ADULT MEDICAL EMERGENCIES: HYPERTHERMIA / HEAT EXPOSURE

E	EMT	E
A	AEMT	A
P	PARAMEDIC	P
M	MED CONTROL	M

UNIVERSAL PATIENT CARE PROTOCOL

- Document Patient Temperature
- Remove Patient from Heat Source
- Remove Patient Clothing
- Apply Room Temperature Water to Patient Skin and Increase Air Flow
- CAPNOGRAPHY PROCEDURE

↓

- Core Body Temp > 104° F
  Apply ICE PACKS to Patient
  (Groin, Axilla, and Posterior Neck)
- IV PROCEDURE
  HEAT EXHAUSTION: IV NS Bolus
  HEAT STROKE: If hypotensive - IV NS Bolus otherwise IV NS TKO

↓

- Monitor and Reassess
- Appropriate Protocol Based on Patient Symptoms
- TRANSPORT to appropriate facility
  CONTACT receiving facility
  CONSULT Medical Direction where indicated

ADULT MEDICAL EMERGENCIES: HYPERTHERMIA / HEAT EXPOSURE-Cont.

PEARLS and KEY POINTS

HISTORY	SIGNS AND SYMPTOMS	DIFFERENTIAL DIAGNOSIS
• Age • Exposure to increased temperatures and humidity • Past medical history / medications • Extreme exertion • Time and length of exposure • Poor PO intake • Fatigue and / or muscle cramping	• Altered mental status or unconsciousness • Hot, dry, or sweaty skin • Hypotension or shock • Seizures • Nausea	• Fever (infection) • Dehydration • Medications • Hyperthyroidism (storm) • Delirium tremens (DT's) • Heat cramps • Heat exhaustion • Heat stroke • CNS lesions or tumors

Heat Exhaustion: Dehydration	Heat Stroke: Cerebral Edema
• Muscular / abdominal cramping • General weakness • Diaphoresis • Febrile • Confusion • Dry mouth / thirsty • Tachycardia • BP normal or orthostatic hypotension	• Confusion • Bizarre behavior • Skin hot dry, febrile • Tachycardia • Hypotensive • Seizure • Coma

- Exam: Mental Status, Skin, HEENT, Heart, Lungs, Neuro
- Extremes of age are more prone to heat emergencies (i.e. young and old).
- Predisposed by use of: tricyclic antidepressants, phenothiazines, anticholinergic medications, and alcohol.
- Cocaine, amphetamines, and salicylates may elevate body temperatures.
- Sweating generally disappears as body temperature rises above 104° F (40° C).
- Intense shivering may occur as patient is cooled.
- **Heat Cramps** consists of benign muscle cramping 2° to dehydration and is not associated with an elevated temperature.
- **Heat Exhaustion** consists of dehydration, salt depletion, dizziness, fever, mental status changes, headache, cramping, nausea and vomiting. Vital signs usually consist of tachycardia, hypotension, and an elevated temperature.
- **Heat Stroke** consists of dehydration, tachycardia, hypotension, temperature >104° F (40° C), and an altered mental status.
- Patients at risk for heat emergencies include neonates, infants, geriatric patients, and patients with mental illness. Other contributory factors may include heart medications, diuretics, cold medications and / or psychiatric medications.
- Heat exposure can occur either due to increased environmental temperatures or prolonged exercise or a combination of both. Environments with temperature > 90° F and humidity > 60% present the most risk.
- Heat stroke occurs when the cooling mechanism of the body (sweating) ceases due to temperature overload and / or electrolyte imbalances. Be alert for cardiac dysrhythmias for the patient with heat stroke.
- In patents with significant hyperthermia (temp > 104° F) begin actively cooling with natural or chemical ice packs applied to the patients' groin, armpits (axilla), and back of neck.