

Heat Injury Controls:



Decision to accept risk is made at the appropriate level

- Made in accordance with TRADOC Reg 385-2, para 1-5e.



Identified controls are in place

- Update WBGT hourly.
- Adhere to work/rest cycle in high heat categories.
- Run in formation at a double arm interval (the extra space is very effective to allow individual heat dissipation during runs).
- For tasks requiring continuous effort, adhere to the Continuous Work/Water Consumption Guide (without rest) and other standardized guidelines for warm weather training conditions. Allow several hours of rest afterwards.



Monitor and enforce hydration standard

- Encourage frequent drinking. Do not exceed 1½ quarts per hour or 12 quarts per day. Make water more palatable, if possible, by cooling.
- Do not allow Soldiers or Trainees to empty canteens to lighten load (consider imposing a penalty in time events).
- Ensure Soldiers are well hydrated before training. Ask about urine - urine is clear if well hydrated.
- Check Riley (water) Card or Ogden Card frequently.



Monitor and enforce eating of meals

- Ensure all meals are eaten during the meal break.
- Ensure adequate time to eat and drink meals.
- Table salt may be added to food when the heat category is high. Salt tablets are not recommended.



Execute random checks

- Spot checks by Cadre, Senior NCO's, and Drill Instructors.
- Enforce battle buddy checks — need to be aware of each other's eating, drinking and frequency of urination.
- Plan placement of leaders to observe and react to heat casualties in dispersed training.



Follow clothing recommendations

- Heat category 1-2: No restrictions.
- Heat category 3: Unblouse trouser legs, unbuckle web belt.
- Heat category 4-5:
 - Unblouse trouser legs, unbuckle web belt.
 - Remove t-shirt from under BDU top or remove BDU top down to t-shirt (depends whether biting insects are present).
 - Remove helmets unless there are specific safety reasons to keep them on (ex: range).
- MOPP 4: Add 10°F to WBGT index for easy work, and 20°F to WBGT index for moderate and hard work.
- Body Armor: Add 5°F to WBGT index.

Have Soldiers take cold showers after moderate and heavy work with category 3 and above at the end of the day. This will minimize cumulative thermal load.

- The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hrs of work in the specified heat category. Fluid needs can vary based on individual differences (± ¼ qt/hr) and exposure to full sun or full shade (± ¼ qt/hr).
- NL = no limit to work time per hr.
- Rest = minimal physical activity (sitting or standing) accomplished in shade if possible.
- If doing Easy Work and wearing NBC (MOPP 4) clothing, add 10°F to WBGT index.
- If doing Moderate or Hard Work and wearing NBC (MOPP 4) clothing, add 20°F to WBGT index.
- CAUTION: Hourly fluid intake should not exceed 1½ qts.
- Daily fluid intake should not exceed 12 qts.
- If wearing body armor, add 5°F to WBGT index in humid climates.
- If doing Easy Work and wearing NBC (MOPP 4) clothing, add 10°F to WBGT index.
- If doing Moderate or Hard Work and wearing NBC (MOPP 4) clothing, add 20°F to WBGT index.

Hard Work = Walking in sand 2.5 mph with load, Field assaults.

Moderate Work = Patrolling, Walking in sand 2.5 mph no load, Calisthenics

Easy Work = Walking on hard surface 2.5 mph <30 lb. load, Weapon maintenance, Marksmanship training.

Heat Category	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest (Q/H)	Water Intake (Q/H)	Work/Rest (Q/H)	Water Intake (Q/H)	Work/Rest (Q/H)	Water Intake (Q/H)
1	78° - 81.9°	NL	NL	NL	40/20 min	¼	¼
2 (GREEN)	82° - 84.9°	NL	½	50/10 min	30/30 min	¾	1
3 (YELLOW)	85° - 87.9°	NL	¾	40/20 min	30/30 min	1	1
4 (RED)	88° - 89.9°	NL	1	30/30 min	20/40 min	1	1
5 (BLACK)	> 90°	50/10 min	1	20/40 min	10/50 min	1	1

Fluid Replacement and Work/Rest Guide

Individual Risk Factors:

The more factors, the higher the risk

- Not acclimatized** to heat (need 10-14 days to get Trainees adequately acclimated).
- Exposure to cumulative days (2-3 days) of any of the following:
 - Increased heat exposure
 - Increased exertional levels
 - Lack of quality sleep
- Overweight.
- Minor illness (cold symptoms, sore throat, low grade fever, nausea, vomiting).
- Taking medications (either prescribed or over-the-counter) and/or supplements or dietary aids. Example:
 - Allergy or cold remedies
 - Ephedra
- Use of alcohol in the last 24 hours.
- Prior history of heat illness (any heat stroke, or >2 episodes of heat exhaustion).
- Skin disorders such as heat rash and sunburn that prevent effective sweating.
- Age >40 years.

HIP Pocket Guide (Heat Injury Prevention Guide)

- Hazards**
- Individual Risk Factors**
- Fluid Replacement and Work/Rest Guide**
- Heat Injury Controls**
- Warning Signs and Symptoms of Heat Stress and Illness**

Hazards:

- High heat category**, especially on several sequential days (measure WBGT when ambient temperature is over 75°F)
- Exertional level of training**, especially on several sequential days
- Acclimatization** (and other individual risk factors – see reverse side)
- Time of exposure**, to include nights and recovery time

Warning Signs and Symptoms of Heat Stress and Illness

With any of the below symptoms or signs, immediately call for medical evaluation by a 91W (Medic). If 91W is not immediately available, call for Medevac or ambulance.

Indications of Possible Heat Casualty	
<p>MORE COMMON SIGNS/SYMPTOMS</p> <ul style="list-style-type: none"> Dizziness Headache Nausea Unsteady walk Weakness or fatigue Muscle cramps 	<p>IMMEDIATE ACTIONS</p> <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 a Medic to evaluate the Soldier (Medic will monitor temperature and check for mental confusion) <p style="color: red; font-weight: bold;">If no Medic is available call for ambulance or Medevac. Ensure same Trainer keeps monitoring the casualty.</p>
<p>SERIOUS SIGNS/SYMPTOMS</p> <ul style="list-style-type: none"> Hot body, high temperature Confusion, agitation (Mental Status Assessment) Vomiting Involuntary bowel movement Convulsions Weak or rapid pulse Unresponsiveness, coma Hyperventilating 	<p>Immediately call Medevac or ambulance for emergency transport while doing the following:</p> <ul style="list-style-type: none"> Lay person down in shade with feet elevated until Medevac or ambulance arrives Undress as much as possible Aggressively apply ice packs or ice sheets Pour cold water over person and fan Give <u>sips</u> of water while awaiting ambulance (if conscious) Monitor airway and breathing until ambulance or Medevac arrive Continue cooling during transport or until body reaches 100°F

Mental Status Assessment

An important 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.

Call for emergency Medevac or ambulance if any of the following exist:

- **What is your name?** (Does not know their name.)
- **What month is it? What year is it?** (Does not know the month or year.)
- **Where are we/you?** (Is not aware of location or surroundings.)
- **What were you doing before you became ill?** (Does not know the events that led to the present situation.)

Indications of Possible Water Intoxication (Over Hydration)

Signs and Symptoms: Confusion, Weakness, and Vomiting

What to do:

Ask these questions to the Soldier or battle buddy:

- Has Soldier been eating? Check rucksack for # of MRE's left (Suspect water intoxication if Soldier has not been eating).
- Has Soldier been drinking a lot? (suspect water intoxication if Soldier has been drinking constantly).
- How often has Soldier urinated? (frequent urination seen with water intoxication; infrequent urination with heat illness).
- What color is urine? (clear urine may indicate over hydration).

If Soldier has been eating, drinking and urinating a lot, yet has these symptoms, immediately call Medevac or ambulance for emergency transport.