

# INDIVIDUAL SAFETY CARD

Supersedes GTA 08-05-050, 25 Feb 99

## BASIC HEAT INJURY PREVENTION

1. Consider water a tactical weapon. Drink frequently (see water consumption table on page 3 for guidance).
2. Eat meals. Add salt to taste.
3. Be aware that dark yellow colored, infrequent urination is a sign of dehydration. Increase water intake.
4. Perform heavy work in the cooler hours of the day, such as early morning or late evening, if possible.
5. Minimize heat stress by decreasing work pace and/or increasing rest periods (see table on page 3 for guidance). Modify clothing if appropriate.
6. Be aware that full heat acclimatization takes 1-2 weeks.
7. Consider that soldiers undergoing treatment for acute or chronic medical conditions may be a greater risk for heat injury.

## HEAT CRAMPS

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| <p><b>SYMPTOMS</b></p> <p>Muscle cramps of arms, legs and/or stomach. Heavy sweating (wet skin) and extreme thirst may occur.</p> | <p><b>FIRST AID</b></p> <ol style="list-style-type: none"> <li>1. Move the soldier to a shady area and loosen clothing.*</li> <li>2. Have the soldier drink at least 1 canteen of water mixed with a packet of salt (1/4 tsp) or sports drink.</li> <li>3. Watch the soldier. Continue to give water if the soldier accepts it.</li> <li>4. Get medical help if cramps continue.</li> </ol> |
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## HEAT EXHAUSTION

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| <p><b>SYMPTOMS</b></p> <p>Heavy sweating with pale, moist, cool or hot skin; weakness, dizziness, and/or fatigue.</p> <p>Heat craps, nausea (with or without vomiting/diarrhea), tunnel vision, chills (gooseflesh), rapid breathing, confusion, and tingling of the hands and/or feet may occur.</p> | <p><b>FIRST AID</b></p> <ol style="list-style-type: none"> <li>1. Move the soldier to a cool, shady area and loosen /remove clothing.*</li> <li>2. Pour water on the soldier and fan to permit cooling effect.</li> <li>3. Have the soldier slowly drink at least on full canteen of water.</li> <li>4. Elevate the soldier's legs.</li> <li>5. <b>GET MEDICAL HELP IF SYMPTOMS CONTINUE (i.e., VOMITING)</b><br/>Watch the soldier until symptoms are gone or medical aid arrives.</li> </ol> |
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## HEATSTROKE

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| <p><b>SYMPTOMS</b></p> <ol style="list-style-type: none"> <li>1. Hot. Disoriented, delirious, or unconscious</li> <li>2. May have any of the symptoms of heat exhaustion</li> <li>3. Sweating may stop (red, flushed, hot dry skin)</li> </ol> | <p><b>FIRST AID</b></p> <p><b>HEAT STROKE IS A MEDICAL EMERGENCY. EVACUATE</b> to a medical facility <b>IMMEDIATELY</b>. Reduce body temperature.</p> <ol style="list-style-type: none"> <li>1. Move the soldier to a cool, shady area and loosen or remove clothing (remove outer and/or protective clothing if the situation permits.*)</li> <li>2. Start cooling the soldier <b>IMMEDIATELY</b>. Immerse in water. Fan to cool. Massage Extremities and skin with cool water.</li> <li>3. Elevate the soldier's legs.</li> <li>4. If conscious, have the soldier slowly drink one full canteen of water.</li> </ol> <p style="text-align: center;">*When in a chemical environment, DO NOT loosen/remove the clothing.</p> |
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## WORK / REST / WATER CONSUMPTION TABLE

HEAT CAT	WBGT INDEX °F	EASY WORK		MODERATE WORK		HARD WORK	
		Work/ Rest (Min)	Water Intake (Qt/Hr)	Work/ Rest (Min)	Water Intake (Qt/Hr)	Work/ Rest (Min)	Water Intake (Qt/Hr)
1	78-81.9	NL	½	NL	¾	40/20	¾
2 (Green)	82-84.9	NL	½	50/10	¾	30/30	1
3 (Yellow)	85-87.9	NL	¾	40/20	¾	30/30	1
4 (Red)	88-89.9	NL	¾	30/30	¾	20/40	1
5 (Black)	> 90	50/10	1	20/40	1	10/50	1

The work: Rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specific heat category. Individual water needs will vary + ¼ quart per hour.

NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) and should be accomplished in shade if possible.

**CAUTION: Hourly fluid intake should not exceed 1 ½ quarts. Daily fluid intake should not exceed 12 quarts.**

If wearing body armor, add **5° F** to WBGT index.  
If wearing MOPP overgarment, add **10° F** to WBGT index.

EXAMPLES		
EASY WORK	MODERATE WORK	HARD WORK
* Weapon maintenance	* Walking in loose sand at 2.5 mph, no load	* Walking in loose sand at 2.5 mph with load
* Walking hard surface at 2.5 mph ≥30-lb load	* Walking on hard surface at 3.5mph < 40-lb load	* Walking on hard surface at 3.5 mph ≥ 40-lb Load
* Manual of arms	* Calisthenics	* Individual movement techniques; i.e., low crawl, high crawl
* Drill and ceremony	* Marksmanship training	* Defense position construction
	* Patrolling	* Field assaults
		* Rifle bayonet training
		* Road march > 4 mph

Source: Memorandum, Office of the Surgeon General (DASG-HSZ), dated 29 Apr 98, subject: Policy Guidance for fluid Replacement During Training.

PREVENTION OF COLD INJURIES DUE TO WINDCHILL FACTOR			
		RECOMMENDATION	
When the Windchill factor is:	And Your Training Is:	You Should Be:	And Extended Breaks Are....
<b>CAT I</b> <b>+32° to +1° F</b>	Stationary...	Fully dressed...	Recommended at Commander's discretion
	Physically active...	Partially dressed.	Not recommended
<b>CAT II</b> <b>0° to -5° F</b>	Stationary...	Fully dressed...	Recommended
	Physically active...	Partially dressed.	Not recommended
<b>CAT III</b> <b>-6° to -10° F</b>	Stationary...	Fully dressed...	Not recommended
	Physically active...	Partially dressed.	
<b>CAT IV</b> <b>Below -10° F</b>	<b>Discontinue Outside Training</b>		

## BASIC COLD INJURY PREVENTION

1. Wear sufficient clothing and equipment to keep the body warm. Dress in layers.
2. Avoid prolonged exposure for unprotected skin to extreme cold and/or windy conditions (see wind chill table on page 5).
3. Keep clothing and equipment as dry as possible. Change socks at least daily or more often if damp.
4. Keep clothing loose, so circulation is not decreased.
5. Remove clothing layers, as appropriate, to limit sweating during activity.
6. Eat hot meals and hot liquids. Maintain food and fluid intake.
7. Risk of cold injuries increases in wet weather or when wearing wet clothing, particularly if wind chill is 40° F or below.

WIND CHILL FACTOR CHART												
Cooling Power of Wind on Exposed Flesh Expressed as an Equivalent Temperature (Under Calm Conditions).												
Estimated wind speed (in mph)	Actual Thermometer Reading ( °F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Temperature ( °F)											
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-21	-35	-51	-67	-82	-96	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
(Wind speeds greater than 40 mph have little additional effect.)	<b>LITTLE DANGER</b> (For properly clothed person). Maximum danger of false sense of security.			<b>INCREASING DANGER</b> Danger from freezing of exposed flesh.				<b>GREAT DANGER</b>				
Trench foot and immersion foot may occur at any point on this chart.												

**INSTRUCTIONS**

**MEASURE** local temperature and wind speed if possible; if not, estimate. Enter table at closest 5° F interval along top and with appropriate wind speed along left side. Intersection gives approximate equivalent chill temperature-that is, the temperature that would cause the same rate of cooling under calm conditions.

Wind velocity can be caused by equipment and individual movement. Covering bare skin reduces the risk of cold injury.

**DEFINITIONS**

**WIND CHILL:** Cooling power of wind on exposed flesh expressed as an equivalent temperature under calm conditions.

**FULLY DRESSED:** With long underwear, field pants, overshoes, gloves or trigger finger mittens when available, and pile cap.

**EXTENDED BREAKS:** Maximum of 20 minutes continuous training with interspersed 10-minute breaks, to visit warming facilities and take hot liquids.

**STATIONARY ACTIVITY:** Trainee is required to remain in a fixed position, as in bleacher instruction; BRM; ceremonies; and such.

HYPOTHERMIA	
<b>Symptoms</b>	<b>First Aid</b>
Confusion, bizarre behavior, withdrawal from group interaction.  May become unconscious with nearly undetectable breathing and pulse.	<b>THIS IS A MEDICAL EMERGENCY.</b> Evacuate to medical care facility. Prevent further cold exposure. Remove wet clothing. Rewarm by covering with blankets or sleeping bags.
FROSTBITE	
<b>Symptoms</b>	<b>First Aid</b>
Skin becomes numb, turns grey or waxy-white in color, is cold to touch, and may feel stiff.	Prevent further cold exposure. Remove wet, constrictive clothing. Gradually rewarm the injured site by direct skin-to-skin contact or modest heat source. Evacuate for medical treatment.
TRENCHFOOT	
<b>Symptoms</b>	<b>First Aid</b>
Itching, numbing or tingling pain. Feet may become swollen and turn faintly red, blue, or black	Prevent further cold exposure. Remove wet or constrictive clothing. Gently wash, dry, and elevate the injured part. Cover injured area with layers of loose warm clothing and allow to rewarm. Do not massage or expose to extreme heat. Do not walk on injured foot.

INJURY PREVENTION FOR MOPP TRAINING				
MOPP LEVEL	PROTECTIVE OVERGARMENT	PROTECTIVE FOOT COVERS	MASK W/ HOOD	PROTECTIVE GLOVES
0	Readily available	Readily available	Carried	Readily available
1	Worn	Carried	Carried	Carried
2	Worn	Worn	Carried	Carried
3	Worn	Worn	Worn	Carried
4	Worn	Worn	Worn	Worn

Note: The various MOPP levels may be varied as shown below.

WORK RATE	EXAMPLE VARIATIONS OF MOPP		
	50° or LESS WBGT	50° - 70° WBGT	70° - 78° WBGT
<b>LOW</b>	Wear full protective clothing and equipment.	Progressively open hood and clothing.	Remove and carry mask, hood, and gloves. Remove some protective clothing.
<b>MODERATE</b>	Wear full protective clothing and equipment.	Remove and carry mask, hood, and gloves. Open protective clothing and duty uniform.	Remove and carry mask, hood, and gloves. Remove some protective clothing.
<b>HEAVY</b>	Remove and carry mask, hood, and gloves. Progressively open and remove some protective clothing.	Remove and carry mask, hood, and gloves. Remove some protective clothing.	Remove and carry mask, hood, and gloves. Remove protective clothing.

**WORK DESCRIPTION DEFINITIONS**

**LOW:** Motorized movement or administrative work, resting in place, classroom activities, and most work in administrative areas.

**MODERATE:** Improvement of positions or bivouac sites, very light digging, area police, dismantled drill, weapons cleaning, and vehicle driving.

**HEAVY:** Dismounted assault or force marching, and patrolling or force marching carrying field gear, litter bearing, bridge building, and carrying equipment heavier than 45 pounds.

WORK/REST CYCLES USED FOR MOPP TRAINING OF PERSONNEL**			
WBGT	LOW	MODERATE	HEAVY
78° +	Do not train in MOPP 4	Do not train in MOPP 4	Do not train in MOPP 4
70°-78°	No MOPP restriction	30/25*	Do not do heavy work
50°-70°	No MOPP restriction	40/20*	20/25*
Below 50°	No MOPP restriction	No MOPP restriction	No MOPP restriction
<b>NOTES:</b> 1. Soldiers should drink a minimum of 5 quarts of water per day when the WBGT is less than 80 and a minimum of 13 quarts of water per day when WBGT is greater than 80. 2. NBC protective clothing adds 10°F (6° C) to the measured WBGT.			

\* Indicates number of minutes of work/rest period.

\*\* Permanent party MOPP training will be conducted using guidance shown in FM 3-4. This manual will be used as a general guide only. Acclimatization to MOPP training and physical condition of personnel are primary factors used when planning MOPP training exercises.

PREVENTIVE ACTIONS IN ADVERSE WEATHER	
ACTIONS TO TAKE DURING A LIGHTNING STORM	ACTIONS TO TAKE DURING A TORNADO
1. Take cover inside grounded buildings, if available. 2. Seek low lying areas, valley, ditches, cover and fox holes. 3. Avoid bare ridges on hilltops. 4. Avoid standing under single tall trees or in water. 5. Stack weapons and disperse personnel. 6. Avoid tents or vehicles with cloth tops. 7. Avoid items of good conductivity: wire, water, weapons, antennas, equipment, shovels and radios.	In the event a tornado is sighted while personnel are on ranges/ training areas, personnel should attempt to move away from the tornado's path at a right angle. If there is not time to escape, they should lie flat in the nearest depression.  If in a building, personnel should go to the basement or the lowest level, internal hallway.