

HEAT STRESS PREVENTION



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CAUSES



OVEREXERTION



DEHYDRATION



EXTREME TEMPERATURES



OVERDRESSING

SIGNS/TREATMENT/PREVENTION



SUN BURN

SIGNS: Redness, painful and swelling skin. Blisters, fever and headaches are typical in severe cases.
TREATMENT: Use ointment in mild cases. If blisters break apply dry, sterile dressing. For severe cases, consult a physician.
PREVENTION: Limit your time in the sun and stay in shaded areas when possible. Wear sunscreen and hats while outside. Training and education.



HEAT RASH

SIGNS: Red blister-like eruptions and/or bumps, itch sensation.
TREATMENT: Rest in cool place. Allow skin to dry.
PREVENTION: Shower after working in hot environment. Keep skin dry. Training and education.



HEAT CRAMPS

SIGNS: Painful spasms usually in the leg or abdomen. Possibly heavy sweating.
TREATMENT: Apply firm pressure and massage cramped area. Rest in cool place and drink water.
PREVENTION: Adequate water and salt intake. Training and education.



HEAT EXHAUSTION

SIGNS: Headaches, weakness, mood change, feeling sick. Extreme sweating, pale and clammy skin.
TREATMENT: Move to cool, shaded area and loosen heavy clothing. Drink cool water and/or electrolytes.
PREVENTION: Acclimatization. Drink plenty of water and/or electrolytes. Training and education.



EXERTIONAL HEAT ILLNESS

SIGNS: Tired, nausea, vomiting, confusion. Unsteady, extreme sweating, dehydration, fever up to 104°F, headache, rapid respiration/-pulse.
TREATMENT: Cease exertion/cool body exterior. Drink water first, then electrolytes. If fluids aren't retained transport to hospital.
PREVENTION: Acclimatization. Drink plenty of water and/or electrolytes. Training and education.



HEAT STROKE

SIGNS: Pale skin, nausea, vomiting, confusion. Fever 104°F / 40°C or higher.
TREATMENT: Medical emergency, call 911. Remove heavy clothing. Drink small amounts of water and/or electrolytes.
PREVENTION: Acclimatization. Drink plenty of water and/or electrolytes. Medical screening, training and education.

Heat Index & Heat Stroke

Heat Index 130° or higher
Heat Stroke or Sun Stroke Imminent

Heat Index 105°-129°
Sun stroke, heat cramps and heat exhaustion likely. Heat stroke possible with prolonged exposure and physical activity.

Heat Index 90°-100°
Sun stroke, heat cramps and heat exhaustion possible with prolonged exposure and physical activity.

How to use the heat index.

- Access top (air temperature) locate today's predicted high temperature.
- Down left side (relative humidity) locate today's predicted humidity.
- Follow across and down to find "Apparent Temperature" or "What it feels like".

Heat index values were devised for shady, light wind conditions. Exposure to full sun can increase values by up to 15°. Strong winds, particularly with hot, dry air can be extremely hazardous.

Source: Centers for Disease Control and Prevention

| Air Temp. | 70° | 75° | 80° | 85° | 90° | 95° | 100° | 105° | 110° |
|-------------------|---|-----|-----|------|------|------|------|------|------|
| Relative Humidity | Apparent Temperature (Degrees Fahrenheit) → | | | | | | | | |
| 0% | 64° | 69° | 73° | 78° | 83° | 87° | 91° | 95° | 99° |
| 10% | 65° | 70° | 75° | 80° | 85° | 90° | 95° | 100° | 105° |
| 20% | 66° | 72° | 77° | 82° | 87° | 93° | 99° | 105° | 112° |
| 30% | 67° | 73° | 78° | 84° | 90° | 96° | 104° | 113° | 123° |
| 40% | 68° | 74° | 79° | 86° | 93° | 101° | 110° | 122° | 137° |
| 50% | 69° | 75° | 81° | 88° | 96° | 107° | 120° | 135° | 150° |
| 60% | 70° | 76° | 82° | 90° | 100° | 114° | 132° | 149° | |
| 70% | 71° | 77° | 85° | 93° | 106° | 124° | 144° | | |
| 80% | 72° | 78° | 86° | 97° | 113° | 136° | 157° | | |
| 90% | 73° | 79° | 88° | 102° | 122° | 147° | 170° | | |
| 100% | 74° | 80° | 91° | 108° | 133° | 161° | | | |

Fluid Balance

Performance | Body overview and the effects of fluid balance.



The body is 60-70% water
Water - Recommended intake
13 Cups (men) a day. 9 Cups (women) a day. Hotter environments and/or strenuous activity, increase intake as required.

Electrolytes - Recommended intake
6 - 10 oz every 15 - 20 minutes during strenuous activity, especially in hot environments.

Source: Role of Carbohydrate-Electrolyte Replacement in the Industrial Environment. Human Performance laboratory, University of Alabama, Tuscaloosa, AL



Consequences of fluid loss and neglect of fluid balance

- 2% - Impaired Performance
- 4% - Capacity for muscular work declines
- 6% - Heat exhaustion
- 8% - Hallucination
- 11% - Circulatory collapse and heat stroke

Urine Chart

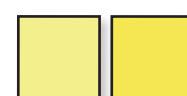
Use the color chart to identify hydration level.

Target Level
Maintain Level



Properly Hydrated - If urine resembles or matches these colors.

Dehydrated
Needs Improvement



Dehydrated - If urine resembles or matches these colors more fluids should be consumed.

Severely Dehydrated
Immediate Attention



Severely Dehydrated - If urine matches these colors, **SERIOUS DEHYDRATION** has occurred. Contact a physician.

IN CASE OF EMERGENCY

CALL 911