

E2**HEAT RELATED**

Heat related emergencies range from minor problems requiring on scene supportive treatment to true life threatening emergencies. EMS personnel must initiate appropriate interventions as early as possible.

GENERAL

- personal protective equipment should be utilized as appropriate
- body substance isolation techniques and equipment should be utilized as appropriate
- scene assessment
 - note environmental factors, including temperature and humidity
- primary survey
- secondary survey, including
 - vital signs
 - skin temperature
 - skin condition and color
 - accurate history, including conditions affecting symptom onset and rapidity of symptom onset
- do not allow the patient to exert him/herself - e.g. walking, standing unassisted to transfer to the stretcher, etc.
- initiate transport
 - on scene times should be kept to a minimum
 - treat other life-threatening conditions en route
- transport the patient to the nearest appropriate health care facility
 - notify the receiving health care facility of the patient's status as soon as possible
 - monitor and treat the patient en route
 - maintain a cool environment while en route
 - do not allow chilling or overcooling of the patient
 - additional surveys and treatments should be conducted en route
- report all findings to the receiving facility staff, and document on the patient care report

SPECIAL CONSIDERATIONS**Heat Cramps**

- move patient to a cool, shaded environment
- position patient supine or in recovery position
- transport, monitor, and maintain a cool environment

Heat Exhaustion

- maintain high concentration oxygen delivery to the patient
 - assist ventilations if required
- move patient to a cool, shaded environment
 - remove excess clothing from the patient

- position patient supine with feet elevated, if possible, or in recovery position
- cool the patient gradually by sponging front and back of patient with lukewarm water, if possible
 - avoid overcooling
- if shivering is provoked, dry the patient
- load and go should be initiated
- transport, monitor, and maintain a cool environment

Heat Stroke

- this is a life-threatening emergency
- establish ABCs
- maintain high concentration oxygen delivery to the patient
 - assist ventilations if required
- move patient to a cool, shaded environment
- initiate load and go
 - position patient in the recovery position facing the attending EMS personnel, if possible
- cool the patient rapidly
 - remove excess clothing from the patient
 - wrap the patient in a sheet and saturate it with cool water
 - ensure there is no electrical hazard
 - place the patient so the flowing air can create air currents over the patient to promote cooling
 - avoid over stimulation of the patient by placing the patient in direct contact with cold packs or cold source
- monitor for seizures
- treat for shock, if required
- transport the patient to the nearest appropriate health care facility
 - any additional surveys should be conducted en route
 - do not allow the patient to shiver, become chilled, or overcooled

NOTE

- not all heat emergencies are environmental in nature
 - the patient's condition may have an infectious or neurological etiology
- high body temperature may cause seizures, particularly in infants (see Seizure Guideline)
- rapid cooling may cause vomiting or shivering
 - do not continue cooling if shivering starts
 - dry the patient and remove the cooling material
 - monitor the patient

Signs and Symptoms of Heat Cramps May Include

- profuse sweating
- painful spasms of voluntary muscles and abdomen after strenuous exercise or exertion in a hot environment
- weakness
- physical examination and vital signs may otherwise be normal

Signs and Symptoms of Heat Exhaustion May Include

- headache
- dizziness
- nausea
- cramps
- generalized weakness
- weak, rapid pulse
- shallow, rapid respirations
- normal or decreased blood pressure
- cool, pale, moist skin
- profuse sweating
- disorientation
- decreased level of consciousness or unconsciousness

Signs and Symptoms of Heat Stroke May Include

→ there are two main types of heat stroke:

Classical Heat Stroke

- failure to sweat in response to increased temperature due to dehydration resulting in an increase in the body's temperature and subsequent damage to body cells

Exertional Heat Stroke

- physical exertion in an environment with high temperatures and high humidity which prevents evaporative cooling of the body resulting in an increase in the body's temperature and subsequent damage to body cells
- signs and symptoms may include
 - disorientation
 - hot, flushed, dry skin (classic heat stroke) or hot, flushed, diaphoretic skin (exertional heat stroke)
 - elevated body temperature
 - signs and symptoms of shock
 - rapid, bounding pulse or rapid, weak pulse
 - respirations initially deep and rapid progressing to shallow and ultimately respiratory arrest
 - blood pressure initially may be high but may drop rapidly
 - dilated, sluggish pupils
 - seizures
 - stroke
 - delirium
 - stupor
 - coma

NOTES :