



Heat Injury Prevention



WE ARE THE ARMY'S HOME



Garrison Safety Office (GSO)
U.S. Army Installation Management Command

HEAT STRESS

Types of Heat-related Illness



Contributing Factors (Environmental)

- Temperature
- Humidity
- Radiant Heat
- Air Velocity

Temperature is not the only indicator!!



Contributing Factors (Personal)

- Age
- Weight
- Fitness
- Acclimatization – increased tolerance to heat that comes from working in a hot environment for a period of 1-2 weeks.



Types of Heat Disorders

- Heat Rash
- Heat Cramps
- Heat Exhaustion
- Heat Stroke













- Also known as “Prickly Heat.”
- Occurs when sweat cannot freely evaporate from the skin and sweat ducts become plugged. This inflammation can cause a red rash.
- Can be prevented by wearing clothes that allow sweat to evaporate as well as bathing regularly and drying the skin.





- Painful cramps in arms, legs or abdomen
- Occur in individuals who sweat profusely then drink large quantities of water, but do not adequately replace the body's salt loss.
- To prevent, ensure that salts are replaced during and after heavy sweating.

Heat Exhaustion & Heat Stroke

Heat Exhaustion	VS	Heatstroke
Heavy Sweating 		Altered Mental State 
Nausea or Vomiting 		Slurred Speech 
Pale, Clammy Skin 		Hot, Dry Skin 
Fast, Weak Pulse 		Fast, Strong Pulse 
Muscle Cramps 		Headache 

Heat Exhaustion

- Mild form of shock caused when the circulatory system begins to fail because of the body's inadequate effort to give off excessive heat.
- Although not an immediate threat to life, if not properly treated, could evolve into heat stroke.

Heat Stroke

- Severe and sometimes fatal condition resulting from the failure of the body to regulate its core temperature.
- The body's normal cooling mechanisms stop functioning, **sweating stops**.
- True medical emergency requiring immediate medical attention.

Symptoms & Treatment

Heat Exhaustion – Symptoms

- Skin is clammy and moist
- Extreme weakness or fatigue
- Nausea
- Headache
- Complexion pale or flushed
- Body temperature normal or slightly elevated

Heat Exhaustion – Treatment

- Do not leave the person alone.
- Move to a cool place to rest.
- Drink water or electrolyte fluids.
- Treat for shock, if necessary.
- If unconscious, fails to recover rapidly, has other injuries, or has a history of medical problems, seek medical attention.


Heat Stroke – Symptoms

- Stop Sweating
- Rapid Pulse
- Mental Confusion
- Loss of Consciousness
- Convulsions
- Body Temperature ≥ 105
- Hot, dry skin
- Can die unless treated promptly

Heat Stroke – Treatment

- Call 911
- Remove victim to a cool area
- Soak clothing with cool water and fan vigorously to increase cooling
- Monitor vital signs

Heat exhaustion What it looks like	Heat stroke What it looks like
Elevated body temperature	High temperature (103° F or more)
Dizziness	Confusion
Headache	Slurred speech
Heavy sweating	Skin is hot, red, and dry
Decreased urination	Seizures
Nausea	Fainting
Thirst	
Irritability	
Fatigue	

Take action	Take action
<p>Move worker to a cool place</p> <p>Remove and loosen clothes</p> <p>Cool with wet cloths or take a cool bath if available</p> <p>Offer small sips of water</p>	<p>Call 911: this is a medical emergency</p>  <p>After you call</p> <p>Move worker to a cool place and don't leave alone until help gets there</p> <p>Lower temperature by removing clothes</p> <p>Give a cool bath, if available</p> <p>Small sips of water, if possible</p>

When to call for help
<p>Symptoms worsen</p> <p>Symptoms persist</p>



Treatment of Common Heat Illnesses

TYPES AND SYMPTOMS

Rash

Red, itchy skin bumps



Cramps

Painful muscle spasms in the arms, legs, and belly



Dizziness or Fainting



Exhaustion

- Feeling sick to stomach, vomiting
- Cool, clammy, sweaty, pale skin
- Weak, tired, light-headed, headache



EMERGENCY! CALL 911!

Heat Stroke

- Feeling sick to stomach, vomiting
- Hot, dry, red skin (some sweat possible)
- Confusion, irritability, seizure, no response



TREATMENTS

- Keep skin clean and dry
- Use calamine lotion



- Water, rest, shade
- Have a snack
- Tell supervisor



- Water, rest, shade
- Elevate legs
- Tell supervisor



- Water, rest, shade
- Elevate legs
- Lay on side if vomiting
- Cool, wet cloths
- Tell supervisor



- Move to shade
- Elevate legs
- Lay on side if vomiting
- Cool, wet cloths
- Tell supervisor



Sun Exposure

Sunburn

- Excessive exposure to harmful solar radiation
- Tan or Dark Skin still needs protection
- Protection
 - SPF 15 or higher
 - Long sleeves
 - Hat with wide brim
 - Sunglasses
- Even on Cloudy or Hazy days
- Medication or cosmetics may increase risk



Prevention Methods



- Acclimatization
- Work in pairs
- Drink plenty of cool water or electrolyte replacement fluids even if not thirsty. (One small cup every 15-20 minutes)
- Be able to recognize early signs & symptoms of heat-induced illness and take appropriate action to prevent serious heat disorders.
- Schedule most strenuous work during the coolest times of the day.



Prevention Methods

- Spend as little time as possible in direct sunlight.
- Take frequent breaks in cool, shaded areas.
- Wear light, loose fitting, clothing.
- Avoid caffeine, which can make the body lose water.
- Rotate workers in and out of hot areas if possible.



Questions?

