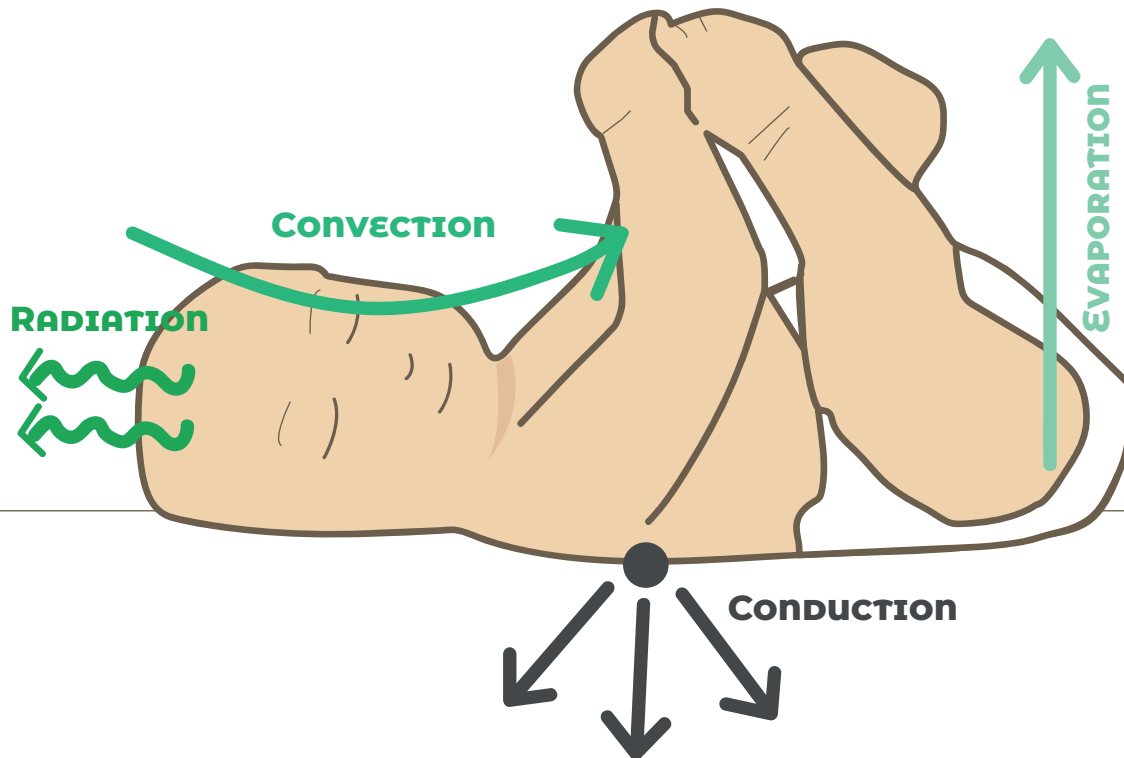


# MECHANISMS OF HEAT LOSS IN NEWBORNS



## Conduction

Heat loss occurs when the child is placed on a **cold surface**. Losses by conduction contribute minimally to energy expenditure.

## Convection

Heat loss is determined by **the airflow around the newborn**, the ambient temperature, the average skin temperature, and the exposed surface area of the newborn.

## Radiation

The child radiates heat to cold objects. Heat loss through the skin may be **responsible for 40% or more of daily heat loss**. This highlights **the need for thermal shields**, such as wraps and caps, especially in premature infants, newborns with low birth weight, or those with respiratory diseases.

## Evaporation

**The major cause of heat loss is due to exposure of wet skin.** A drop of 2-3°C can occur in the first 20-60 minutes **if the newborn is extremely premature** or if proper drying and wrapping measures are not taken.