

Normal body temperature is 36.3 to 37.3

Thermoneutral zone is where ambient temperature minimises the metabolic cost of body temperature maintenance (27-31 degrees C for naked 70kg male).

Maintenance of body temp is dependent on a balance of loss vrs gain

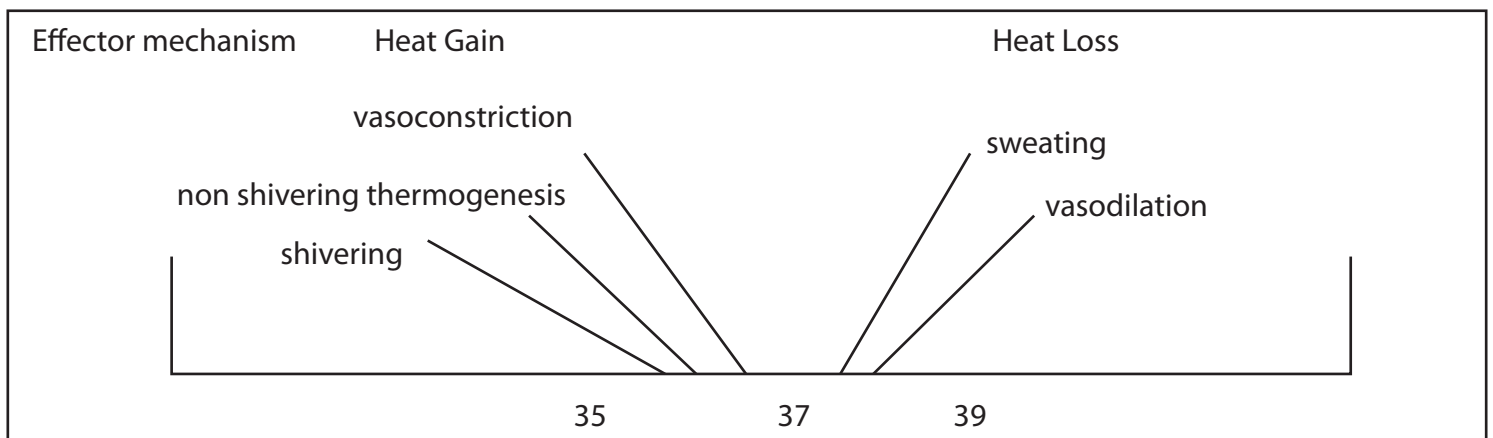
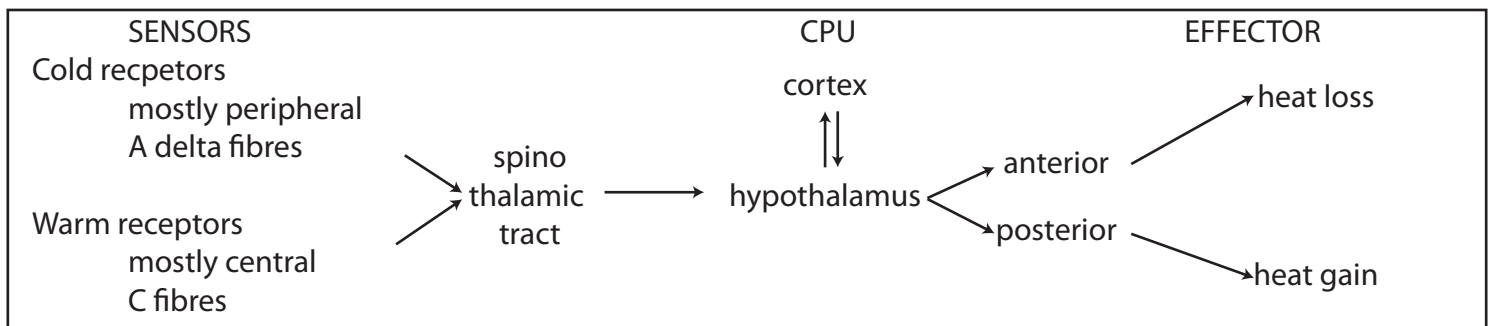
Heat Loss

- Radiation (60% at rest)
- Conduction (5%)
- Convection (25%)
- Evaporation (10%)
- Behaviour

Heat gain

- Basal metabolism
- Shivering
- Nonshivering thermogenesis
- Exercise
- Behaviour

The skin is the main effector organ in the body with respect to maintaining body temperature.



Sweating

- causes heat loss via evaporation (latent heat of vapourisation)
- can dramatically increase % loss
- 0.58 kCal per gram of water

Vasodilation / Vasoconstriction

- causes heat loss via mainly via radiation
- CO to skin can increase from 1-2% to 30% of total CO