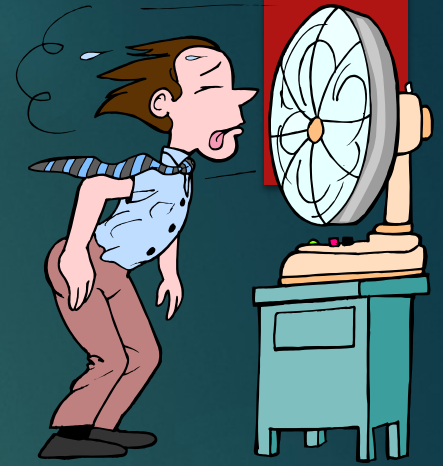


HEAT INJURIES



Individuals At Risk



- ▶ All individuals who work in hot environments (inside and outside) are at risk of heat injuries.
- ▶ More intense and strenuous workloads, put individuals at a greater risk.
- ▶ Wearing PPE such as respirators and protective suits can also increase this risk.

Contributing Factors

Environmental Factors

- Temperature
- Humidity
- Radiant Heat
- Air Velocity

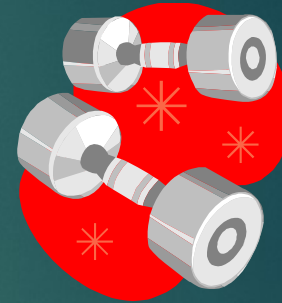


Temperature is not the only indicator!!

Contributing Factors

Personal Factors

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



The Body's Response to Heat

Increased Blood Circulation

- Blood is circulated to the skin which increases skin temperature and allows the body to give off excess heat through the skin.
- This is why your face turns red when you are hot.
- However, physical labor requires blood to fuel the muscles; therefore, less blood is available to flow to the skin surface and because of this, less heat is released from the body.

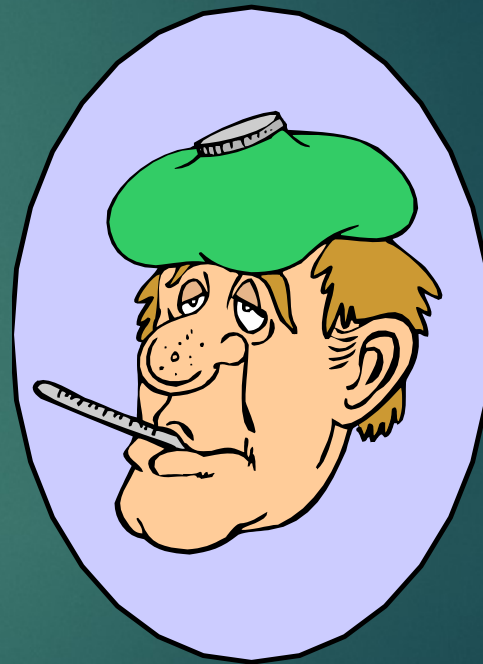
The Body's Response to Heat

Sweating

- Sweating is an effective way to cool the body when humidity is relatively low.
- Sweating is most effective when the sweat evaporates from the skin rather than drips off or is wiped off.
- An adult male can sweat as much as one quart per hour. (2-3 gallons per day)

Heat Injuries

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



Heat Injuries



Heat Rash

- 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.

Heat Injuries

Heat Cramps

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

Heat Injuries

Heat Exhaustion

Mild form of shock caused when the circulatory system begins to fail as a result 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 Injuries

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 Injuries

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 Injuries

Heat Stroke

Severe and often 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 which requires immediate medical attention.

Heat Injuries

Heat Stroke - Symptoms

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

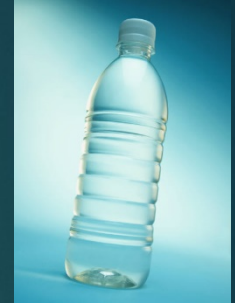
Heat Injuries

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



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

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