



REPLY TO  
ATTENTION OF

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

MCPO

15 APR 2011

MEMORANDUM FOR Commanders, MEDCOM Major Subordinate Commands

SUBJECT: Heat Illness Prevention Program 2011

1. Serious heat illness (heat exhaustion, heat injury, heat stroke) continues to pose a significant threat to the health and operational readiness of our Soldiers. Exposure to extreme temperatures is the reality of unit preparation for operational missions, and the missions themselves. Leaders must assess their unit's missions and training requirements against the risk associated with operating in warm weather environments.
2. An average of 2-3 Soldiers died annually over the past decade of heat stroke and less severe forms of exertional heat illness. The majority of these deaths occurred during physical fitness training and/or testing. In 2010, more than 200 Soldiers suffered from heat stroke and hundreds of other Soldiers suffered heat exhaustion and injuries severe enough to warrant medical treatment.
3. Most heat illnesses are preventable, and none need to be fatal. Thorough mission assessment and planning, and implementation of mitigation measures are essential to prevent heat illness. Early recognition and treatment of Soldiers presenting with symptoms of heat illness are key to saving lives. All leaders must be proactive in implementation of preventive measures to mitigate the threat of heat casualties. Medical personnel must continue to assist Commanders and non-commissioned officers in their efforts to protect our Soldiers.
4. Excellent resources for heat casualty prevention are available through the US Army Public Health Command (Provisional) website:  
<http://phc.amedd.army.mil/topics/discond/hipss/Pages/HeatInjuryPrevention.aspx>.  
Another reference is TB MED 507, *Heat Stress Control and Heat Casualty Management*. The enclosed information sheet on heat illness prevention provides additional guidance.
5. My points of contact are Mr. Paul Repaci, Health Systems Specialist, DSN 761-2949, commercial (703) 681-2949, [Paul.Repaci@us.army.mil](mailto:Paul.Repaci@us.army.mil) and COL Robert Mott, Preventive Medicine Staff Officer, DSN 761-3160, commercial (703) 681-3160, [Robert.L.Mott@us.army.mil](mailto:Robert.L.Mott@us.army.mil).

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6. For technical information, my points of contact are Dr. Michael Sawka, DSN 256-5665, commercial (508) 233-5665, [Michael.Sawka@us.army.mil](mailto:Michael.Sawka@us.army.mil) or Commander, US Army Research Institute of Environmental Medicine, DSN 256-4811, commercial (508) 233-4811.

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## Information Sheet: Heat Illness Prevention Program

1. Commanders and health care providers should use TB MED 507, *Heat Stress Control and Heat Casualty Management*<sup>1</sup> to develop a comprehensive heat illness prevention program. This program should be complemented with Army Risk Management doctrine, as detailed in FM 5-19, *Composite Risk Management*. These documents provide the framework for early recognition of climatic injuries and implementation of preventive measures.

2. Heat illness prevention requires a comprehensive approach that incorporates risk management, education, acclimatization, and appropriate adjustment of activities to reduce risk. Four variables interact to cause heat illness: (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., produce the most heat casualties.

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 schedules and water consumption should be modified in accordance with published guidance in TB MED 507, Table 3.1.

d. Individual risk factors include: lack of heat acclimatization, cumulative exposure to heat, poor physical fitness, 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, water pills), recent or concurrent alcohol use, prior history of serious heat illness, certain skin disorders, inadequate hydration, and age older than 40.

3. Serious heat illness risk increases with subsequent days of exposure unless opportunities are provided to reduce heat load. Frequent reassessment is needed as some of risk factors associated with heat illness (paragraph 2d) change on a daily or even hourly basis.

4. Early and continued cooling of a suspected heat stroke 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 D.<sup>2</sup> Soldiers training in warm weather who display mental status changes should be rapidly cooled to prevent serious

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<sup>1</sup> [http://www.army.mil/usapa/med/DR\\_pubs/dr\\_a/pdf/tbmed507.pdf](http://www.army.mil/usapa/med/DR_pubs/dr_a/pdf/tbmed507.pdf)

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

heat injury or death. AR 40-501, *Standards of Medical Fitness*, paragraph 3-45<sup>3</sup> provides new definitions for heat illness and guidance for referral to a Medical Evaluation Board.

5. Commanders and health care providers should be aware that Soldiers may be consuming various supplements. Consumption of ephedra-containing supplements is a risk factor for heat illness and heat injury. Supplements marketed as diuretics (water pills, diet pills) should also be avoided. In accordance with OTSG/MEDCOM Policy 09-100<sup>4</sup>, data on oral supplements taken within two weeks of a heat illness 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 code with the appropriate extender code, if applicable.<sup>5</sup> Providers must also report this information to their local Preventive Medicine Service for entry in the Disease Reporting System internet (DRSi) and to the Federal Drug Administration MedWatch using their form.<sup>6</sup>

6. Although most heat illnesses involve dehydration, leaders should be aware that deaths have occurred in Army personnel due to water intoxication from overhydration. Proper water consumption guidelines<sup>7</sup> 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 DRSi as soon as possible after the diagnosis has been made or within 48 hours in accordance with AR 40-5, *Preventive Medicine*, paragraph 2-18.d. Information on DRSi is available at <https://data.nmcphc.med.navy.mil/adrsi/Login.aspx> and from the DRSi HelpDesk (email: [disease.epidemiology@amedd.army.mil](mailto:disease.epidemiology@amedd.army.mil), phone: 410-417-2377 (DSN 867-2377)).

a. Clinical case definitions for heat illness are contained in the Tri-Service Reportable Events Guidelines & Case Definitions, June 2009 available at [http://www.afhsc.mil/viewDocument?file=TriService\\_CaseDefDocs/June09TriServGuide.pdf](http://www.afhsc.mil/viewDocument?file=TriService_CaseDefDocs/June09TriServGuide.pdf).

b. Satellite clinics without Preventive Medicine (PM) assets and DRSi accounts should forward case reports to the nearest PM Department for confirmation and reporting. Heat illness at mobilization sites in Camp and Reserve areas should be reported to the nearest regional military treatment facility.

c. PM personnel at MTFs who receive local heat illness reports should investigate serious events or illness clusters and report required information to US Army Public

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<sup>3</sup> [http://armypubs.army.mil/epubs/pdf/r40\\_501.pdf](http://armypubs.army.mil/epubs/pdf/r40_501.pdf)

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

<sup>5</sup> <http://phc.amedd.army.mil/PHC%20Resource%20Library/public%20health%20notice%200410-01.pdf>

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

<sup>7</sup> <http://usaphcapps.amedd.army.mil/hioshoppingcart/viewItem.aspx?id=53>

Health Command (Provisional) using DRSi. PM personnel should also coordinate with corresponding safety officers to ensure heat illness data is reported to the Army Safety channels IAW AR 385-10, *Army Safety Program*, Chapter 3.

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

a. The US Army Public Health Command (Provisional) Heat Injury Prevention website

<http://phc.amedd.army.mil/topics/discond/hipss/Pages/HeatInjuryPrevention.aspx> provides heat casualty prevention information such as the *Composite Risk Management for Heat Injury Prevention, Identification, and Response FY 2010*.<sup>8</sup> The US Army Research Institute of Environmental Medicine has additional resources such as the *Ranger & Airborne School Students Heat Acclimatization Guide*.<sup>9</sup> Subject matter expertise regarding heat casualty prevention and treatment can be obtained at <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/regstr350-29.pdf>.

c. The US Army Combat Readiness/Safety Center (USACRC) has ongoing heat injury prevention activities. USACRC publishes *Knowledge*, the official US Army safety magazine, which provides information on heat related injury and prevention. In April 2011, USACRC will be kicking off the Safe Summer Campaign which will have safety awareness information for all summer activities to include heat illness prevention, <http://safety.army.mil>.

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<sup>8</sup> <http://phc.amedd.army.mil/topics/discond/hipss/Pages/ResourceMaterials.aspx>

<sup>9</sup> <http://www.usariem.army.mil/Pages/download/heatacclimatizationguide.pdf>