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Office of Risk Management

Preventing Heat Illnesses

HEAT STRESS



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HEAT STRESS INJURIES

HEAT RASH

- Red raised rash
- Impairs sweating and decreases effectiveness of sweating

HEAT CRAMPS

- Muscle cramps, pain or spasms in the abdomen, arms or legs

HEAT EXHAUSTION

- Moist, clammy skin
- Dilated pupils
- Normal or subnormal temperature
- Dizziness, confusion and/or nausea
- Weak pulse
- Rapid breathing

HEAT STROKE

- Dry, red, hot skin
- Pupils constricted
- Very high body temperature
- Dizziness, confusion and/or nausea
- Pulse rapid
- Unconsciousness
- Coma
- Death

HOW TO PREVENT

- Hydrate. Drink 8 to 16 cups of water a day.
- Eat a well-balanced diet. Salt food to taste.
- Get plenty of rest, at least 6 hours every 24 hour period.
- Keep a lookout for shipmates and watch for symptoms.
- Limit how much coffee and sodas you drink.



Contributing Factors

- Temperature
- Humidity
- Radiant Heat
- Air Velocity

Temperature is not the only indicator!!

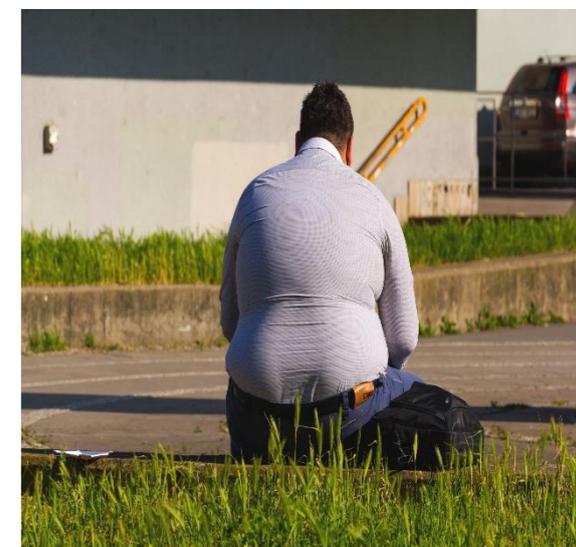
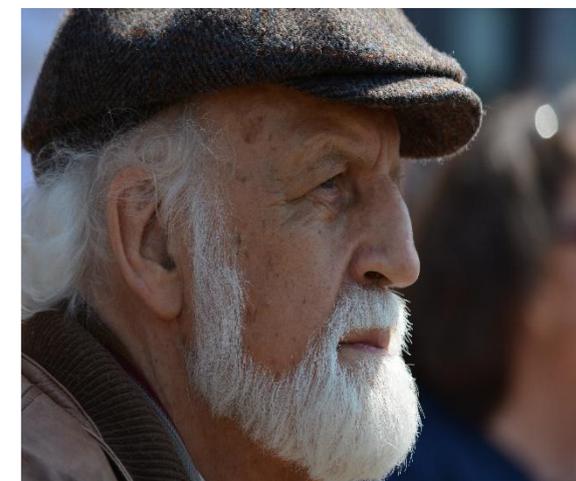




Contributing Factors – cont'd

Personal Factors

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





Heat Disorders

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





Heat Disorders

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 Disorders

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 salt loss.
- To prevent, ensure that salts are replaced during and after heavy sweating.





Heat Disorders

Heat Exhaustion – Cause

- 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 Disorders

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 Disorders

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 Disorders



Heat Stroke - Cause

- 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.



Heat Disorders

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 Disorders

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.

