

SCGH ED

HYPOTHERMIA PATHWAY



Mild

32° - 35°C

- Conscious
- Shivering
- May have amnesia / apathy / dysarthria

Moderate

28° - 32°C

- Altered mental state
- Shivering reduces / ceases
- Dysrhythmias (commonly bradyarrhythmia / AF)

Severe

<28°C

- Unconscious
- Absent shivering
- Loss of reflexes
- Cardiovascular instability (hypotension / bradycardia)

Hypothermia lowers the threshold for arrhythmias which can be triggered by movement of the patient - handle patient gently

Initial management

1

- Remove all wet clothes and cover patient with a warm blanket
- Perform a rapid A-E, prioritise BSL and VBG. Apply defib pads to patients <30°
- Consider the underlying driver for hypothermia (sepsis, toxicological, environmental, endocrine)
 - Investigate and treat appropriately

Commence active warming

2

- Apply Bair-Hugger and set to 43°
- A single sheet may be placed over the Bair-Hugger to ensure effective positioning
- Humidified high-flow nasal cannula - set to max heat and at least 20L of flow, titrate oxygen to patient requirement
- Place a warm blanket around the patient's head

Ongoing temperature monitoring

3

- **Mild hypothermia:** Tympanic monitoring or alternatively invasive temperature monitoring if failing to warm or change in clinical state
- **Moderate / Severe hypothermia:** Insert invasive temperature monitoring
 - Oesophageal probe (inserted to lower third of oesophagus) if patient is intubated
 - Rectal probe - with rewarming, will demonstrate a lag behind true core temperature

Consider additional rewarming strategies

4

- Warm IVH to prevent secondary heat loss
- Consider bladder lavage, warm fluid bags available in theatre

Refractory hypothermia despite rewarming strategies

5

- Consider ICU access to Arctic Sun (targeted temperature management system)
- Consider extracorporeal rewarming (ECMO or dialysis) via femoral lines
 - Avoid IJ / Subclavian access due to myocardial irritability

ALS - MODIFICATIONS IN HYPOTHERMIC CARDIAC ARREST

Active rewarming ongoing throughout resuscitation - underbody Bair-Hugger also available, may be used in conjunction with regular Bair-hugger

Pulse check up to 60 seconds, consider early use of Echo and Arterial lines

Early use of invasive temperature monitoring

Early discussion regarding ECMO suitability

Less than 30°

- Up to 3x shocks if in a shockable rhythm then withhold until above 30°
- Withhold ACLS medications until above 30°

Between 30° and 34°

- Double the interval for ACLS medications (e.g. Adrenaline 6 to 10 minutes)