

Emergent Management of **Hyperthermia**

If patient feels very hot: **early rectal temp**
if high with altered mentation, suspect life-threatening hyperthermia requiring highest level of resuscitative attention

Absence or presence of sweating not diagnostically useful, focus on temp and mental status

Urgent Hyperthermia (40°-41°C / 104°-106°F)

Strip Spray Fan Ice

1. Remove clothing
2. Continuously spray tepid (slightly warm, not cold) water over skin
Do not use wet sheets/towels (prevents evaporation)
3. Constant high velocity fanned air
4. Apply ice packs diffusely about the body (not just at groin/axilla)

Discontinue active cooling when core temperature reaches 39°C / 102°F

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Emergent Hyperthermia (≥41°C / 106°F)

Immediate aggressive cooling is **first priority**—every minute patient is dangerously hyperthermic increases mortality

Ice Water Submersion

1. Multiple people fill large containers (e.g. patient belonging bag) with ice
2. Remove any loose clothing
3. Put patient in body bag on stretcher
4. Rectal temperature probe
5. Cover patient in ice+water slurry up to but not including anterior chest

When core temperature reaches 39°C / 102°F take patient out of body bag and place onto dry stretcher, ideally onto warm towels, cover and continue to monitor

Other Considerations

- Most patients benefit from **crystalloid**; chilled saline or LR is preferred but room temperature OK
- Don't forget **usual resuscitative care** (e.g. ABCs, capillary blood glucose, monitoring, adequate access)
- Kidney injury with **hyperkalemia** is an important early dangerous complication
- Many patients with heat stroke are properly managed by endotracheal intubation: **avoid succinylcholine** and use hyperventilatory initial vent settings (tidal volume and RR higher than usual)
- If patient has significant **shivering**, treat with benzodiazepines, fentanyl, consider paralysis
- If hypersympathetic (e.g. cocaine), treat with **benzodiazepines**, consider anticholinergic toxicity
- Rhabdomyolysis is common, watch **CPK**
- Consider hyperthyroidism, serotonin syndrome, and malignant hyperthermia as well as occult trauma
- Avoid vasopressors in initial cooling phase, even if hypotensive

Alternative Cooling Modalities

- Therapeutic hypothermia device can be used, but will take longer than above techniques and is probably less effective
- Invasive techniques (thoracic lavage, cold water through foley or NGT) are second line, not preferred
- Do not use antipyretics (acetaminophen, NSAIDs) in non-infectious hyperthermia
- Dantrolene is controversial, possible role in patients with toxin-induced hyperthermia, consider if inadequate response to initial measures