
THERAPEUTIC HYPOTHERMIA

1. **INTRODUCTION:** Implementation of therapeutic hypothermia for comatose cardiac arrest patients with Return of Spontaneous Circulation (ROSC) is a procedure endorsed by the American Heart Association and outlined in the 2003 Advisory Statement by the Advanced Life Support Task Force of the International Liaison Committee on Resuscitation (ILCOR). Mild hypothermia is thought to reduce cerebral oxygen demand post arrest, and reduce the damage caused by inflammatory responses that occur once cerebral perfusion is restored. Inducing mild hypothermia in comatose patients post out-of-hospital cardiac arrest has been shown to improve neurological function and decrease mortality
2. **INDICATIONS:**
 - 2.1 Males and females ages 18 and over
 - 2.2 Return of spontaneous circulation, sustained for a minimum of 5 minutes after arrest
 - 2.3 Persistent coma post cardiac arrest (VF, pulseless VT, PEA, Asystole): unresponsive, not following verbal commands, not presenting with any purposeful movements, GCS < 8. Brainstem reflexes and posturing movements may be present
 - 2.4 Blood pressure \geq 90 systolic
 - 2.5 SpO₂ > 85%
 - 2.6 Blood glucose > 50 mg/dL
3. **CONTRAINDICATIONS:**
 - 3.1 Traumatic cardiac arrest
 - 3.2 Responsive post arrest with GCS \geq 8, and/or rapidly improving GCS
 - 3.3 Pregnancy
 - 3.4 DNR
4. **PROCEDURE:** In conjunction with normal procedures for care of cardiac arrest patients:
 - 4.1 Consider causes for comatose state such as hypoglycemia or hypoxemia. If patient has no obvious underlying cause for coma and meets the indication criteria and none of the contraindication criteria begin cooling procedures
 - 4.2 Expose patient and apply eight (8) cold packs:
 - ▶ 2 on head
 - ▶ 2 on the neck over the carotid arteries
 - ▶ 1 in each axilla
 - ▶ 1 on each femoral artery at groin
 - 4.3 Consider other cooling measures (e.g. removal of the patient's clothes, turn on ambulance AC in the patient compartment and direct air flow over the patient)
 - 4.4 Continue with standard of care, and monitor patient for shivering and/or improved GCS
 - 4.5 Obtain a 12-lead ECG
 - 4.6 Advise the emergency department personnel upon arrival that you have initiated the cooling process
 - 4.7 If patient begins to shiver **consider base contact for administration of benzodiazepines** or if patient becomes responsive, discontinue therapeutic hypothermia
5. **TRANSPORT CONSIDERATION:** Transport patients whom cooling procedures have been initiated to the nearest receiving hospital. Divert to Cardiac Receiving Center patients whose 12-lead ECG meets criteria for STEMI