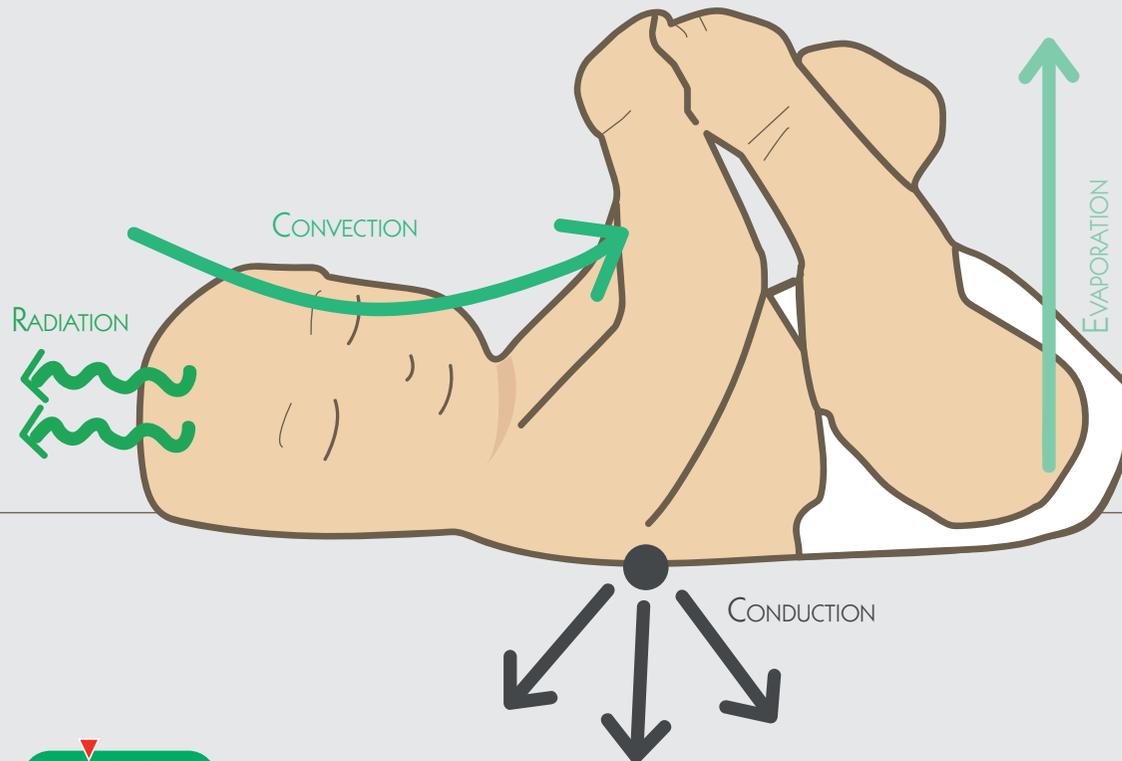


Mechanisms of Heat Loss in Newborns



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.