Environmental Emergencies

Signs and Symptoms

- Cold emergencies:
  - Pale, cold skin
  - Shivering
  - Extremity pain or sensory abnormality
  - Bradycardia
  - Mental status changes
  - Hypotension
- Heat emergencies:
  - Skin changes variable in heat emergency
  - Nausea
  - Muscle cramps
  - Mental status changes
  - Hypotension or shock
  - Seizures

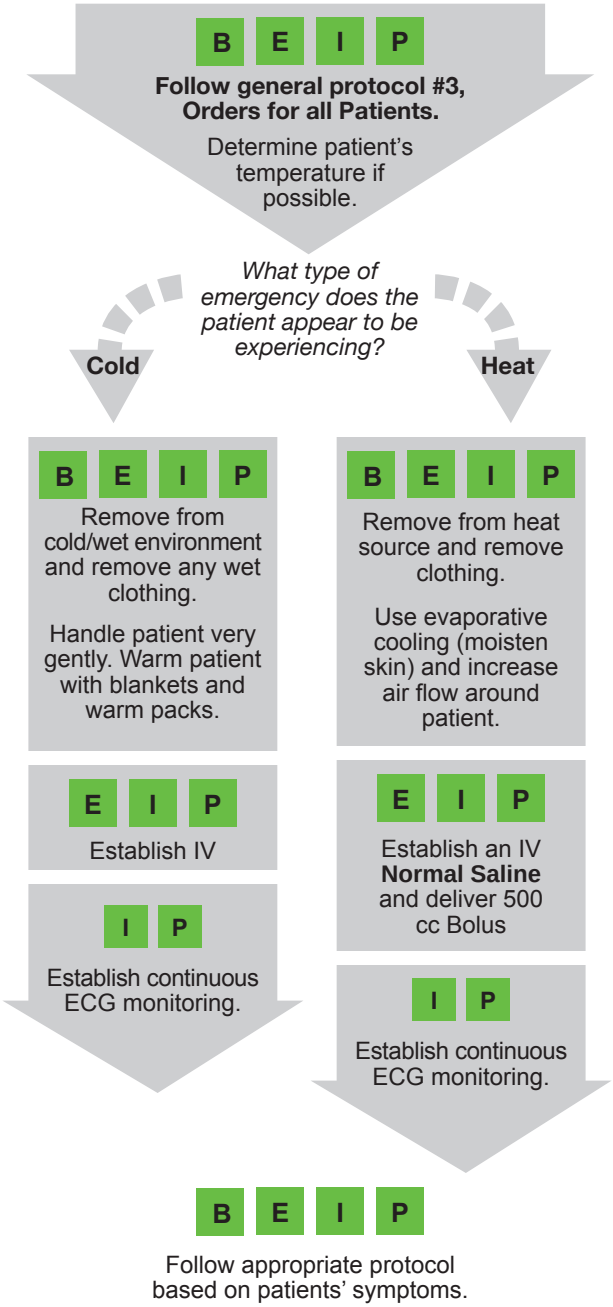
History

- Medication use
- Exposure to environment possible even in normal temperatures
- Exposure to extreme cold
- Exposure to increased temperature and/or humidity
- Extreme exertion
- Time and length of exposure
- Poor oral intake
- Fatigue and/or muscle cramping
- Extremes of age
- Drug or alcohol use

Differential

- Fever/sepsis
- Environmental exposure
- Hypoglycemia
- CNS Dysfunction
  - Stroke
  - Head Injury
  - Spinal cord Injury
- Dehydration
- Medication/drug reaction
- Hyperthyroidism (Storm)
- Delirium tremens (DTs)
- Heat cramps
- Heat exhaustion
- Heat stroke

Care



WARNINGS

- ! Patients with heat stroke (elevated temperature and altered mental status) require aggressive cooling measures to minimize brain injury.
- ! ACLS drugs and defibrillation are less effective in severe hypothermia. Discuss modifications of standard protocols with medical control in hypothermia.
- ! Providers should check pulse for a full minute on hypothermic patients.
- ! Hypothermic patients in arrest may be salvageable despite prolonged down times. Initiate resuscitative measures in hypothermic patients and coordinate with medical control.

Pearls

- Elderly and very young are more prone to heat and cold emergencies.
- With temperatures less than 88°F ventricular fibrillation is common cause of death.
- Handling patients gently may prevent v-fib.
- If temperature is unable to be measured, treat the patient based on suspected temperature.
- Hypothermia may produce severe Bradycardia.
- Patients stop shivering when body temperature is less than 90°F.
- Use of prescription medications or alcohol may predispose patients to heat emergencies.
- Cocaine, amphetamines, and salicylates may elevate body temperatures.
- Sweating generally disappears as body temperature rises above 104°F.
- Avoid causing shivering when attempting to cool patient as this will generate additional heat.
- Exposure to hot/cold environment is possible even in normal temperatures.
- **Heat cramps**: muscle cramping secondary to dehydration not associated with an elevated temperature.
- **Heat exhaustion:** dehydration, salt depletion, dizziness, fever, weakness, headache, cramping, nausea and vomiting. Vital signs usually consist of tachycardia, mild hypotension and an elevated temperature.
- **Heat stroke:** severely elevated temperature and altered mental status.

Performance indicators

- Patient's temperature measured and reassessed after interventions.