



THERAPEUTIC HYPOTHERMIA



Escambia County, Florida - ALS/BLS Medical Protocol

Therapeutic hypothermia is not a new concept. It was actually theorized as early as 2500 B.C. Therapeutic hypothermia began to be practiced in medicine as early as the 1950's. Since then, the practice has been refined and extensive research has been conducted on the effects of therapeutic hypothermia. Now, therapeutic hypothermia is an accepted practice in mainstream medicine throughout the world for various medical conditions.

The 2005 American Heart guidelines recommend inducing moderate hypothermia in adult patients who experience out-of-hospital cardiac arrest if they experience a return to spontaneous circulation (ROSC) but remain unconscious. The guidelines call for patients to be cooled to between 32°-34°C and maintained at that temperature for 12-24 hours.

When ROSC occurs, untoward side effects occur immediately, as well as over a longer period. Therapeutic Hypothermia works to mitigate many of these untoward side effects during the post arrest period.

Inclusion Criteria:

Return of spontaneous circulation (regains pulse) after cardiac arrest, non-traumatic.

Unresponsive.

Patient is not awake; patient's best motor response (BMR) is less than 4.

Patient is not obviously pregnant.

Initial temperature is more than 34 degrees C (measurement before cooling and on arrival to hospital if available).

Known bleeding problems, severe infection or recent major surgery.

No known DNR order exists.

Advanced airway in place, ETCO₂ > 20.

Blood pressure equal to or greater than 90 systolic (may use pressors to maintain pressure).



Approved: 10/01/2011
Version: 3.1

Page 1 of 4

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Exclusion Criteria:

Other alternative clinical conditions causing the patient to be comatose (e.g. drugs, sepsis, head trauma, stroke, overt status epilepticus).

Trauma.

Pregnancy in third trimester.

Temperature of $< 30^{\circ}$ C following arrest.

Unstable blood pressure or rhythm unresponsive to therapy.

Known or preexisting coagulopathy or active bleeding.

Not requiring mechanical ventilation as part of resuscitation efforts.

Patients who have a known pre-arrest terminal illness.

Patients who are alert and oriented following the initial arrest.

Procedure:

Check initial temp.

Start one large bore I.V.

Apply ice packs to the armpits and groin.

Give cold (4° C) saline bolus of 30ml/kg, maximum of 2 liters, rapidly/wide open.

Give Etomidate 20mg IV (important for shivering control and sedation).

If needed, use Dopamine to keep systolic blood pressure-equal to or greater than 90 mm Hg.



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Page 2 of 4

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Check 12 lead ECG: if STEMI present, transport to nearest STEMI Center.

Contact receiving hospital so they are ready to accept transfer of care and continue patient cooling.

Do not hyperventilate; goal is an ETCO₂ of around 40.

Remember that patient was critical; now they are even more critical.

Monitor this patient closely.



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Page 3 of 4

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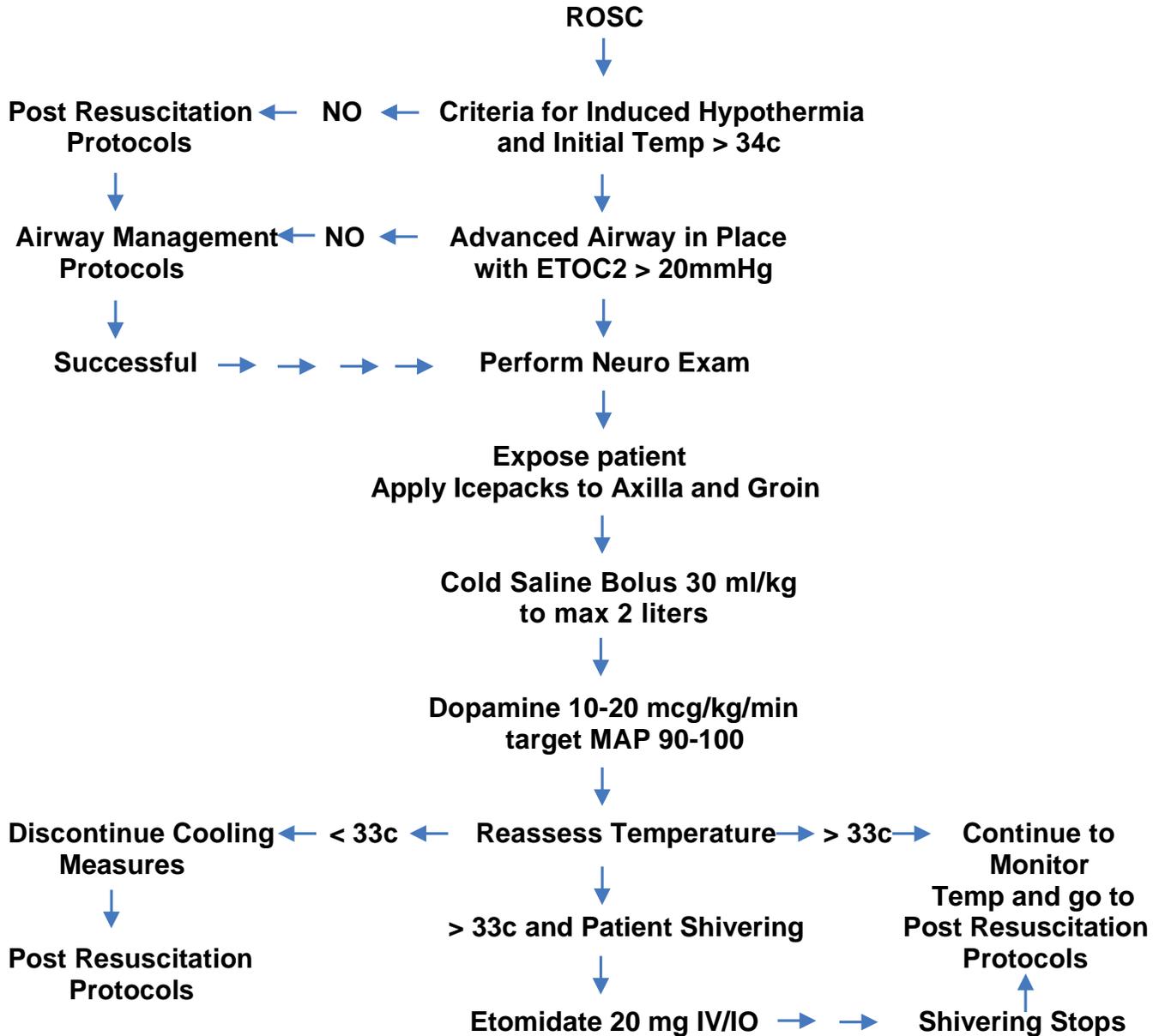

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Page 4 of 4

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