Preventing Heat Illnesses
HEAT STRESS

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.
- Keep a lookout for shipmates and watch for symptoms.
- Eat a well-balanced diet. Salt food to taste.
- Limit how much coffee and sodas you drink.
- Get plenty of rest, at least 6 hours every 24 hour period.
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 $\geq 105$
- 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.