

INDIVIDUAL SAFETY CARD

BASIC HEAT INJURY PREVENTION

1. Consider water a tactical weapon. Drink frequently (see page 2).
2. Eat meals. Add salt to taste.
3. Be aware that dark yellow, 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 the work pace and/or increasing rest periods (see page 2).
6. Be aware that full heat acclimatization takes 1 to 2 weeks.
7. Consider that Soldiers undergoing treatment for acute or chronic medical conditions may be at greater risk for heat injury.

NOTE: Leaders need to encourage Soldiers to come forward when heat symptoms appear.

HEAT CRAMPS

Symptoms	First Aid
<ol style="list-style-type: none">1. Muscle cramps (arms, legs, and/or stomach)2. Heavy sweating (wet skin)3. Extreme thirst	<ol style="list-style-type: none">1. Move the Soldier to a shady area, and loosen his clothing.¹2. Have the Soldier drink a sports drink or at least one canteen of water mixed with a packet of salt (1/4 teaspoon).3. Watch the Soldier. Continue to give him water if he accepts it.4. Get medical help if cramps continue.

¹When in a chemical environment, **do not** loosen/remove clothing.

HEAT EXHAUSTION

Symptoms	First Aid
<ol style="list-style-type: none">1. Heavy sweating with pale, moist, cool, or hot skin2. Weakness3. Dizziness4. Fatigue5. Heat cramps6. Nausea (with or without vomiting/diarrhea)7. Tunnel vision8. Chills (goose bumps)9. Rapid breathing10. Confusion11. Tingling of the hands and/or feet	<ol style="list-style-type: none">1. Move the Soldier to a cool, shady area, and loosen/remove his clothing.¹2. Pour water on the Soldier, and fan him to permit a cooling affect.3. Have the Soldier slowly drink at least one full canteen of water.4. Elevate the Soldier's legs.5. Get medical help if symptoms continue.6. Watch the Soldier until symptoms are gone or until medical help arrives.

¹When in a chemical environment, **do not** loosen/remove clothing.

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Purpose: This graphic training aid (GTA) explains preventative measures in adverse weather or conditions. See FM 5-0, FM 3-11.4, and FM 100-14 for more information.

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HEATSTROKE

Symptoms	First Aid
1. Hot 2. Disoriented 3. Delirious 4. Unconscious 5. Heat exhaustion (see page 1) 6. No sweating (red, flushed, hot, dry skin)	1. Move the Soldier to a cool, shady area, and loosen or remove his clothing. 2. Remove outer and/or protective clothing if the situation permits. ¹ 3. Start cooling the Soldier immediately. Immerse him in water, fan to cool him, and massage his extremities and skin with cool water. 4. Elevate the Soldier's legs. 5. Have the Soldier slowly drink one full canteen of cool water if he is conscious.

¹When in a chemical environment, **do not** loosen/remove clothing.

DANGER: Heatstroke is a medical emergency. Evacuate the Soldier to a medical facility immediately, and reduce his body temperature.

WORK, REST, AND WATER CONSUMPTION

Heat Category	WBGT ¹	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 to 81.9°F	NL	1/2	NL	3/4	40/20	3/4
2 (Green)	82 to 84.9°F	NL	1/2	50/10	3/4	30/30	1
3 (Yellow)	85 to 87.9°F	NL	3/4	40/20	3/4	30/30	1
4 (Red)	88 to 89.9°F	NL	3/4	30/30	3/4	20/40	1
5 (Black)	>90°F	50/10	1	20/40	1	10/50	1

CAUTION

Hourly fluid intake should not exceed 1 1/2 quarts.

Daily fluid intake should not exceed 12 quarts.

¹If wearing body armor, add 5°F to the WBGT; if wearing the MOPP overgarment, add 10°F.

NOTES:

1. 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 ±1/4 quart per hour.

2. Rest means minimal physical activity (sitting or standing) and should be accomplished in the shade if possible.

Legend: WBGT = wet bulb globe temperature; min = minute; qt = quart; hr = hour; NL = No limit to work per hour.

EXAMPLES

Easy Work	Moderate Work	Hard Work
1. Weapon maintenance 2. Walking on a hard surface, 2.5 mph, ≥30-lb load 3. Manual of arms 4. Drill and ceremony	1. Walking in loose sand, 2.5 mph, no load 2. Walking on a hard surface, 3.5 mph, <40-lb load 3. Calisthenics 4. Marksmanship training 5. Patrolling	1. Walking in loose sand, 2.5 mph, any load 2. Walking on a hard surface, 3.5 mph, ≥40-lb load 3. Individual movement techniques (low/high crawl) 4. Defense position construction 5. Field assaults 6. Rifle bayonet training 7. Road march, >4 mph

PREVENTION OF COLD INJURIES DUE TO WINDCHILL

When the windchill is—	And your training is—	You should be—	And extended breaks are—
CAT I +32 to +1°F	Stationary	Fully dressed	At the commander's discretion
	Physically active	Partially dressed	Not recommended
CAT II 0 to -5°F	Stationary	Fully dressed	Recommended
	Physically active	Partially dressed	Not recommended
CAT III -6 to -10°F	Stationary	Fully dressed	Recommended
	Physically active	Fully dressed	Not recommended
CAT IV Below -10°F	Discontinue outside training.		

DEFINITIONS

Windchill	The cooling power of wind on exposed flesh expressed as an equivalent temperature under calm conditions.
Fully dressed	Wearing long underwear, field pants, overshoes, gloves or trigger finger mittens (when available), and a pile cap.
Partially dressed	Wearing gloves and a pile cap—no long underwear, field pants, or overshoes.
Extended breaks	A maximum of 20 minutes continuous training with interspersed 10-minute breaks to visit warming facilities and drink hot liquids.
Stationary activity	Maintaining a fixed position, such as bleacher instruction, basic rifle marksmanship, and ceremonies.

BASIC COLD INJURY PREVENTION

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

WINDCHILL CHART

Measure the temperature and wind speed if possible; if not, estimate them. Enter the table at the closest 5°F interval along the top, and follow it down to the appropriate wind speed along the left side. The intersection gives the 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.

		Temperature (°F)																		
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63	
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72	
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77	
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81	
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84	
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87	
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89	
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91	
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93	
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95	
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97	
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98		

Frostbite Times: Little Danger 30 min 10 min 5 min

Windchill (°F) = $35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$

Where: T = air temperature (°F) and V = wind speed (mph)

COLD INJURY SYMPTOMS

COLD INJURY FIRST AID

Hypothermia

1. Confusion
2. Bizarre behavior
3. Withdrawal from group interaction
4. Unconsciousness with nearly undetectable breathing and pulse

DANGER

This is a medical emergency.

1. Evacuate for medical treatment.
2. Prevent further cold exposure.
3. Remove wet clothing.
4. Rewarm by covering with blankets or sleeping bags.

Frostbite

Skin that is numb, turns grey or waxy white, and feels cold and stiff to the touch

1. Prevent further cold exposure.
2. Remove wet and constrictive clothing.
3. Rewarm the injured site gradually by direct skin-to-skin contact or a modest heat source.
4. Evacuate for medical treatment.

Trenchfoot

1. Itching, numbing, or tingling pain
2. Feet that are swollen and turn faintly red, blue, or black

1. Prevent further cold exposure.
2. Remove wet and constrictive clothing.
3. Wash and dry the foot gently.
4. Elevate the foot.
5. Cover the foot with layers of loose, warm clothing; and allow it to rewarm.
6. Do not massage the foot or expose it to extreme heat.
7. Do not walk on the foot.

INJURY PREVENTION FOR MOPP TRAINING

MOPP Level	Protective Overgarment	Protective Foot Covers	Mask With Hood	Protective Gloves
MOPP Ready ¹	Readily available	Readily available	Carried	Readily available
0 ²	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
Mask Only	Readily available	Readily available	Carried	Readily available

¹ Individual Protective Equipment (IPE) must be available within 2 hours.
² IPE must be within arm's reach.

VARIATIONS OF MOPP

Work Rate	<50°F WBGT	50° to 70°F WBGT	70° to 78°F WBGT
Low ¹	Wear full protective clothing and equipment.	Open hood and clothing progressively.	1. Remove and carry mask, hood, and gloves. 2. Remove some protective clothing.
Moderate ²	Wear full protective clothing and equipment.	1. Remove and carry mask, hood, and gloves. 2. Open protective clothing and duty uniform.	1. Remove and carry mask, hood, and gloves. 2. Remove some protective clothing.
Heavy ³	1. Remove and carry mask, hood, and gloves. 2. Open and remove some protective clothing progressively.	1. Remove and carry mask, hood, and gloves. 2. Remove some protective clothing.	1. Remove and carry mask, hood, and gloves. 2. Remove protective clothing.

¹ Motorized movement or administrative work, resting in place, classroom activities, and most work in administrative areas.
² Improving positions or bivouac sites, very light digging, area police, dismounted drills, cleaning weapons, and driving vehicles.
³ Dismounted assault or force marching, patrolling or force marching carrying field gear, litter bearing, bridge building, and carrying equipment heavier than 45 pounds.

WORK-REST CYCLES FOR MOPP TRAINING¹

WBGT ²	Low	Moderate	Heavy
>78°F	Do not train in MOPP 4	Do not train in MOPP 4	Do not train in MOPP 4
70° to 78°F	No MOPP restrictions	30 min/25 min ³	Do not do heavy work
50° to 70°F	No MOPP restrictions	40 min/20 min ³	20 min/25 min ³
<50°F	No MOPP restrictions	No MOPP restrictions	No MOPP restrictions

¹ Permanent party MOPP training will be conducted using the guidance shown in FM 3-11.4. This GTA will be used as a general guide only. Acclimatization to MOPP training and the physical condition of personnel are primary factors used when planning MOPP training exercises.
² CBRN protective clothing adds 10°F to the measured WBGT.
³ The work-rest period.

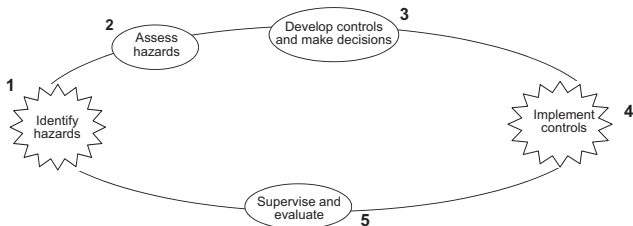
NOTE: Soldiers should drink at least 5 quarts of water per day when the WBGT is less than 80°F and 12 quarts per day when the WBGT is more than 80°F.

PREVENTIVE ACTIONS IN ADVERSE WEATHER

Lightning Storm	Tornado
<ol style="list-style-type: none"> 1. Take cover inside grounded buildings if available. 2. Seek low-lying areas (valleys, ditches, covers, foxholes). 3. Avoid bare ridges on hilltops. 4. Avoid standing under a single, tall tree or in water. 5. Stack weapons, and disperse personnel. 6. Avoid tents and vehicles with cloth tops. 7. Avoid items of good conductivity (wire, water, weapons, antennas, equipment, shovels, and radios). 	<ol style="list-style-type: none"> 1. If a tornado is sighted while on a range or in a training area, move away from its path at a right angle. 2. If there is not enough time to escape, lie flat in the nearest depression. 3. If you are in a building, go to the basement or the lowest-level, internal hallway.

RISK MANAGEMENT PROCESS

Risk management is a simple five-step problem-solving process based on standard Army decision-making techniques. It is easily integrated into the decision-making process, as is shown in the following pages of this GTA. The focus of risk management is on identifying hazards and developing and implementing controls.



Step 1. Identify hazards. Hazards are conditions that can lead to accidents. That means loss of combat power and valuable resources. Look for conditions that can lead to injury of Soldiers, damaged equipment, lost materiel, or reduced ability to accomplish the mission. Look for things that can keep you from reaching your objective with ALL of your combat power.

Step 2. Assess hazards. Once the potential problem areas have been identified, determine to what extent they can affect the mission. A matrix is one way of gauging the hazard. Regardless of the method used, it must be tailored to the unit and the mission.

Step 3. Develop controls and make decisions. Operations in war and in training will NEVER be risk free. The leader must eliminate unnecessary risks and reduce all other risks to an acceptable level. If a risk cannot be reduced to an acceptable level, it must be elevated to the next level in the chain of command.

Step 4. Implement controls. Control measures MUST be a part of the OPORD or FRAGO. Controls are not add-on features, but are integrated throughout the order during the planning phase of the operation. Leaders must know what all the hazards are and ensure that their Soldiers know the corrective measures to be taken.

Step 5. Supervise and evaluate. Strong command and high degrees of discipline during training or war lessen the risks associated with OPTEMPO operations. Keeping the standard and enforcing the standard will support boldness, protect the force from accidental losses, and contribute to the decisive victory.

RISK MANAGEMENT INTEGRATION INTO DECISION MAKING

Mission Risk Management

Decision Making

Perform Risk Assessment

Gather and analyze METT-TC factors to identify hazards.
Complete a risk assessment for each COA.
Use the risk level of each COA as a decision criterion.

1. Receive the mission.
2. Gather and consider information.
3. Complete mission analysis, restate the mission, and issue planning guidance.
4. Complete staff estimates—develop, analyze, compare, and recommend a COA.
5. Complete commander's estimate—analyze COAs and make a decision.

Perform Risk Management

Make a risk decision for the selected COA—accept the risk level or elevate the decision.
Identify and select controls for hazards.

Concept of operations (make risk decision and select controls).

Communicate and implement controls—integrate into paragraphs and graphics of the OPORD.

6. Prepare
 7. Approve
 8. Issue
- Plans/
orders

Supervise—monitor and enforce controls.

9. Supervise

RISK MANAGEMENT RULES

1. Integrate risk management into planning. Identify hazards and controls early in the planning process. Continue to look for hazards and controls as the plan is developed, published, and executed.
2. Accept no unnecessary risks. Audacity is bold action in concert with calculation of risk.
3. Make risk decisions at the proper level. When the risk is too great (potential resource losses exceed the benefits) for a decision at your level, take it up the chain of command.
4. Accept risk if benefits outweigh the potential losses. Boldness and force protection are both necessary for decisive victory.
5. A risk is a calculated action taken once all the known hazards are identified. A gamble is an action taken without consideration to the possible outcome. **KNOW THE DIFFERENCE BETWEEN A RISK AND A GAMBLE.**

FACTORS TO CONSIDER WHEN IDENTIFYING HAZARDS

- Time for mission preparation and execution.
- Critical problem areas for accidents.
- Terrain (rough, hills, swamps).
- Transportation to and from the operational site.
- Long hours (inadequate sleep) and probability of fatigue (length of operations).
- Intensity of operation (probability of taking shortcuts).
- Competition for time (some activities may be considered unimportant, such as instruction and safety briefings).
- Physical fitness of personnel (potential heat, cold-weather, or lifting injuries).
- Personal attitudes (macho, poor/bad motivation, and so forth).
- Skill level of personnel (training, experience, degradation overtime, proficiency).
- Range operational hazards.
- Maintenance operational hazards.
- Water operational hazards (weak swimmers, water temperature, and so forth).
- Building conditions (fire hazards, structural integrity, and so forth).
- Road conditions (narrow, congested, curvy, hilly, slippery).
- Convoy route (sufficient room for rest/halt areas).
- Communication/coordination requirements (within units, between units, with joint services, counterfratricide measures).
- Logistical support.
- Weather (existing and forecast).
- Animal, plant, insect, and reptile hazards.
- Equipment condition (age, maintenance status, and so forth).
- Day versus night operations.
- Cargo (type, quantity, security).
- Speed limits.
- Hazardous material (fuel points, ammunition supply, and so forth).
- Supervision (direct and indirect).
- Enemy.

HAZARD PROBABILITY								
S E V E R I T Y			Frequent	Likely	Occasional	Seldom	Unlikely	
			A	B	C	D	E	
	Catastrophic	I	Extremely high					
	Critical	II		High				
	Moderate	III		Medium				
	Negligible	IV		Low				

Risk Levels	Level of Risk	Authority to Accept Risk
Extremely high	Loss of ability to accomplish the mission.	First GO in chain of command
High	Significantly degrades mission capabilities in terms of required mission standards.	05/06 level commanders
Medium	Degrades mission capabilities in terms of required mission resources.	As delegated by 05/06 commanders
Low	Little or no impact on mission accomplishment	

RISK MANAGEMENT HAZARD SEVERITY DEFINITIONS

SEVERITY

Catastrophic	Death or permanent disability, system loss, major property damage.
Critical	Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.
Moderate	Minor injury, lost workday accident, compensable injury or illness, minor system damage, minor property damage.
Negligible	First aid or minor supportive medical treatment, minor system impairment

PROBABILITY

FREQUENT	Individual Soldier/item	Occurs often in career/equipment service life.
	All Soldiers exposed or item inventory	Continuously experiences exposure.
LIKELY	Individual Soldier/item	Occurs several times in career/equipment service life.
	All Soldiers exposed or item inventory	Occurs frequently.
OCCASIONAL	Individual Soldier/item	Occurs sometimes in career/equipment service life.
	All Soldiers exposed or item inventory	Occurs sporadically or several times in inventory service life.
SELDOM	Individual Soldier/item	Possible to occur in career/equipment service life.
	All Soldiers exposed or item inventory	Remote chance of occurrence; expected to occur sometime in inventory service life.
UNLIKELY	Individual Soldier/item	Can assume will not occur in career/equipment service life.
	All Soldiers exposed or item inventory	Possible, but not probable; occurs only very rarely.