



Short Safety Subject

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

Managing Heat Stress

All heat injuries are preventable, but in order to prevent heat injuries, it is important to understand them. Heat stress is caused by the interaction of three main variables: the mission, the environment, and the soldier. Each has several variables of their own; together, they can set the stage for causing or preventing a heat injury. Failing to consider the variables while planning, performing a risk assessment, or determining risk management steps will result in heat injuries.

- Mission

How hard are the soldiers going to have to work; e.g., working in an air-conditioned office, building fighting positions? What kind of uniform is required (sleeves up, full battle rattle, or MOPP gear)? What kinds of loads will they have to deal with (full ruck, patients on litters, or weapon and Kevlar only)?

- Environment

This is the first thing most people think of. Unfortunately, it is often the only thing. How hot is it? How humid is it? Is there a lot of direct sun or is there a lot of cloud cover? Is there any wind or is it calm? What is the terrain like - grassy, jungle, desert, flat, or hilly?

- Soldier

Are soldiers acclimatized? Are they able to get adequate rest? How about nutrition and hydration? Are the soldiers fit for the mission? Are any ill or on medications? Finally, have any had prior heat injuries?

- Control measures

If you can't answer these questions, you won't be able to take the proper risk mitigation steps and prevent heat injuries. Successful prevention of heat casualties is more important to the unit than their treatment. So, what risk mitigation steps can be taken?

- 1) Monitor your soldiers! This is probably the most important step. If one soldier becomes a heat casualty, then it means that other soldiers are at risk. If soldiers appear to be dragging, the unit should be evaluated quickly! There's a good chance that they are more than just tired. Make sure special attention is given to soldiers who are ill, taking medications, or have had a prior heat injury.
- 2) Acclimatization. It takes up to two weeks to become acclimatized. When deployed, leaders must take this process into account when planning missions.
- 3) Fluid intake. Soldiers should drink adequate fluids before, during, and after the operation or training exercise. During training, fluid intake should be at regular planned intervals to replace the water and salt lost through sweating.
- 4) Remember, hydration is an ongoing process. Waiting until you've already begun exerting yourself to begin proper hydration is like jumping out of an airplane and saying, "Well, I really ought to put on a parachute." Sorry - it's too late.
- 5) Physical conditioning. Infections, fever, recent illness, overweight, fatigue, drugs (cold medication), older age, and previous heat injuries may increase the risk of heat stress.
- 6) Work schedules. If the tactical situation allows, heavy work and activities that require strenuous physical exertion (road marches/calisthenics) should be scheduled either for early morning or late evening. Avoid working in the direct sun whenever possible.
- 7) Loose-fitting clothing. Wear lightweight clothing that allows circulation of air and enhances the cooling evaporation of sweat. If the tactical situation allows, commanders need to consider permitting unblousing of boots, unbuttoning of BDU shirts, or other measures. Removal of BDU shirts should be done with caution, as this may increase the risk of sunburn.
- 8) Wet bulb globe temperature (WBGT). The WBGT index is the best means of evaluating environmental heat. Commanders and NCOs must monitor the heat index, and if tactically possible, modify activities and monitor soldiers accordingly.
- 9) Recognize the early signs of heat injuries, perform first-aid, and have a good, workable, and rehearsed evacuation plan.

Bottom line: Although commanders and supervisors are responsible for heat injury prevention, every soldier can also do their part. The buddy system becomes even more important - each soldier should be an extra set of eyes and ears for the supervisors and commanders. As mentioned, all heat injuries are preventable, but like everything else, a team effort is always the best way to "beat the heat."