

Hyperthermia

Hyperthermia

Core temperature $> 40.5^{\circ}\text{C}$ | 107°F

Hypothermia cut off: $< 35^{\circ}\text{C}$

32-35	Mild
28-32	Moderate
< 28	Severe

Preferred site for checking core temperature

1. LOWER ESOPHAGUS : distance 40 cm from incisor teeth
2. RECTUM : " 10 cm " Anal verge
3. PULM. ARTERY :

1. ALTERED MENTAL STATUS
2. BOUNDING PULSES
3. CORE BODY TEMP $> 40.5^{\circ}\text{C}$

HEAT STROKE
CUTANEOUS
VASODILATION

Pulse pressure = \uparrow
SBP - DBP
 \uparrow \downarrow



Causes of Hyperthermia



1. Classic hyperthermia

Old, ENVIRONMENTAL EXPOSURE, ANHIDROSIS

Hypothalamus
* Shivering → Posterior
* Sweating → Anterior

2. Exertional hyperthermia

Young guy

EXERCISE, diaphoresis

* Humidity: > 75%. sweat does not evaporate

3. Stroke

Pontine

Pin point pupils

? CT = Temp ↑
head RR ↑

Temp ↓
RR ↓

4. Drugs

MALIGNANT HYPERTHERMIA: Sch

Neurolept malignant syn

MUSCLES RIGIDITY

TEMP +++ HR ↑ BP ↑

↓
morphine overdose

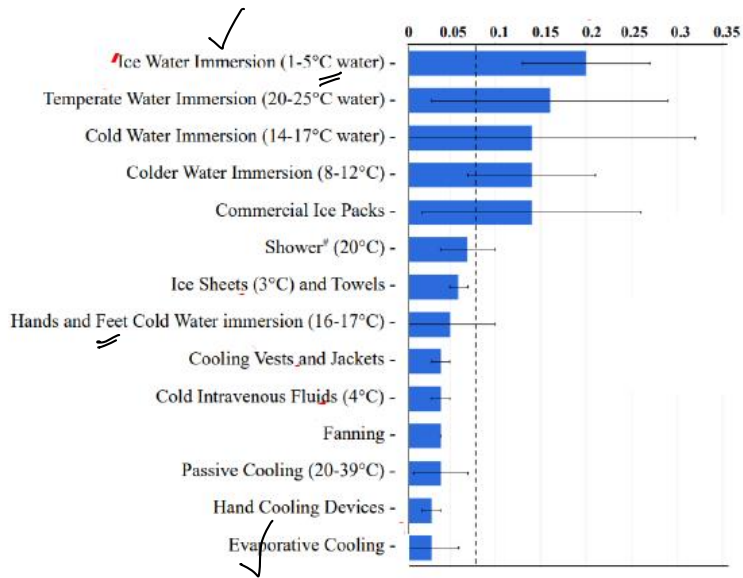
Rx: ICE PACK

Soda bicarb, DANTROLENE

→ SODIUM

rule out: Malaria, Meningitis, sepsis, drugs

Nursing assessment	Nursing interventions
Fatigue, exhaustion Nausea, vomiting Loss of consciousness	1. Insert thermistor or foley's with temperature sensor Tip of esophageal probe is <u>40</u> cm from incisors <i>15 + 25</i> Tip of rectal probe is <u>10</u> cm from anal margins
Sweating Exertional: + <i>mydriasis</i> Classic : -	2. NG Tube 3. Foley catheter 4. Achieve Normothermia
Dark urine <i>dehydration</i> Reduced urine output	Target is to decrease body temperature by <u>0.2°C</u> per minute to <u>39°C</u>
Labs: <i>pH ↓</i> Lactic acidosis Deranged KFT/ LFT	<ul style="list-style-type: none"> • Use ice immersion bath * • Cover with <u>wet bed sheet</u>/ ice and tepid water and switch on fan • Let water <u>evaporate</u> • To prevent shivering: BZD or NM paralysis <i>IV lorazepam</i> • <u>No role of PCM IV</u> 5. Monitor <ul style="list-style-type: none"> - Airway patency - BP - Blood sugar; give 50%DW (<i>THIAMINE</i>) - Record Neuro status - Watch for seizures - Infection - Arrhythmia



(Left) Immersion tubs inside the unit; (Right) the hospital also has an inflatable tub to be used in emergency. (Express File Photo)

Daily-wage worker Raju Kumar is lying on a bed, connected to a ventilator. The 35-year-old migrant worker from Jhansi breaks stones at a road construction site in Mahipalpur. He has had a heat stroke and after several hours in the critical care unit, doctors are finally hopeful he may make it.

✓
↓
infusion of dextrose and thiamine if indicated. Hypoglycemia is a common occurrence in patients with EHS and may be a manifestation of liver failure; therefore, infusion of dextrose 50% in water solution (D50W) should be considered in all patients with heat stroke.

Intensive care personnel must pay meticulous attention to the airway, reduce the temperature, limit the production of heat, optimize circulation, and monitor for and treat complications. Interventions to enable monitoring include the following:

- Insert a thermistor probe or temperature-sensing Foley catheter to monitor temperature continuously ✓
- Insert a nasogastric tube to monitor for gastrointestinal bleeding and fluid losses ✓
- Place a Foley catheter to monitor urine output and/or monitor body temperature

The goal of treatment is to reduce the temperature by at least 0.2°C/min to approximately 39°C. A flexible indwelling thermistor rectally or an esophageal probe can be placed to monitor core body temperature during treatment; alternatively, a more modern method is to use a temperature-sensing Foley catheter. Because thermal instability may persist for a few days after the onset

STRESS

⊕ parietal

→→ Acid

EROSIVE GASTRITIS