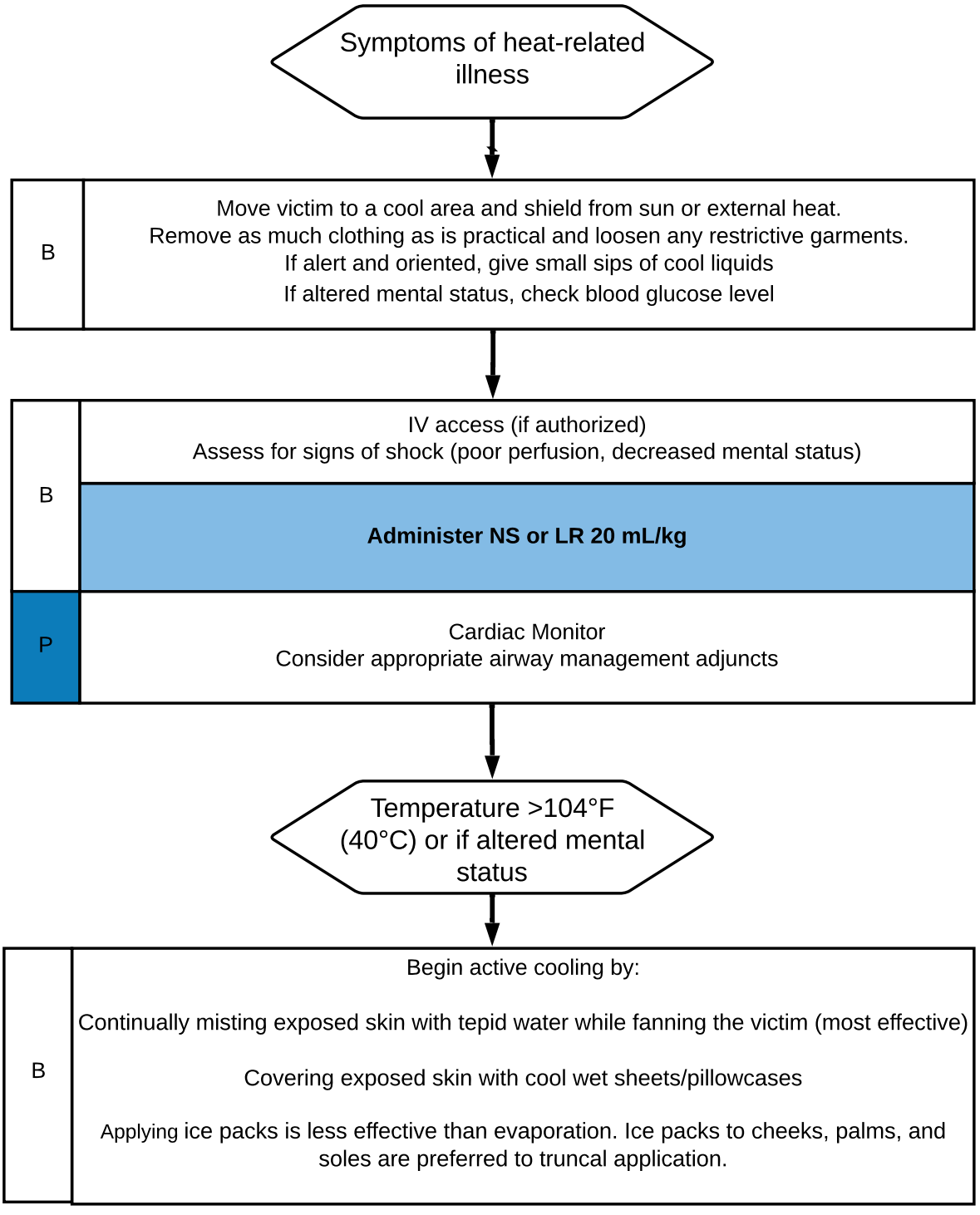
Hyperthermia Administrative Guideline

History	Signs and Symptoms	Differential
• Ambient temperature • Medications/drugs • Exertion level • Time of exposure to heat • Attire • Fluid intake	• Flushed • Dry or sweaty • Muscle cramps • Nausea/vomiting • Tachycardia/hypotension/poor perfusion • Elevated temperature • Altered mental status	• Heat cramps • Heat edema • Heat exhaustion • Heat syncope • Heat stroke • Stimulant drug use • Fever/sepsis • Dehydration • Medication adverse reaction



Education/Pearls

Heat-related illness is a spectrum of disease that occurs when the body's thermoregulatory system does not work properly. Heat-related illness most often affects athletes (exertional hyperthermia), but can also occur during the warm weather months, in periods of prolonged exposure, or in locations with extreme temperatures. Patients with impaired thermoregulation (those at extremes of age, the obese or mentally ill) are at higher risk. The definitive treatment for heat-related illness is total body cooling.

Heat (Muscle) Cramps

- Heat cramps are minor muscle cramps usually in the legs and abdominal wall.
- Temperature is normal.

Heat Exhaustion

- Heat exhaustion has both salt and water depletion, usually with a gradual onset.
- As heat exhaustion progresses, tachycardia, hypotension, elevated temperature, and very painful cramps occur.
- Patient has symptoms of headache, nausea, and vomiting.
- Heat exhaustion can progress to heat stroke.

Heat Stroke

- Heat stroke occurs when the cooling mechanism of the body fails due to temperature overload and/or electrolyte imbalances and is determined by the presence of altered mental status.
- Temperature is usually > 104 F.
- When no thermometer is available, it is distinguished from heat exhaustion by altered level of consciousness.

Treatment for heat related illness:

- In mild cases of hyperthermia, treatment is supportive. Removing the patient from a heated environment is the first intervention, followed by passive cooling measures such as removing clothing and fanning air across the skin.
- Besides ice water immersion, evaporation (mist and fan) is the most rapid way to cool a patient.
- Ice packs to the groin, axilla, neck, and areas near other great vessels have been shown to be less effective than evaporation.
- Monitor the skin if applying ice packs for prolonged periods. The skin is susceptible to damage with prolonged exposure to ice. Covering ice packs with a sheet and adjusting the site can mitigate injury.
- Hydration orally or intravenously can help restore water balance quickly.
- For patients who have signs and symptoms of hypovolemic shock, volume replacement is indicated.