



DEPARTMENT OF THE ARMY
UNITED STATES ARMY, EUROPE, AND SEVENTH ARMY
UNIT 29351
APO AE 09014-9351

AEAMD

17 August 2004

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Heat Injury Prevention Program

This memorandum expires in 1 year.

1. References:

- a. Technical Bulletin (TB) MED 507, Heat Stress Control and Heat Casualty Management, 7 March 2003.
- b. AE Pamphlet 385-15, Leader's Operational Accident-Prevention Guide, 1 May 2003.
- c. Memorandum, HQ USAREUR/7A, AEAGA-S, 3 February 2004, subject: USAREUR 2004 Summer Safety Campaign.

2. Heat injuries continue to be a serious threat to U.S. Army Soldiers and civilian employees. The four most common variables attributable to heat injury are—

- a. Climate.
- b. Intensity and duration of the activity.
- c. An individual's risk factors.
- d. Improper re-hydration.

3. The risk of heat injury is increased when the variables in paragraph 2 are out of balance. Commanders, supervisors, and other leaders will ensure the following actions are taken to prevent heat injuries during operations and training activities and at workplaces:

- a. Educate Soldiers and U.S. civilian employees on how important it is to promptly recognize the signs and symptoms of heat injuries and to seek immediate treatment.
- b. Measure, record, and post the heat index at training worksites using the wet bulb globe temperature (WBGT) measuring device (national stock number 6665-01-381-3023).
- c. Modify the duty or work uniform to be appropriate for the activity. This can include covering or applying sunscreen to exposed skin to prevent sunburn.

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d. Monitor water intake and modify work/rest cycles using the WBGT readings and the Work/Rest/Water Consumption Table in the enclosure.

e. Conduct daily risk assessments and pre-mission planning for routine activities, as well as for rigorous activities. Adjust work schedules to avoid the hottest part of the day.

f. Educate Soldiers and U.S. civilian employees on potential individual risk factors (including acute or chronic medical problems, use of medications and dietary or performance-enhancing supplements, being overweight or dieting, and having a history of heat injury). Ensure individuals at risk consult with their health-care provider.

g. Ensure individuals who have a history of heat injury are monitored using “the buddy system” when conducting training or strenuous activities.

h. Incorporate heat-injury prevention into safety briefings before work assignments and training events.

4. Area support group (ASG) commanders will ensure that each of their installation commanders and installation coordinators obtains a WBGT device for use on their installation. IMA-E will procure WBGT measurement devices and distribute them to ASGs. Installation coordinators will take WBGT measurements during summer months when the ambient temperature reaches 75 degrees Fahrenheit (23.89 degrees Celsius). These readings must be taken every hour (or more frequently if determined by the installation commander) and distributed by e-mail to all activities on the installation.

5. Preventive medicine (PM) personnel will provide the following in their support areas:

a. Heat-injury awareness training for commanders.

b. Training to individuals responsible for taking WBGT readings.

c. Consultation and advice to commanders to help them evaluate ways to reduce heat stress.

6. To prevent heat injury in indoor workplaces that do not have air conditioning but where routine activities occur, supervisors should—

a. Open windows when indoor temperatures exceed outdoor temperatures.

b. Use fans.

c. Close window shades if shades do not restrict air movement.

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- d. Minimize lighting.
- e. Advise employees to wear light-weight clothing and to drink cool water at frequent intervals.
- f. Adjust work schedules to avoid the hottest part of the day.
- g. Use a liberal leave policy for employees who have known medical conditions.
- h. Move to alternate worksites that offer cooler environments if possible.
- i. Consult with supporting industrial hygiene personnel to evaluate and determine work/rest cycles for indoor workplace activities where rigorous work activities occur (for example, equipment maintenance, warehouse, or industrial activities).

7. When the measures in paragraph 6 cannot reduce the heat-stress index below heat-category 5, ASG commanders may close all or part of an activity by granting excused absence (administrative leave) for U.S. civilian employees who are not emergency-essential. This authority may be delegated to installation commanders in locations that are geographically separated from the ASG headquarters.

a. In communities where the conditions affect more than one DOD activity, the commander or head of the agency of the component employing the largest number of U.S. civilian employees will be the approval authority for curtailing operations.

b. ASG or installation commanders will coordinate with the lead component authority in subparagraph a above to resolve any differences they may have on a heat-related curtailment of operations.

FOR THE COMMANDER:

Encl



WILLIAM E. WARD
Lieutenant General, USA
Deputy Commanding General/
Chief of Staff

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Heat-Injury Prevention

Risk Management:

1. Determine the heat category using the WBGT reading.
2. Enforce water intake and work/rest cycles.
3. Modify clothing and environment to reduce risk.
4. Plan work schedules involving high-performance activity.
5. Allow time for conditioning, fluid replenishment, and rest/recovery.

WORK/REST/WATER CONSUMPTION TABLE

(based on average sized, heat-acclimated Soldier wearing hot weather BDUs or civilian summer clothing)

Easy (Light) Work Examples		Moderate Work Examples				Hard (Heavy) Work Examples	
Soldier tasks: Weapon maintenance Walking on a hard surface at 2.5 mph with less than a 30-lb load Civilian tasks: Light hand or arm work Sitting or standing controlling machinery		Soldier tasks: Calisthenics or patrolling Walking on a hard surface at 3.5 mph with less than a 40-lb load, or on sand at 2.5 mph with no load Civilian tasks: Walking with moderate lifting and pushing				Soldier tasks: Field assault Walking on a hard surface at 3.5 mph with more than a 40-lb load, or on sand at 2.5 mph with no load Civilian tasks: Heavy shoveling or digging	
Heat Category	WBGT Index	Easy (Light) Work		Moderate Work		Hard Work	
		Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)	Work/Rest cycle	Water intake (qt/hr)
1	78 - 81.9 °F (25.5 – 27.7 °C)	No Limit	1/2	No limit	3/4	40 / 20 min	3/4
2 GREEN	82 - 84.9 °F (27.8 – 29.4 °C)	No Limit	1/2	50 / 10 min	3/4	30 / 30 min	1
3 YELLOW	85 - 87.9 °F (29.5 – 31 °C)	No Limit	3/4	40 / 20 min	3/4	30 / 30 min	1
4 RED	88 - 89.9 °F (31.1 – 32.1 °C)	No Limit	3/4	30 / 30 min	3/4	20 / 40 min	1
5 BLACK	> 90 °F (> 32.2 °C)	50 / 10 min	1	20 / 40 min	1	10 / 50 min	1

- ✓ Work/Rest times and fluid intake will sustain performance and hydration for at least 4 hours of work under the specific heat category.
- ✓ Individual fluid needs can vary (+/- 1/4 qt/hr) and with sun/shade exposure (+/- 1/4 qt/hr) but should not exceed 1.5 qt/hr or 12 qt/day.
- ✓ Rest means minimal physical activity (sitting or standing), in the shade if possible.
- ✓ Body armor or heavy woven protective clothing adds 5 °F to the WBGT reading in humid climates.
- ✓ NBC MOPP 4 adds 10 °F to WBGT reading.

Precautions:

- Full acclimatization can take up to 2 weeks.
- Gradually increasing work in heat allows for adaptation.
- Persons recovering from injury or illness, or in poor condition are at higher risk.
- Dehydration can worsen over several days of heat exposure.
- Acclimatization increases water requirements. Ensure fluid intake is increased.
- Adequate hydration is essential the night before strenuous activity.
- Eat regular meals to replace salt. Salt tablets are unnecessary.
- Heat stress accumulates during sequential days of strenuous activity.
- Warn personnel that certain dietary supplements (for example, Ephedera, Ma Juang) and medications (for example, cold and allergy) increase heat injury risk.
- Medically screen personnel who have acute or chronic medical problems, or who are taking prescriptions, over-the-counter medications, or dietary supplements and those with a heat-injury history.
- Visit <http://chppm-www.apgea.army.mil/heat/>.
- Follow policy and procedures in TB MED 507, Heat Stress Control and Heat Casualty Management.