

INFORMATION PAPER

1. Purpose. To provide information on the use of iced sheets in the field treatment of actual or potential heat stroke.

2. Facts.

a. The use of bed sheets cooled with ice water has been proven to significantly improve the recovery and outcome of persons suffering from heat stroke.¹

b. The use of iced sheets for treatment of heat stroke in the field is recommended in TB MED 507, para 5-2;² TVT 8-460, Heat Injury Risk Management;³ and TRADOC Regulation 350-6, para J-3c.⁴

c. The recommended indications and procedures for use of iced sheets are as follows:

- Prepare iced sheets by placing ordinary bed sheets in iced water
 - * Keep iced water ready in Igloo^(R)-type ice chests
 - * Have sheet readily available, either in re-sealable plastic bags or soaking in iced water
 - * Rule of thumb is company/battery/troop size units should have 8 bed sheets ready and available as a risk mitigating measure for the treatment of heat injuries
 - * When needed, immerse sheet in iced water and ensure it is saturated; this can be done as Soldier's outer clothing is being removed
- Depending on the risk, the ice chests can be maintained at training sites by training site NCOICs/OICs; they can be carried on ambulances or non-standard evacuation vehicles; and they can be maintained at supporting Aid Stations and Army Health Clinics
- Iced sheets should be applied anytime a Soldier has a change in their mentation and consideration is given to environmental heat exposure being the cause of this change (i.e. either during environmental heat extremes, or following days of exposure to environmental heat extremes). Mentation changes include confusion, inability to properly follow commands, loss of consciousness, etc. ***The mental status changes of heat injury are more important than the Soldier's temperature when deciding on the treatment of heat injuries.***

- Iced sheets should always be applied in cases of heat stroke when medical treatment facility emergency medical care is not readily available
- Iced sheets should be re-iced and re-applied (or completely replaced) whenever a heat casualty's body temperature warms up the sheets (because the sheets are no longer delivering cooling therapy).

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References:

1. O'Brien, K.K. Heat stroke: A retrospective comparison of field treatment methods. Presentation to American College of Sports Medicine, 2 Jul 03.
2. Technical Bulletin--Medical 507, Heat Stress Control and Heat Casualty Management, 7 Mar 03. <<http://chppm-www.apgea.army.mil/documents/TBMEDS/tbmed507.pdf>>
3. Training Videotape 8-460, Heat Injury Risk Management, 28 Feb 03. <<http://www.usaac.army.mil/downloads/heat.wmv>>
4. TRADOC Reg 350-6, Enlisted Initial Entry Training (IET) Policies and Administration, 15 Aug 03.
5. See TRADOC Reg 350-29, Prevention of Heat and Cold Casualties, 16 Jul 03, para B-1.
6. E-mail, HQ USAMEDDAC (MCXB-F), LTC Karen O'Brien, 30 Jun 03, subject: Information on ice[d] sheets.*
7. "Heat Injury Risk Management," Mar 2004, US Army Center for Health Promotion and Preventive Medicine, slides no. 17-21, 26, 27. <<http://chppm-www.apgea.army.mil/heat/Heatriskmanagment.ppt>>

HEAT INJURY PREVENTION

- Leader actions

- Know your Soldiers
- Provide time for new Soldiers to acclimatize
- Plan more strenuous activities early or late in the day
- Remember: exposure to heat stress is cumulative: 3 successive days of CAT 5 exposure increases the risk for heat injuries
- Use local Wet Bulb measurements to gauge mitigation measures
- Any signs of “goofy” behavior warrants immediate treatment (and evacuation unless it rapidly clears) – *recommend Iced Sheets!*

- Soldier actions

- Stay physically fit
- Maintain adequate levels of hydration (flavored drinks “authorized”)
- Eat well-balanced meals; don't skip meals
- Communicate any symptoms of heat injury to 1st-line supervisor

Warning Signs and Symptoms of Heat Stress

With any of the below symptoms or signs, immediately call for medical evaluation by a 68W (Medic). If 68W is not immediately available, call Medevac or ambulance.

INDICATIONS OF POSSIBLE HEAT ILLNESS	
MORE COMMON SIGNS / SYMPTOMS <ul style="list-style-type: none">• Dizziness• Headache• Dry mouth• Nausea• Unsteady walk• Weakness• Muscle cramps	IMMEDIATE ACTIONS <ul style="list-style-type: none">• Remove from training• Allow casualty to rest in shade• Take sips of water• While doing the above, call for Medic evaluation of the soldier (Medic will monitor temperature and check for mental confusion)• If no medic is available call for ambulance or Medevac
SERIOUS SIGNS/ SYMPTOMS <ul style="list-style-type: none">• Hot body, high temperature• Confusion (Do Mental Status Assessment)• Vomiting• Involuntary bowel movement• Convulsions• Weak or rapid pulse• Unresponsiveness, coma	Immediately call Medevac or ambulance for emergent transport while doing the following: <ul style="list-style-type: none">• Lay person down in shade with feet elevated until Medevac or ambulance arrives• Undress as much as possible• Pour cool water over person and fan• Give sips of water while awaiting ambulance (if conscious)• Monitor airway and breathing until ambulance or Medevac arrive

MENTAL STATUS ASSESSMENT
<p>A sign that the soldier is in a serious life-threatening condition is the presence of mental confusion (with or without increased temperature). Anyone can do a mental status assessment asking some simple questions:</p> <p><i>Call for emergency Medevac or ambulance if any of the following exist:</i></p> <p>What is your name? <i>(Does not know their name.)</i></p> <p>What month is it? What year is it? <i>(Does not know the month or year.)</i></p> <p>Where are we/you? <i>(Does not know the place where they are at.)</i></p> <p>What were you doing before you became ill? <i>(Does not know the events that led to the present situation.)</i></p>

***Use Iced Sheets for rapid cooling of suspected heat stroke Victims.**

Evac ASAP
Cooling enroute

Soak with
water and
fan

Elevate
feet

Strip to
underwear

Iced Sheet Treatment

Stop cooling when casualty starts shivering or **rectal temp is 100 F. (Medic or EMT task)**

Basic load: 8 sheets/company in large cooler of ice water.

Maintain 100%
constant
monitoring

Replace
or refresh
sheets
when warm

Cover top
of head

Cover with
iced sheets

