

# M08: Neonatal Thermoregulation

Wes Bihlmayr

Updated: November 27, 2020

Reviewed:

## Introduction

Neonates have a high body surface to weight ratio making them more prone to the four mechanisms of heat loss: convection, conduction, radiation, and evaporation. Paramedic management of neonatal thermoregulation involves these four mechanisms.

- Convection: Decrease the wind or drafts in a room.
- Conduction: Heat is lost from a warm to a cooler surface.
- Radiation: Heat is lost to the environment when the environment is cooler than the body.
- Evaporation: Moisture on the body can accelerate the loss of heat from the other modes of heat loss.

## Essentials

- In addition to preparing an area for resuscitation during the delivery of a neonate it is important to think about preparing the environment for the neonate. Environmental preparation revolves around the 4 mechanisms of heat loss:
  - Convection: Warm the room, eliminate any cold drafts
  - Conduction: Warm towels and warm surface
  - Radiation: Warm the room
  - Evaporation: Dry the baby off and place a toque on the baby's head
- The ideal temperature range for a neonate is 36.3 - 37.2°C
- Encouraging "kangaroo care" for some time following delivery develops strong bonding between the neonate and mother which promotes family centered care. Kangaroo care is performed by placing the neonate on the mother's chest while maintaining the principles of heat loss. In the stable neonate this can be performed while you await the delivery of the placenta.

## Additional Treatment Information

- Unless there are indicators of hypoglycemia a blood sugar is not required until a few hours after birth.

## Referral Information

Neonates with no system specific problem that are maintaining a normal temperature can be left in the care of a midwife or other health professional. If no medical professional is on scene, the baby should be transported for an initial assessment.

