



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MEDICAL COMMAND
2050 WORTH ROAD
FORT SAM HOUSTON, TX 78234-6000

22 APR 2010

MCPO

MEMORANDUM FOR Commanders, MEDCOM Major Subordinate Commands

SUBJECT: Heat Injury Prevention Program 2010

1. Heat injuries continue to cause significant morbidity and mortality among our Soldiers. Exposure to extreme heat is the reality of unit preparation for operational missions. Leaders must assess unit's missions and training requirements against the risk associated with operating in warm weather environments.
2. An average of 3-4 Soldiers die of heat-related injuries annually. The majority of these deaths occur during physical fitness training or testing. In 2009, 209 Soldiers suffered heat strokes and an additional 1,160 suffered heat injuries severe enough to warrant medical treatment.
3. Many heat injuries are preventable, and none need be fatal. Thorough mission assessment and planning and implementation of mitigation measures are essential to prevent heat injuries. Early recognition and treatment of Soldiers presenting with symptoms of heat injuries are key to saving lives. Medical personnel must continue to assist Commanders and NCOs in their efforts to protect our Soldiers.
4. Excellent resources for heat casualty prevention are available through the US Army Public Health Command (Provisional), formerly the US Army Center for Health Promotion and Prevention Medicine, website: <http://chppm-www.apqea.army.mil/heat/>. The enclosed Information Sheet on Heat Injury Prevention provides additional guidance.
5. My points of contact are Mr. Paul Repaci, Health Systems Specialist, DSN 761-2949, commercial (703) 681-2949, or email: Paul.Repaci@us.army.mil and COL Robert Mott, Preventive Medicine Staff Officer, DSN 761-3160, commercial (703) 681-3160, or email: Robert.L.Mott@us.army.mil and for technical information Dr. Michael N. Sawka, (508) 233-5665, Michael.Sawka@us.army.mil or Commander, US Army Research Institute of Environmental Medicine.

Encl


ERIC B. SCHOOMAKER
Lieutenant General
The Surgeon General and
Commanding General, USAMEDCOM

Information Sheet: Heat Injury Prevention Program

1. Commanders and health care providers should use TB MED 507, *Heat Stress Control and Heat Casualty Management*¹ to develop a comprehensive heat injury prevention program. This program should be complemented with Army Risk Management doctrine, as detailed in FM 100-14 and FM 3-100.4, *Environmental Considerations in Military Operations*. These documents provide the framework for early recognition of climatic injuries and implementation of preventive measures.

2. Heat injury prevention requires a comprehensive approach that incorporates risk management, education, acclimatization, and appropriate adjustment of activities to reduce risk. Four variables interact to cause a heat injury: (1) climate (temperature and humidity), (2) intensity and duration of activity, (3) clothing and equipment (e.g., body armor), and (4) individual risk factors.

a. Operations in environments with high ambient temperatures and relatively high humidity, starting at temperatures as low as 75 degrees F., will produce the most heat injuries.

b. Vigorously training unacclimatized personnel in a compressed timeframe in a warm and humid environment increases the risk of incurring a heat casualty.

c. Protective clothing and body armor can increase heat strain. Work/rest guidelines and water requirements should be modified.

d. Individual risk factors include: lack of heat acclimatization, cumulative exposure to heat, poor physical fitness, being overweight, concurrent illness, use of prescription and over-the-counter medications (such as antihistamines, blood pressure pills, and others), use of various dietary supplements (such as ephedra, diet pills, muscle supplements, and others), recent or concurrent alcohol use, prior history of heat injury, some skin disorders, inadequate hydration, and age older than 40.

3. These variables mentioned above are cumulative; heat injury risk increases with subsequent days of exposure unless opportunities are provided to reduce heat load. Frequent reassessment is needed as some of these variables and factors can change on a daily or even hourly basis.

4. Early and continued cooling of a suspected heat injury victim is critical. Iced sheets are an effective portable means to provide cooling during training and sporting events. Instructions on the use of iced sheets can be found in TRADOC Regulation 350-29, *Prevention of Heat and Cold Casualties* Appendix D². Soldiers training in warm weather who display mental status changes should be rapidly cooled to prevent serious heat injury or death. OTSG/MEDCOM Policy 09-039³ provides new medical evaluation board requirements and profile policy for Soldiers with heat injury.

5. Commanders and health care providers should be aware that Soldiers may be consuming various supplements. Consumption of "thermogenic" agents and "ephedra-free" weight loss supplements increase risk for heat injury. Intake of multiple or combination supplements (e.g.,

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

² <http://www.tradoc.army.mil/TPUBS/reqs/tr350-29.pdf>

³ <https://www.us.army.mil/suite/doc/17705494>

caffeine with bitter orange herbals, other stimulants, and products with proprietary ingredients) by Soldiers should be discouraged. In accordance with OTSG/MEDCOM Policy 09-100⁴, data on oral supplements taken within two weeks of a heat injury should be collected by health care providers and documented in available medical record systems (e.g., AHLTA, Essentris), both in the clinical note and using the E947.0 code⁵. Providers must also report this information to their local Preventive Medicine Service for entry in the Reportable Medical Events System (RMES) and to the Federal Drug Administration MedWatch using their form⁶.

6. Although most heat injuries involve dehydration, leaders should be aware that deaths have occurred in Army personnel due to water intoxication from overhydration. Proper water consumption guidelines⁷ should be followed in order to prevent overhydration. Hourly fluid intake should not exceed 1½ quarts and daily intake should not exceed 12 quarts.

7. All heat illnesses that require medical intervention or result in lost duty time should be reported to the US Army Public Health Command (Provisional) using the RMES as soon as possible after the diagnosis has been made or within 48 hours IAW AR 40-5 *Preventive Medicine* paragraph 2-18.d. The Tri-Service Reportable Events Guidelines & Case Definitions, June 2009 is available at http://www.afhsc.mil/viewDocument?file=TriService_CaseDefDocs/June09TriServGuide.pdf. Satellite clinics without Preventive Medicine (PM) assets and RMES accounts should forward case reports to the nearest PM Department for confirmation and reporting. Heat injuries at mobilization sites in Camp and Reserve areas should be reported to the nearest regional MTF. PM personnel at MTFs who receive local heat injury reports should investigate serious events or illness clusters and report required information to US Army Public Health Command (Provisional) using RMES. PM personnel should also coordinate with corresponding safety officers to ensure heat injury data is reported to the Army Safety channels IAW AR 385-10, *Army Safety Program*, paragraphs 8-2 and 8-5 and Appendices D and J.

8. Additional resources and guidance are available for leaders and medical personnel.

a. The US Army Public Health Command (Provisional), formerly US Army Center for Health Promotion and Prevention Medicine, (<http://chppm-www.apgea.army.mil/heat>) provides heat casualty prevention information, such as *Commander's, Senior NCO's and Instructor's Guide to Risk Management of Heat Casualties*⁸ and *Ranger, Airborne & Other Elite School Students Heat Acclimatization Guide*⁹. Subject matter expertise regarding heat casualty prevention and treatment can be obtained (<http://www.usariem.army.mil/>).

b. The US Army Training and Doctrine Command published regulation providing guidance to commanders for prevention of heat casualties, TRADOC Regulation 350-29, Prevention of Heat and Cold Casualties, 20 Jan 10, <http://www.tradoc.army.mil/tpubs/reg/tr350-29.pdf>.

⁴ <https://www.us.army.mil/suite/doc/20585166>

⁵ <http://chppm-www.apgea.army.mil/heat/healthguidance.pdf>

⁶ <http://www.fda.gov/downloads/Safety/MedWatch/HowToReport/DownloadForms/ucm082725.pdf>.

⁷ <http://chppm-www.apgea.army.mil/doem/pgm34/HIPP/WorkRestTable.pdf>

⁸ <http://chppm-www.apgea.army.mil/doem/pgm34/HIPP/HeatRiskManGuideMar04.pdf>

⁹ <http://chppm-www.apgea.army.mil/heat/HeatAcclGuidelinks.pdf>

c. The US Army Combat Readiness/Safety Center (USACRC) has ongoing heat injury prevention activities. CRC publishes *Knowledge*, the official US Army safety magazine, which provides information on heat related injury and prevention. In April 2010, the CRC is kicking off the Safe Summer Campaign which will have safety awareness information for all summer activities to include heat injury prevention, <http://safety.army.mil>.

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