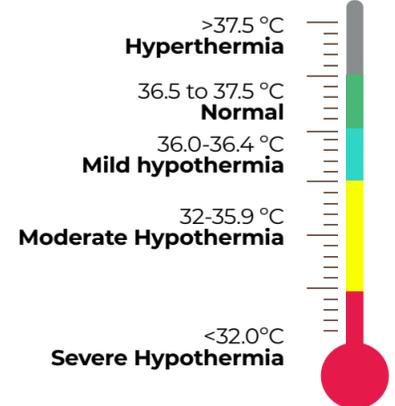
At the time of admission

Continuous monitoring for all babies nursed in radiant warmer/ incubator

At-risk neonates staying with mother e.g. - LBW, preterms - every 4 hourly

### STANDARD TECHNIQUE FOR MEASUREMENT OF TEMPERATURE

- Use a standard digital thermometer
- Place the tip in the neonate's axilla keeping it parallel to the neonate's trunk
- Read once the beep sound is heard



### REGULARLY MONITOR TEMPERATURE AND DOCUMENT

NO

Is it <36.5 °C?

YES

- Check for possible cause of hypothermia
- Assess for risk factors & clinical features of sepsis (Refer to sepsis STW)
- Check room temperature

### MILD HYPOTHERMIA: 36 °C- 36.4 °C

- Ensure room temperature 25-28 °C
- Provide skin-to-skin (STS) contact
- Continue breastfeeding
- If sick, nurse under radiant warmer
- **RECHECK TEMPERATURE IN 1 HOUR:**
- If normal, wrap properly
- If still <36.5 °C then treat as moderate hypothermia

### MODERATE HYPOTHERMIA: 32 °C- 35.9 °C

- Nurse under radiant warmer in servo mode with temperature probe attached to neonate
- Continue skin-to-skin contact till warmer is available ensuring mother-neonate dyad is covered with pre-warmed linen
- Start O<sub>2</sub> if SpO<sub>2</sub> <91%
- Check blood sugar, if <45 mg/dL then follow STW on Hypoglycemia
- Recheck temperature every 15 minutes till it normalizes
- Continue feeding if stable and abdominal examination is normal

### SEVERE HYPOTHERMIA: <32 °C

- Manage as per moderate hypothermia
- Make nil per oral
- Start IV fluids (refer to STW on Feeds and fluids)
- Give Inj. Vitamin K
- Refer to higher centre if develops shock or respiratory failure (refer to STW on Neonatal Transport)

### PREVENTION OF HYPOTHERMIA- MAINTENANCE OF WARM CHAIN

#### DELIVERY ROOM (DR)

- Radiant warmer is must in Neonatal Care Corner
- Area should be air draught free
- All DRs should have room thermometer
- Maintain DR temperature >25 °C
- Switch on radiant warmer 20-30 minutes before delivery
- Radiant warmer should be in manual mode with heater output being 100%
- Pre-warm two to three sterile towels by keeping them under radiant warmer for 20 minutes
- Practice early skin-to-skin contact for stable neonates for 1 hour or at least till first breastfeeding
- Dry newborn immediately after birth
- Remove wet linen immediately
- Weighing and checking temperature should be done after breastfeeding

#### POSTNATAL WARDS

- Cover neonate adequately
- Practice rooming-in 24x7
- Avoid air draughts by closing windows, doors, and switching off fans and air conditioners
- Start Kangaroo Mother Care (KMC) as early as possible for eligible neonate
- Promote exclusive breastfeeding
- Delay bath till after discharge
- Remove wet clothes as early as possible
- Educate mother regarding identification of hypothermia using touch method

#### WARM CHAIN DURING TRANSPORT

##### Without external heat source:

- A fully wrapped neonate with cap can be transported in an adult's arms in a closed vehicle
- Neonate can be transported in skin-to-skin contact
- Ensure that the neonate is in upright position and covered snugly with the person's clothes and a blanket

##### With external heat source:

- A thermal mattress or a transport incubator
- Indigenous insulated boxes can be used in resource-limited settings
- No neonate should be placed naked in a trolley or bed without an external heat source



Early skin-to-skin contact



Adequate clothing & rooming-in



Kangaroo Mother Care



Radiant warmer

### HYPERTHERMIA

- Neonates may become hyperthermic due to high environmental temperature and/ or overclothing
- Differentiate from sepsis: If both trunk & extremities are hot, an environmental cause is likely. If trunk is hot & extremities are cold, consider sepsis
- If baby is hyperthermic, move to cooler environment and decrease clothing. Ensure adequate breastfeeding and check weight loss
- If still hyperthermic, needs further evaluation

### REFERENCES

1. World Health Organization. Maternal Health and Safe Motherhood Programme & Meeting of Technical Working Group on Thermal Control of the Newborn (1992 :Geneva, Switzerland). (1993). Thermal control of the newborn : a practical guide. World Health Organization. <https://apps.who.int/iris/handle/10665/60042>

### HYPOTHERMIA IN NEWBORNS INCREASES MORTALITY. PREVENT HYPOTHERMIA - MAINTAIN WARM CHAIN

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of DHR for more information: ([stw.icmr.org.in](http://stw.icmr.org.in)) for more information.  
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