



Short Safety Subject

Short Safety Subjects are provided by the Public Safety Business Center, Fort Bragg, NC. Our intent is to provide safety topics for the purpose of increasing safety awareness and improving safety performance. Additional Short Safety Subjects are available on the PSBC Business Management Web Site at:

www.bragg.army.mil/psbc-bm/PubsAndForms/ShortSafetySubjects.htm

Heat Injury Protection



Heat injuries are preventable. Leaders are responsible for the health of soldiers. They must identify heat injury hazards and take appropriate action to reduce or eliminate them. Ensure that the current fluid replacement guidelines are distributed to all leaders.

Heat injury remains a significant health problem for our Army. From 1992-2001, 1433 soldiers were admitted to the hospital for treatment of heat injury. From 1997-2001, 5833 soldiers were treated in clinics for heat injuries. Three variables interact to cause heat injuries.

- 1) the climate (temperature and humidity)
- 2) the intensity of activity
- 3) individual risk factors in the soldier, especially the level of fitness.

Heat injury occurs when a person loses excessive fluids through sweating and fails to adequately replenish water and salt. The risk of heat injury is increased with use of heavy clothing, such as MOPP gear, and intense or prolonged activity. Soldiers who are not adapted or acclimatized to hot environments are at higher risk for heat injury.

Commanders and leaders must take the following actions to prevent heat injuries:

- 1) Determine the heat category (1 thru 5, with 5=highest risk) in the immediate vicinity of the activity site, measuring the wet bulb globe temperature (WGBT) each hour.
- 2) Enforce appropriate water intake and work/rest cycles for the measured heat category.
- 3) Modify the intensity of the activity and the duty uniform to decrease the risk of heat injury (e.g. , loosening or removing heavy clothing; intermittently wearing a soft cap rather than the kevlar helmet; and limiting unnecessary strenuous exercise).
- 4) Plan carefully for any events involving sequential days of high performance training (such as air assault, expert infantry badge and expert field medical badge courses). Many preventable heat injuries occur in conjunction with these activities. Allow for adequate train-up conditioning, and plan adequate time for fluid replenishment, rest and recovery.

Leaders must also remember:

- 1) Soldiers need time to adjust to the heat. Gradually increasing work in the heat allows for safe adaptation to hot climates. Full acclimatization can take up to 2 weeks. Soldiers recovering from injury or illness or who are otherwise in poor physical condition are at higher risk for heat injury.
- 2) Dehydration can worsen over several days of heat exposure. Acclimatization increases water requirements. Dehydration can occur if fluid intake is not proportionately increased. Ensure that soldiers achieve adequate hydration the night before strenuous activities. Heat stress accumulates during sequential days of strenuous activity and can be deadly.
- 3) Salt tablets are unnecessary. Encourage soldiers to eat regular meals to replace salt.
- 4) Certain dietary supplements, especially ephedra) and medications (some cold and allergy remedies) can increase the risk of heat injuries. Alcohol use increases dehydration.
- 5) Preventive medicine personnel are available to support you in your efforts to improve and monitor your heat injury prevention program. Make sure that all heat illness and injuries are reported.

Treatment of heat injury: leaders must take additional actions to properly care for heat casualties. Proper treatment in the field and timely evacuation can be life-saving.

- 1) Review evacuation plans to include an accurate estimate of the time required to evacuate a casualty from the field site to the point of definitive medical care.
- 2) On site, the heat casualty should be immediately treated with oral fluids and body cooling. The soldier should be encouraged to drink water (not to exceed one and one-half quarts per hour). If the soldier cannot drink, he should be treated with iv fluids, if available, and evacuated immediately. Body cooling can be accomplished by removal of outer clothing, fanning, spraying or partial immersion in cool water. This treatment should be continued for no more than 20 minutes before evaluating the response.
- 3) Distinguishing between the symptoms of minor heat injury and life-threatening heat stroke can be difficult. Severe heat injury, including heat stroke, usually causes disorientation, confusion, dizziness, collapse, or loss of consciousness. If any of these symptoms persist for more than a few minutes, the casualty must be immediately evacuated for definitive medical evaluation and treatment.