

Environmental Emergencies



Learning Outcomes

- You will be able to:
 - Recognise environmental effects to our body
 - Recognise the importance of normal body temperature
 - Provide first aid to environmental injuries



Hyperthermia

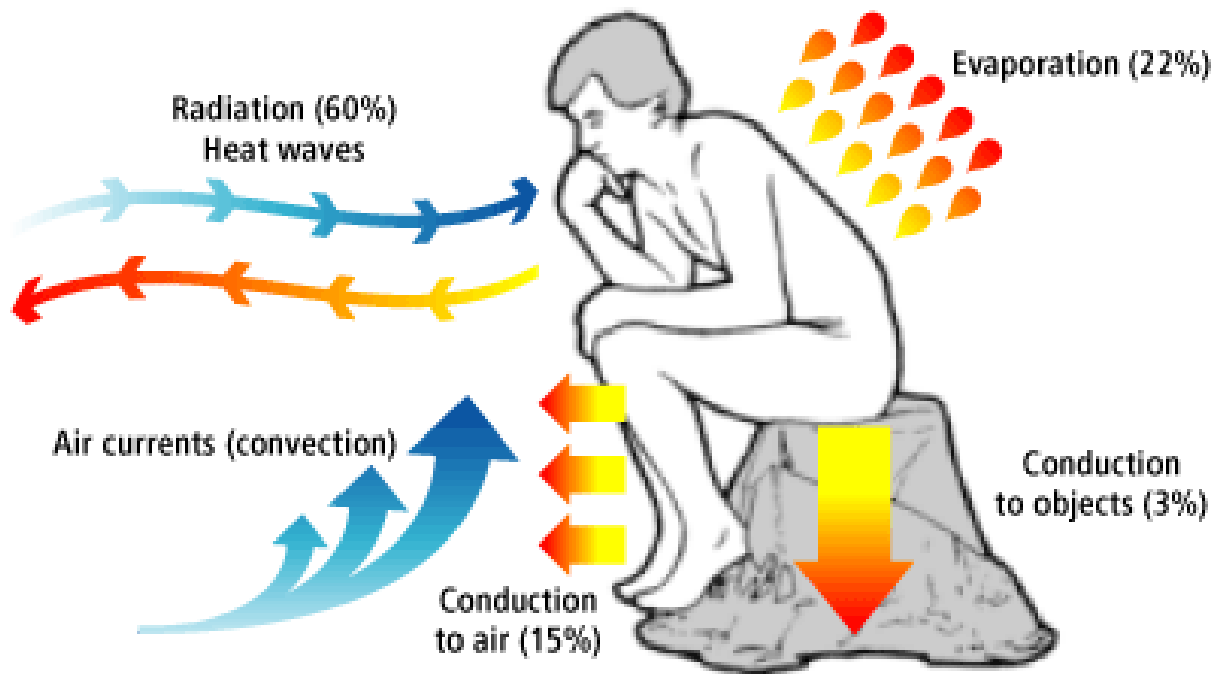
- Source of heat
- Normal body temperature
- Mechanism of sweat



Heat Exhaustion

- Loss of salt and water
- Humidity

Figure 1: Mechanisms of heat loss from the body



Recognition

- Headache, dizziness and confusion
- Loss of appetite and nausea
- Pale, clammy skin
- Cramps
- Rapid, weakening pulse and breathing



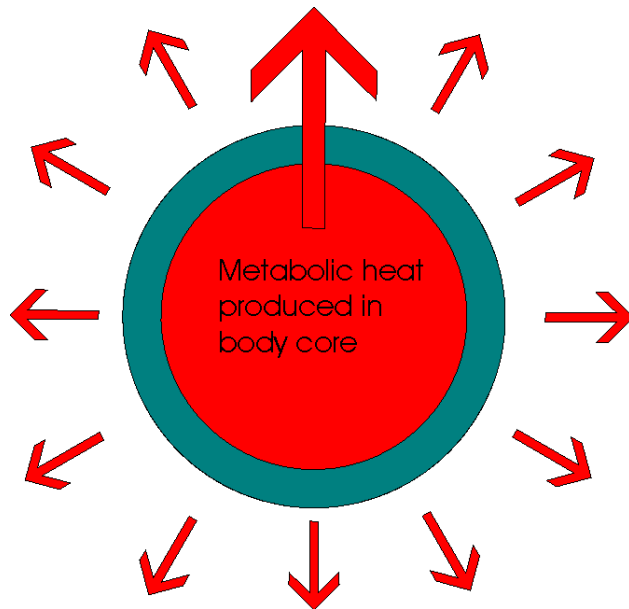
Treatment

- Rest at cool place
- Plenty of water + salt
- If deteriorate, recovery position
- Monitor and record vital signs
- Be prepared to resuscitate
- Removal to hospital



Heat Stroke

- Failure of the 'thermostat'
- Body become over heated
- Can follows heat exhaustion when sweating cease



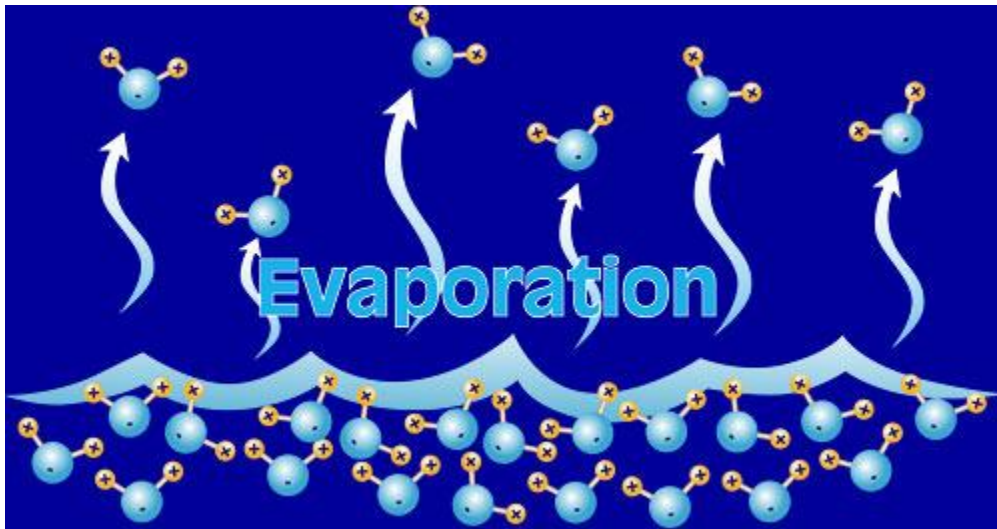
Recognition

- Headache, dizziness
- Restlessness and confusion
- Hot, flushed and dry skin
- Rapid deterioration in the level of response
- Full bounding pulse
- Body temperature above 40°C (104°F)



Treatment

- Move to a cool place
- Remove clothing
- Water and fan
- Monitor and record vital signs



BODY SIGNS/SYMPTOMS
TEMP. (rectal)

www.hypothermia.org

37.5°C NORMAL

36 FEEL COLD

Seek dry shelter, replace wet clothing with dry including socks, gloves, hat, cover neck, insulate whole body including HEAD from cold. Exercise but avoid sweating. External warmth (bath, fire) ONLY if CORE TEMP. above 35°C. Warm sweet drinks and food (high calories).

35 SHIVERING

BODY CORE TEMPERATURE BELOW 35°C = HYPOTHERMIA = HOSPITAL

NO EXERCISE, HANDLE GENTLY, REST.
NO EXTERNAL WARMTH (except to chest, trunk, eg. Hiebler Jacket).
Warm sweet drinks and calories.
Internal warming via warm moist air (exhaled air, steam) or warm moist oxygen (40 - 42°C at mask).

CLUMSY

**34 IRRATIONAL
CONFUSED
(may appear drunk)**

33 MUSCLE STIFFNESS

Monitor pulse, breathing. Restrict all activity, lie down with feet slightly raised.

32 SHIVERING STOPS, COLLAPSE. TRANSFER TO HOSPITAL. URGENT.

31 SEMI CONSCIOUS

**30 UNCONSCIOUS
No response to painful stimuli**

Nothing by mouth. Check airway remains open.
May tolerate plastic airway, put in recovery position, check airway, turn every 2 hours to protect skin, monitor pulse and breathing.

29 SLOW PULSE AND BREATHING

Slow mouth-to-mouth breathing, at victim's own rate (may be very slow).

**28 CARDIAC ARREST
No obvious pulse or breathing
Pupils dilated**

Check airway. CPR, with mouth-to-mouth breathing. Aim for normal CPR rates of 12-15 breaths/min. and 80-100 compressions/min. but slower rates of 6-12 breaths/min. and 40-60 compressions/min. may be adequate. Continue for as long as you can.

BELOW 28°C. NO VITAL SIGNS, COLD. DO NOT GIVE UP TREATMENT.



Hypothermia

- Develop over time
- Infants, older people and those who are thin and frail are the worse affected
- It can also be caused by prolonged exposure to cold out of doors.



Mother Nature

- Moving air has a much greater cooling effect than still air
- Death from immersion in water may be caused by hypothermia not drowning
- Wet clothes vs Dry clothes



Recognition

- Shivering, and cold, pale, skin
- Apathy, disorientation or irrational
- Impaired consciousness
- Slow and shallow breathing
- Slow and weakening pulse.
In extreme cases, the heart may stop



Treatment

- Prevent from losing heat
- Re-warm the casualty slowly
- Replace wet clothing
- Blanket
- Give warm drinks, soup or high energy foods such as chocolate
- Regularly monitor and record the casualty's vital signs





If temperature went up slowly, bring it down slowly



If temperature went down slowly, bring it up slowly



Question



Lifting & Handling