



DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
5109 LEESBURG PIKE
FALLS CHURCH, VA 22041-3258

DASG-PPM

20 April 2007
Expires: 19 April 2009

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Heat Injury Prevention Policy

1. When spring arrives and summer heat follows, it is time to remind Commanders, NCOs, and Soldiers about preventing heat injuries. The incidence of heat stroke hospitalization among Soldiers has increased almost 8-fold during the past 20 years. In 2006, Soldiers sustained 220 heat stroke cases; of those, 57 were hospitalized, 163 were outpatients, and two died. These heat injuries occurred both in garrison and operational environments, and were due to unit or individual PT, physical fitness testing, training exercise, and other activities, including recreational exertion and non-exertion activities. Soldier and civilian Army personnel health and physical fitness are both top priorities for the Army. Heat casualties represent a serious threat to medical readiness and fitness of our military personnel both in garrison and during deployments.

2. Commanders and NCOs are charged with preventing heat injuries. Medical personnel play a key role in supporting Commanders and NCOs in their efforts to protect Army personnel. The main guiding reference for heat injury prevention is detailed in TB MED 507, Heat Stress Control and Heat Casualty Management. That document, as well as additional guidance and many other valuable heat injury prevention resources are available through the US Army Center for Health Promotion and Preventive Medicine website: <http://chppm-www.apgea.army.mil/heat/>. An updated training video, "Heat Injury Part II, Prevention and Treatment," can be viewed and ordered through this website. The enclosed Information Sheet provides additional information and guidance.

3. My points of contact for this memorandum are Mr. Paul Repaci, Health Systems Specialist, DSN 761-2949, commercial (703) 681-2949, or e-mail: Paul.Repaci@amedd.army.mil and COL Scott Stanek, Preventive Medicine Staff Officer, DSN 761-3160, commercial 703-681-3160 or email: Scott.Stanek@amedd.army.mil.

FOR THE SURGEON GENERAL:

Encl

A handwritten signature in black ink that reads "Michael B. Cates".

MICHAEL B. CATES
Brigadier General, VC
Functional Proponent for Preventive Medicine

DASG-PPM

SUBJECT: Heat Injury Prevention Program

DISTRIBUTION:

Commander, Europe Regional Medical Command, CMR 442, APO AE 09042

Commander, North Atlantic Regional Medical Command, Walter Reed Army Medical Center,
6900 Georgia Avenue, NW, Washington, DC 20307-5001

Commander, Southeast Regional Medical Command, Eisenhower Army Medical Center,
Bldg 300, Fort Gordon, GA 30903-5650

Commander, Great Plains Regional Medical Command, 2410 Stanley Road, Suite 121, Fort
Sam Houston, TX 78234-6200

Commander, Western Regional Medical Command, Madigan Army Medical Center, Bldg 9045,
Jackson Avenue, Tacoma, WA 93431-1100

Commander, Pacific Regional Medical Command, 1 Jarrett White Road, Tripler Army Medical
Center, HI 96859-5000

Commander, US Army Center for Health Promotion and Preventive Medicine, 5158 Blackhawk
Road, Aberdeen Proving Ground, MD 21010-5403

Commander, US Army Medical Research and Materiel Command, 504 Scott Road, Fort
Detrick, MD 21702-5012

Commander, US Army Test and Evaluation Command, Park Center IV, 4501 Ford Avenue,
Alexandria, VA 22301-1458

Commander, US Army Combat Readiness Center, Bldg 4905, Fifth Avenue, Fort Rucker, AL
36362-5363

Commander, US Accession Command, Fort Monroe, VA 23651

Surgeon, 18th MEDCOM, Unit 15281, APO AP 96205-0054

Surgeon, National Guard Bureau, 111 South George Mason, Arlington, VA 22204-1382

Surgeon, US Army Reserve Command, 1401 Deshler Street SW, Fort McPherson, GA
30330-2000

Surgeon, US Army Training and Doctrine Command, 7 Fenwick Road, Fort Monroe, VA
23651-5000

Surgeon, US Army Forces Command, 1777 Hardee Avenue SW, Fort McPherson, GA
30330-6000

Surgeon, US Army Materiel Command, 9301 Chapek Road, Fort Belvoir, VA 22333-0001

Surgeon, US Army Special Operations Command, Fort Bragg, NC 28307-5200

Information Sheet: Heat Injury Prevention Program

1. All military and civilian health care providers and leaders developing a comprehensive heat injury prevention program should use reference TB MED 507, "Heat Stress Control and Heat Casualty Management"¹, which covers all aspects of heat injury prevention. Heat mitigation procedures include identifying high-risk individuals, heat acclimatization, fluid and electrolyte replacement, work/rest guidelines, management of heat casualties, and vigilance.
2. Units train using risk management principles; therefore, it is imperative that Commanders, NCOs, and medical personnel are educated on preventing heat injuries using this terminology. A risk management based, comprehensive heat injury prevention program includes identification and assessment of hazards in terms of severity and probability, implementation of appropriate controls for hazard abatement, and evaluation of the effectiveness of control measures. Early recognition of heat exhaustion is critical to prevent progression to more serious heat injury and death.
3. Newly mobilized personnel, especially those from cool climates, are more at risk of becoming a heat casualty when exposed to hot weather and not properly heat acclimatized. Training in a compressed timeframe before deployments increases the risk. The 2003 Ranger and Airborne School Students Heat Acclimatization Guide² provides practical guidance for optimal heat acclimatization to both maximize performance while minimizing the risk of becoming a heat casualty.
4. All cases of heat stroke and heat exhaustion must be reported to the Army Medical Surveillance Activity (AMSA) through the Reportable Medical Events System (RMES).³ These cases must be reported within 48 hours IAW AR 40-5 paragraph 2-18.d. This reporting requirement includes case reports from subordinate clinics and clinics at satellite locations. Heat injuries at mobilization sites in Camp and Reserve areas should be reported to the nearest regional Military Treatment Facility (MTF). Preventive medicine personnel at MTFs should receive local reports of possible heat injuries, investigate, and report required information through RMES to AMSA.
5. A number of deaths occurred in the Army due to water intoxication or hyponatremia. Proper water consumption guidelines⁴ should be followed in order to prevent over-hydration. Fluid needs can vary based on individual differences ($\pm \frac{1}{4}$ qt/hr) and exposure to full sun or full shade ($\pm \frac{1}{4}$ qt/hr). Hourly fluid intake should not exceed 1 $\frac{1}{2}$ quarts and daily intake should not exceed 12 quarts.

¹ <http://chppm-www.apgea.army.mil/documents/TBMEDS/tbmed507.pdf>

² <http://chppm-www.apgea.army.mil/heat/HeatAcclGuidelinks.pdf>

³ <http://amsa.army.mil>

⁴ <http://chppm-www.apgea.army.mil/doem/pgm34/HIPP/WorkRestTable.pdf>

6. Three variables interact to cause a heat injury: (1) climate (temperature and humidity), (2) intensity of activity, and (3) individual risk factors. Individual risk factors include: lack of heat acclimatization, cumulative exposure to heat, poor physical fitness, overweight, concurrent illness, medications/dietary supplements (such as ephedra), alcohol use, prior history of heat injury, skin disorders, and age older than 40. Beverages containing caffeine, a diuretic, can lead to dehydration. Alcohol use within 48 hours of training increases heat injury risk. **Frequent reassessment is needed as many of these factors can change on a daily basis.**

7. Since 1994, after it determined that ephedra posed an unreasonable risk due to an association with heart attack and stroke, the FDA has prohibited sale of ephedra-containing products in the United States. Ephedra-containing substances should **NOT** be used under any circumstance. Some weight loss supplements are labeled as "ephedra-free". Since these products may contain other harmful substances, their use should be discouraged. All supplement use by an individual within two weeks of a heat injury should be reported in RMES. Supplement brands and ingredients change over time; therefore, the principle ingredients should be included in the comments section of the report. Use of certain prescription drugs can also increase the risk of heat injury and their use should be listed as an individual risk factor in the heat injury prevention program.

8. USACHPPM and the US Army Research Institute for Environmental Medicine (USARIEM) have developed material that includes valuable heat injury prevention products, including useful posters, videos, and pocket guides. These are available through the CHPPM website, <http://chppm-www.apgea.army.mil/heat/>.