



Heat Stress

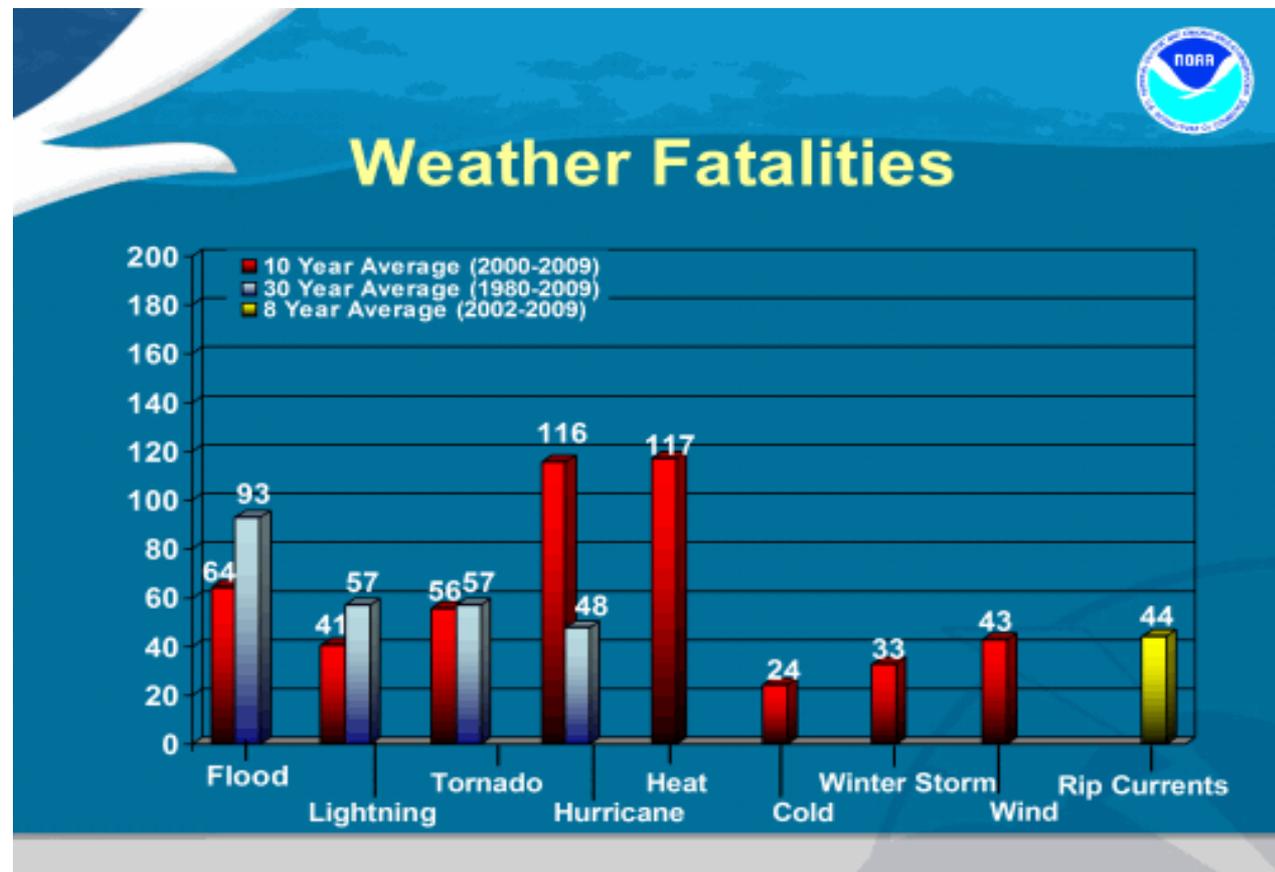
What is Heat Stress?

- Potentially dangerous condition
- Occurs when the body is unable to regulate its temperature
- Vigorous activity in hot, humid weather can cause internal core temperature to rise dangerously
- When the body tries to cool, other body functions may be neglected and heat stress disorders may occur



Severe Weather Fatalities

“...heat is by far the number one killer of all weather events...”



Water Loss

- ❑ Normally, with light activity, your body loses 2 to 3 quarts of water daily.
- ❑ In a hot weather environment, you lose 6 to 8 quarts of sweat which is critical to your body's cooling system.
- ❑ Your thirst mechanism is not sensitive enough to be an accurate indicator of your body's needs.
- ❑ Encourage workers to drink water-about 5 to 7 ounces every 15 to 20 minutes, even if they are not thirsty. Avoid alcohol, caffeine and large quantities of sugar. Also avoid very cold drinks, because they can cause stomach cramps.

WBGTI

The **Wet-Bulb Globe Temperature Index (WBGTI)** takes into account four variables: air temperature, humidity, radiant heat and air movement. This reading gives a more accurate measurement than any one reading alone.



Heat related illness includes: heat rash, cramps, exhaustion and stroke. These illnesses are a real danger to people not accustomed to the stress of hot weather exercise.



Responsibilities

Boone Branch Medical Clinic



- Develop policy and oversight program
- Monitor and report heat stress conditions when temperature is expected to exceed 80 degrees F
- Determine WBGTI and Heat Stress Flags
- Report conditions daily at 0800, 1000, 1200, and 1400 (Mon-Fri)
- Inform OOD/CDO and EWTGLANT of appropriately colored flag
 - OOD/CDO inform JEBLCFS XO, Security & MWR for Black Flag/signs
 - Clinic OOD responsible for monitoring/reporting on weekends & holidays

JEBLCFS Departments and Tenants



- JEBLCFS CDO Responsible for ensuring heat stress flags are flown at Sulinski Field & Port Operations Tower
 - Establish activity heat stress monitoring procedures
 - Monitor heat levels (telephone/ flags/signs)
 - Restrict physical activity if appropriate
- MWR Director shall ensure appropriate heat stress warning signs are posted at Rockwell Hall & Westside Gym locker rooms, and Eagle Haven Golf Course
- Resident Command CO/OIC's and Physical Fitness Coordinators are responsible for determining when it is safe/suitable for jogging during extreme weather and shall ensure necessary precautions are taken to protect personnel involved in strenuous activities
- Training & Range Offices at JEB Fort Story responsible for monitoring/dissemination of Heat Index information for commands/personnel at JEBFS during the duty week (0630-1700)
 - Readings can be accessed by calling 422-7101 ext.232/3, 245, 247 or 438-3256/3241

Ref: NAVMED P-5010 / JEBLCFS INST 6110.4

Heat Stress Flag Colors

Recorded message
953-8364

Emergency – JEBFS
911

Emergency – JEBLC
462-4444

Black- Wet Bulb Globe Temperature (WBGT) index of **90° or Above**. Physical training and strenuous exercise must be suspended for all personnel. (excludes operational commitment not for training purposes).

Red- WBGT index of **88 – 89.9°**. Strenuous exercise must be curtailed for all personnel with less than 12 weeks training in hot weather.

Yellow- WBGT index of **85 – 87.9°**. Strenuous exercise and activity must be curtailed for new and unacclimatized personnel during the first 3 weeks of heat exposure. Outdoor classes in the sun must be avoided when the WBGT Index exceeds 85.

Green- WBGT index of **82 – 84.9°**. Discretion is required in planning heavy exercise for unacclimatized personnel. This is a marginal heat stress limit for all personnel.

White - Extreme intense physical exertion may precipitate heat exhaustion or heat stroke, therefore, caution should be taken.

Above 90

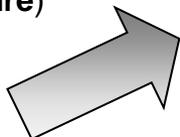
88 – 89.9

85 - 87.9

82-84.9

Less than 80

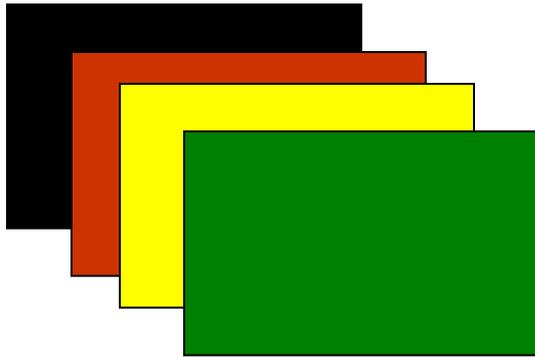
(numbers are **Wet Bulb Globe Temperature Index- not temperature**)



To be Posted

Wearing body armor or NBC protective uniforms adds approximately 10 points to measured WBGT. Limits of exposure should be adjusted accordingly.

Flags / Signs Displayed



Recorded Message

(757) 953-8364

Information Available

JEBLCFS Quarterdeck - 462-7385 (Mon-Fri)

JEBLCFS CDO - 438-3930 (Sat-Sun)

Fort Story-N7 – 422-7101 x232/3, 245, 247 (M-F)

- 438-3256/3241 (Cell)

Flags displayed

Sulinski Field (LC)

Port Operations Tower (LC)

Bldg. 300 (FS)

Signs displayed (black flag only)

Pierside Gym-inside (LC)

Rockwell gym (LC)

Eagle Haven Golf Course (LC)

Emergency

462-4444 – Little Creek

911 – Fort Story

Reporting Requirements

A detailed medical report form titled "HEAT/COLD INJURY REPORT" (NAVMED Form 6500/1). The form includes sections for patient information, injury details, medical history, and treatment. It is a standard medical form used for reporting heat and cold injuries.

All **diagnosed** heat injuries must be reported to the Navy Environmental Health Center (NEHC) on NAVMED Form 6500/1, Heat/Cold Injury Report

<http://www.safetycenter.navy.mil/OSH/forms/files/heat-cold.pdf>

A form titled "SUPERVISOR'S REPORT OF CIVILIAN/MILITARY ON-DUTY/OFF-DUTY INJURIES/ILLNESSES/DEATHS". The form contains numbered sections for reporting incidents, including details on the injured party, the nature of the incident, and the reporting supervisor's information.

Supervisors' Report Of Civilian/
Military On-duty/Off-duty Injuries/
Illnesses/Deaths

Use ESAMS or contact the JEBLCFS Safety Office



Heat Stress Illnesses

Heat Rash

(prickly heat)

Causes: Heat rash normally happens most often in hot, humid conditions, where sweat is not easily removed from the surface of the skin by evaporation. Fair skinned individuals are more prone to develop heat rash. In all cases call for medical assistance!

Symptoms: Interferes with sleep and results in decreased efficiency and cumulative fatigue. Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck, upper chest, groin area, buttocks, under breasts and in the elbow creases.

Treatment: Treated by keeping skin dry and rest in a cool place. Dusting powder and calamine lotion may be used to increase comfort.



Heat Stress Illnesses

Heat Cramps

(mild case)

Causes: This normally happens after exercise. Most often to people who aren't used to the heat, who sweat a lot or don't drink enough fluids. This sweating depletes the body's electrolytes and moisture.

Symptoms: Moist, cool skin; fainting, localized muscle cramping, and prickly heat.

Treatment: Increase fluid intake (water, clear juice, electrolyte containing sports drink), rest in a cool dry place. Do not resume activity until several hours after heat cramps stop. (If on salt restricted diet, use sports drinks sparingly.)



Heat Stress Illnesses

Heat Exhaustion

(more severe)

Causes: This is caused by the loss of body fluids and important electrolytes due to over-exposure to high temperatures and humidity. Usually you are exposed to heat for a prolonged amount of time, such as standing in formation, and you become dehydrated.

Symptoms: Heavy sweating, muscle cramps, headache, weakness, nausea, vomiting, fatigue, dizziness, skin is clammy, and pale/flush, pupils become dilated. Victim is usually conscious, but may faint, has a core temperature of over 102.

Treatment: Get to the shade, cool off, increase fluids, cold wet towels or ice, fan, elevate legs above heart, loosen clothing, don't give any liquids containing alcohol or caffeine, may need IV. **Seek medical attention immediately.** If left untreated Heat Exhaustion can lead to HEATSTROKE.



Heat Stress Illnesses **Heat Stroke**

(most severe)

Causes: Heat stroke occurs when the body can not longer cool itself due to overload of the bodies regulating systems. The body's temperature rises rapidly. The sweating mechanisms fails and the body is unable to cool. This is a medical emergency and a life threatening condition. **Call for medical assistance immediately!**

Symptoms: Headache, nausea, dizziness, skin is flushed, dry and hot (sudden loss of sweating). Breathing may become rapid and shallow, pulse is strong and rapid, small pupils, high fever 104. May be disorientated, lose consciousness, possible seizures.

Treatment: Remove to cooler location, loosen clothing, immerse in cool water, wrap in wet sheets, cold compresses to the head, neck and groin. **SEEK MEDICAL ATTENTION IMMEDIATELY.** DO NOT give medication to lower fever, DO NOT use an alcohol rub.

Warning Signs

Every year people pass out and some even die during exercise from heat stroke. But you do get plenty of warning.

First your muscles are affected, as your temperature rises they feel like a hot poker is pressing against them.

As your temperature rises further, the air you breathe feels like it is coming from a furnace and no matter how hard you try, you can't get enough air.... **STOP EXERCISING.** Take a break and drink fluids.

If you continue, your body temperature will rise further and affect your brain. Your head will start to hurt, you will hear ringing in your ears, you will feel dizzy and may have difficulty seeing, and the next step is unconscious on the ground.

**SO BE SMART WHEN YOU EXERCISE-
know your limits and drink plenty of fluids.**

How to Protect Workers

- ❑ **With some basic precautions, many heat related injuries and deaths can be prevented**
- ❑ **Learn the signs and symptoms of heat-induced illnesses and what to do to help the worker**
- ❑ **Train the workforce about heat-induced illnesses**
- ❑ **Perform the heaviest work in the coolest part of the day**
- ❑ **Slowly buildup tolerance to the heat and activity (about 2-3 weeks)**
- ❑ **Use the Buddy System**

How to Protect Workers

(con't)

- Wear light loose-fitting, breathable clothing (like cotton)**
- Take breaks in cool shaded areas**
- Drink plenty of cool water (one small cup every 15-20 minutes)**
- Avoid eating large meals before working in hot environments**
- Avoid caffeine and alcohol (these beverages make the body lose water and increase your risk for heat illnesses)**

Final Notes

- ❑ **Know your people-** People who have suffered a heat injury in the past will be more susceptible, and people with certain medical conditions (i.e.; obesity, high blood pressure, heart disease, pregnancy) or on certain medications (diuretics) will be at greater risk of heat injury.

- ❑ **Children** Heat stroke can affect your children as well. With toddlers/babies heat stroke can occur quickly, during long rides in a closed vehicle or being dressed too warmly. Older children are also susceptible.

- ❑ Follow the same procedures as with an adult, cool them off, sponge them down, bring their temperature down as quickly as possible but **DO NOT** use TYLENOL. **SEEK MEDICAL ATTENTION IMMEDIATELY.**

JEBLCFS Contacts

Bldg. 1602

Safety Office

(757) 462-7761

Emergency

462-4444 – Little Creek

911 – Fort Story

Bldg. 3505

Boone Clinic

Preventive Medicine

(757) 953-8256

Heat Stress Resources:

http://cnic.navy.mil/regions/cnrma/om/safety/heat_stress.html