

Unit Leaders' and Instructors' Risk Management Steps for Preventing Cold Casualties

Risk Management is the Process of Identifying and Controlling

- **Chilblain**
(due to bare skin exposed to cold humid air)
- **Immersion Foot (Trench Foot)**
(due to wet feet)
- **Frostbite**
- **Hypothermia**
(whole body temperature dangerously low)
- **Dehydration**
- **Snow Blindness**
- **Carbon Monoxide Poisoning**

The Five Steps of Risk Management Are:

1

Identify Hazards

- Cold (temperature 40° F and below)
- Wet (rain, snow, ice, humidity) or wet clothes
- Wind (wind speed 5 mph and higher)
- Lack of adequate shelter/clothing
- Lack of provisions/water
- Other Risk Factors include:
 - Previous cold injuries or other significant injuries
 - Use of tobacco/nicotine or alcohol
 - Skipping meals/poor nutrition
 - Low activity
 - Fatigue/sleep deprivation
 - Little experience/training in cold weather
 - Cold casualties in the previous 2-3 days
 - Overly Motivated Soldiers

2

Assess Hazards

Follow the Wind Chill Temperature Table to Determine the Danger Level

Do individuals have adequate shelter/clothing?

- Are clothes clean without stains, holes or blemishes (which could decrease heat-retaining function)?

Have meals been consumed?

- Are meals warm?

Are there other circumstances?

- Is there contact with bare metal or fuel/POL (petroleum, oils or lubricants)?
- Is the environment wet? Is there contact with wet materials or wet ground?
- Can soldier move around to keep warm?
- Are feet dry and warm?
- Is the soldier with a buddy who can assist/watch over to prevent cold injuries?

2

Assess Hazards continued

Using the Wind Chill Temperature Table

The wind chill index (see table below) gives the equivalent temperature of the cooling power of wind on exposed flesh.

- Any movement of air has the same effect as wind (running, riding in open vehicles, or helicopter downwash).
- Any dry clothing (mittens, scarves, masks) or material which reduces wind exposure will help protect the covered skin.

Trench foot injuries can occur at any point on the wind chill chart and -

- Are much more likely to occur than frostbite at “LITTLE DANGER” wind chill temperatures, especially on extended exercises/missions and/or in wet environments.
- Can lead to permanent disability, just like frostbite.

Wind Speed (mph) ↓	Air Temperature (°F)																	
	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
0	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
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

GREEN LITTLE DANGER (frostbite occurs in >2 hours in dry, exposed skin)
YELLOW INCREASED DANGER (frostbite could occur in 45 minutes or less in dry exposed skin)
RED GREAT DANGER (frostbite could occur in 5 minutes or less in dry, exposed skin)

Wind Chill Category (see Wind Chill Temperature Table above)

Work Intensity	Little Danger	Increased Danger	Great Danger
High Digging foxhole, running, marching with rucksack, making or breaking bivouac	Increased surveillance by small unit leaders; Black gloves optional - mandatory below 0°F (-18°C);	ECWCS* or equivalent; Mittens with liners; No facial camouflage; Exposed skin covered and kept dry; Rest in warm, sheltered area; Vapor barrier boots below 0°F (-18°C) Provide warming facilities	Postpone non-essential training; Essential tasks only with <15 minute exposure; Work groups of no less than 2; Cover all exposed skin, Provide warming facilities
Low Walking, marching without rucksack, drill and ceremony	Increased surveillance; Cover exposed flesh when possible; Mittens with liner and no facial camouflage below 10°F (-12°C); Full head cover below 0°F (-18°C). Keep skin dry - especially around nose and mouth.	Restrict Non-essential training; 30-40 minute work cycles with frequent supervisory surveillance for essential tasks. See above.	Cancel Outdoor Training
Sedentary Sentry duty, eating, resting, sleeping, clerical work	See above; Full head cover and no facial camouflage below 10°F (-12°C); Cold-weather boots (VB) below 0°F (-18°C); Shorten duty cycles; Provide warming facilities	Postpone non-essential training; 15-20 minute work cycles for essential tasks; Work groups of no less than 2 personnel; No exposed skin	Cancel Outdoor Training

*ECWCS – Extended Cold Weather Clothing System

Note: These guidelines are generalized for worldwide use. Commanders of units with extensive extreme cold-weather training and specialized equipment may opt to use less conservative guidelines.

3

Develop Controls

Main Points to Stress to Soldiers

When using Cold-Weather Clothing, Remember . . .

C-O-L-D	Keep it.....	C lean
	Avoid.....	O verheating
	Wear it.....	L oose in layers
	Keep it	D ry

Main Points to Stress to Leaders

Follow these Wind Chill Preventive Medicine Measures Based on Wind Chill Temperature

- 30°F and below** Alert personnel to the potential for cold injuries
- 25°F and below** Leaders inspect personnel for wear of cold weather clothing. Provide warm-up tents/areas/hot beverages.
- 0°F and below** Leaders inspect personnel for cold injuries. Increase the frequency of guard rotations to warming areas. Discourage smoking.
- 10°F and below** Postpone non-essential outdoor training. For mission essential operations, initiate the buddy system - Have personnel check each other for cold injuries.
- 20°F and below** Consider modifying or curtailing all but mission-essential field operations.

NOTE: Trench Foot can occur at any temperature - Always Keep Feet Warm

General Guidance for all Cold-Weather Training

Skin: Exposed skin is more likely to develop frostbite, therefore cover skin. Avoid wet skin (common around the nose and mouth). Inspect hands, feet, face and ears frequently for signs of frostbite.

Clothing: Soldiers must change into dry clothing at least daily and whenever clothing becomes wet. Soldiers must wash and dry feet and put on dry socks at least twice daily.

Nutrition: 4500 calories / day / soldier. Equivalent to 3 meal packets in meal-cold weather (MCW) or 3-4 MREs.

Hydration: 3-6 liters (canteens) / day / soldier. Warm, sweet drinks are useful for re-warming.

Camouflage: Obscures detection of cold injuries; consider not using below wind chill of 32° F; not recommended below wind chill of 10°F.

Responsibilities: Soldiers are responsible for preventing individual cold injuries. Unit NCOs are responsible for the health and safety of their troops.

Cold injury prevention is a command responsibility.

3

Develop Controls continued

Personal Protection

Ensure Appropriate Clothes and Proper Wearing of Clothes –

- Wear clothing loose and in layers.
- Ensure all clothing is clean.
- Ensure proper boots are worn and are dry.
- Ensure clothes do not have holes, broken zippers, etc.
- Ensure hands, fingers, and head are covered and protected.
- Avoid spilling liquids on skin or clothes. Liquid stains will reduce clothing's protective efforts.
- Change wet, damp clothes ASAP.

Keep Body Warm

- Keep moving.
- Exercise big muscles (arms, shoulders, trunk, and legs) to keep warm.
- Avoid alcohol use (alcohol impairs the body's ability to shiver).
- Avoid standing on cold, wet ground.
- Avoid all tobacco products (they decrease blood flow to skin).
- Eat all meals to maintain energy.
- Drink water or warm non-alcoholic fluids to prevent dehydration.

Protect Feet

- Keep socks clean and dry.
- Wash feet daily, if possible.
- Carry extra pairs of socks.
- Change wet or damp socks ASAP; use foot powder on feet and boots.
- Avoid tight socks and boots; do not over-tighten boot or shoes.
- Wear overshoes to keep boots dry.

Protect Hands

- Wear gloves, mittens, or gloves/mittens with inserts.
- Warm hands under clothes if they become numb.
- Avoid skin contact with snow, fuel or bare metal. Wear proper gloves when handling fuel or bare metal.
- Waterproof gloves by treating with waterproofing compounds.

Physical Fitness Uniform

- Wind Chill >60 deg F: T-shirt and trunks
- Wind Chill 51-60 deg F: Add jacket
- Wind Chill <50 deg F: Add pants, cap, gloves

3

Develop Controls continued

Personal Protection continued

Protect Face and Ears

- Cover face and ears with scarf. Wear insulated cap with flaps over ears or balaclava.
- Warm face and ears by covering them with your hands. Do NOT rub face or ears.
- Consider not using face camouflage when wind chill is 32° F or below. Also not recommended below 10° F.
- Wear sunscreen.
- Exercise facial muscles.

Protect Your Eyes

- Wear sunglasses to prevent snow blindness.
- If sunglasses are not available, protective slit goggles can be made from cutting slits in cardboard (e.g., MRE cardboard box).

Protect Each Other

- Watch for signs of frostbite and other cold weather injuries in your buddy.
- Ask about and assist with re-warming of feet, hand, ears or face.

Prevent Carbon Monoxide Poisoning

- Use only Army-approved heaters in sleeping areas. (post Fire Guards)
- Do not sleep near exhaust of a vehicle while vehicle is running.
- Do not sleep in enclosed area where an open fire is burning.

Leadership Controls

- Discontinue/limit activities/exercise during very cold weather (see chart page 2).
- Use covered vehicles for troop transport.
- Have warming tents available. (with Fire Guards)
- Have warm food and drink on hand.

Facility Controls

- Use only Army-authorized heaters. (i.e., no kerosene or propane heaters).
- Ensure heaters are in working order and adequately ventilated.
- Ensure integrity of shelters for maximum protection from the cold.

4

Implement Controls

- Identified controls are in place
- Controls are integrated into SOPs
 - Educate soldiers of hazards and controls (including newly arrived soldiers)
 - Implement buddy system to check clothes/personal protection
- Decision to accept risk is made at appropriate level
- Buddy system to check each other
- Self checks
- Lip Balm (for high altitude training)

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Supervise and Evaluate

- Ensure all soldiers are educated about prevention, recognition and treatment of cold weather injuries.
- Delegate responsibilities to ensure control measures have been implemented.
- Monitor adequacy/progress of implementation of control measures.
- Do frequent spot checks of clothes, personal protection and hydration.
- Record and monitor indicators of increasing cold risks, for example:
 - Increasing number of cold weather injuries
 - Increased complaints/comments about cold
 - Observations of shivering, signs of cold weather injuries
- Evaluate current control measures and strategize new or more efficient ways to keep warm and avoid cold injuries

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See <http://www.tradoc.army.mil/surgeon/index.htm> for electronic versions of this document and other resources

Cold Weather Casualties and Injuries Chart

- Train soldiers on the proper use of cold weather clothing
- Remember the acronym C-O-L-D when wearing clothing in cold weather (C: keep it Clean; O: avoid Overdressing; L: wear clothing Loose and in layers; D: keep clothing Dry)
- Maintain adequate hydration and ensure nutritional requirements are met

Cold Weather Casualties and Injuries			
Chilblain			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Repeated exposure of bare skin for prolonged periods from 20°-60°F with high humidity (for those not acclimated to cold weather). 	<ul style="list-style-type: none"> ■ Swollen, red skin (or darkening of the skin in dark-skinned soldiers). ■ Tender, hot skin, usually accompanied by itching. 	<ul style="list-style-type: none"> ■ Warm affected area with direct body heat. ■ Do not massage or rub affected areas. ■ Do not wet the area or rub it with snow or ice. ■ Do not expose affected area to open fire, stove, or any other intense heat source. 	<ul style="list-style-type: none"> ■ Use contact gloves to handle all equipment; never use bare hands to handle equipment, especially metal. ■ Use approved gloves to handle all fuel and POL* products. ■ In the extreme cold environment, do not remove clothing immediately after heavy exertion (PT); until you are in a warmer location. ■ Never wear cotton clothing in the cold weather environment.
Immersion foot (trench foot)			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Prolonged exposure of feet to wet conditions 32°-60°F. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity. 	<ul style="list-style-type: none"> ■ Cold, numb feet may progress to hot with shooting pains. ■ Swelling, redness, and bleeding. 	<ul style="list-style-type: none"> ■ If you suspect trench foot, get medical help immediately! ■ Re-warm feet by exposing them to warm air. ■ Do not allow victim to walk on injury. ■ Evacuate victim to a medical facility. ■ Do not massage, rub, moisten, or expose affected area to extreme heat. 	<ul style="list-style-type: none"> ■ Keep feet clean and dry; change wet or damp socks as soon as possible. ■ Wet or damp socks should be dried as soon as possible to allow them to be re-used. ■ The inside of Vapor Barrier boots should be wiped dry once per day, or more often as feet sweat. ■ Dry leather boots by stuffing with paper towels.
Frostbite			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Freezing of tissue. e.g.: fingers, toes, ears, and other facial parts. ■ Exposure to bare skin on metal, extremely cool fuel and POL*, wind chill, and tight clothing - particularly boots - can make the problem worse. 	<ul style="list-style-type: none"> ■ Numbness in affected area. ■ Tingling, blistered, swollen, or tender areas. ■ Pale, yellowish, waxy-looking skin (grayish in dark-skinned soldiers). ■ Frozen tissue that feels wooden to the touch. 	<ul style="list-style-type: none"> ■ Frostbite can lead to amputation! Evacuate immediately! ■ Start first-aid immediately. Warm affected area with direct body heat. ■ Do not thaw frozen areas if treatment will be delayed. ■ Do not massage or rub affected areas. ■ Do not wet the area or rub it with snow or ice. ■ Do not expose affected area to open fire, stove, or any other intense heat source. 	<ul style="list-style-type: none"> ■ Use contact gloves to handle all equipment; never use bare hands to handle equipment. ■ Use approved gloves to handle fuel and POL*. ■ Never wear cotton clothing in the cold weather environment. ■ Keep face and ears covered and dry. ■ Keep socks clean and dry. ■ Avoid tight socks and boots.
Hypothermia			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Prolonged cold exposure and body-heat loss. May occur at temperatures well above freezing, especially when a person is wet. 	<ul style="list-style-type: none"> ■ Shivering may or may not be present. ■ Drowsiness, mental slowness or lack of coordination. Can progress to unconsciousness, irregular heartbeat, and death. 	<ul style="list-style-type: none"> ■ This is the most serious cold exposure medical emergency and can lead to death! Get the soldier to a medical facility as soon as possible! ■ Even if a victim is cold and is not breathing, never assume someone is dead until determined by medical authorities! ■ Strip off wet clothing and wrap victim in blankets or a sleeping bag. ■ Place another person in sleeping bag as an additional heat source. ■ For the person with unconsciousness and very low heartbeat, minimize handling of the victim so as to not induce a heart attack. 	<ul style="list-style-type: none"> ■ Never wear cotton clothing in the cold weather environment. ■ Anticipate the need for warming areas for soldiers exposed to cold, wet conditions.
Additional Medical Considerations in the Cold Weather environment:			
Dehydration			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Depletion of body fluids. 	<ul style="list-style-type: none"> ■ Dizziness. ■ Weakness. ■ Blurred vision. 	<ul style="list-style-type: none"> ■ Replace lost water. Water should be sipped, not gulped. ■ Get medical treatment. 	<ul style="list-style-type: none"> ■ At a minimum drink 3-6 quarts of fluid per day.
Snow Blindness			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Burning of the cornea of the eye by exposure to intense UV rays of the sun in a snow-covered environment. 	<ul style="list-style-type: none"> ■ Pain, red, watery or gritty feeling in the eyes. 	<ul style="list-style-type: none"> ■ Rest and total darkness; bandage eyes with gauze. ■ Evacuate if no improvement within 24 hours. 	<ul style="list-style-type: none"> ■ Use sunglasses with side protection in a snow-covered environment. ■ If sunglasses are not available use improvised slit glasses.
Carbon Monoxide Poisoning			
Cause	Symptoms	First-Aid	Prevention
<ul style="list-style-type: none"> ■ Replacement of oxygen with carbon monoxide in the blood stream caused by burning fuels without proper ventilation. 	<ul style="list-style-type: none"> ■ Headache, confusion, dizziness, excessive yawning. ■ Cherry red lips and mouth, grayish tint to lips and mouth (in dark-skinned individuals). ■ Unconsciousness. 	<ul style="list-style-type: none"> ■ Move to fresh air. ■ CPR if needed. ■ Administer oxygen if available. Evacuate. 	<ul style="list-style-type: none"> ■ Use only Army-approved heaters in sleeping areas and ensure that personnel are properly licensed to operate the heaters. ■ Never sleep in running vehicles. ■ Always post a fire guard when operating a heater in sleeping areas.

Avoid Cold Casualties!

When using Cold-Weather Clothing,
Remember **C-O-L-D**

C ~ Keep it...**Clean**

O ~ Avoid...**Overheating**

L ~ Wear it...**Loose and in Layers**

D ~ Keep it...**Dry**

**Notify an instructor / leader,
if you or your buddy experience --**

In cold environments ...

Effects to the skin, such as:

- Swollen red or darkened
- Pain, tenderness, hot or itchy
- Numbness or tingling
- Bleeding or blistered
- Gray, waxy feeling or "wooden" to the touch

Effects, such as:

- Dizziness, weakness or blurred vision
- Vigorous shivering
- Lack of coordination and impaired judgment
- Painful, red, watery or gritty feeling in the eyes (snow blindness)

In enclosed areas where heaters are used ...

- Excessive yawning, cherry red lips or grayish tint to lips and mouth
- Confusion, disorientation or mental slowness
- Drowsiness, lack of coordination or unconsciousness



APPENDIX C

RISK MANAGEMENT STEPS FOR PREVENTING COLD CASUALTIES FOR USE BY COMMANDERS, SENIOR NCOs, AND INSTRUCTORS

C-1. Introduction

A comprehensive cold weather injury prevention and management program will follow the principles of risk management by identifying hazards, assessing the hazards in terms of severity and probability, and implementing appropriate controls to abate the hazards. Spotchecking and supervision by first-line leaders must be employed to ensure control measures are being implemented. Units train using risk-management principles; therefore commanders and leaders will apply the same framework to prevent cold weather injuries. Cold-casualty prevention is a command responsibility. This appendix provides information that will assist in presenting cold weather injury prevention in this format. A more detailed guide on risk management of cold casualties can be obtained from <http://chppm-www.apgea.army.mil/coldinjury>.

C-2. Identifying hazards

Cold weather may present a hazard if any one of the following is present:

- a. Cold (temperature 40 °F and below).
- b. Wetness (rain, snow, ice, humidity) or wet clothes at temperatures below 60 °F.
- c. Wind (wind speed 5 mph and higher).
- d. Lack of adequate shelter/clothing.
- e. Lack of provisions/water.
- f. Other risk factors, such as—
 - (1) Previous cold injuries or other significant injuries.
 - (2) Use of tobacco/nicotine or alcohol.
 - (3) Skipping meals/poor nutrition.
 - (4) Low activity.
 - (5) Fatigue/sleep deprivation.
 - (6) Little experience/training in cold weather operations.
 - (7) Cold casualties in the previous 2 to 3 days.

C-3. Assessing hazards

The potential for cold casualties can be assessed by determining—

- a. The magnitude of cold exposure. Reliable measurement equipment must be used to determine—
 - (1) Air temperature (thermometer).
 - (2) Wind speed (anemometer).
 - (3) Wetness.
 - (4) Weather forecast (local weather station or another source such as the worldwide web).
- b. The readiness of troops. Soldiers must have—
 - (1) Proper gear (appropriate clothing in good condition (clean and without stains, holes or blemishes that could decrease the insulation)).

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- (2) Adequate shelter.
- (3) Proper fitness.
- (4) Proper food and hydration.
- c. Mission-related concerns, to include—
 - (1) Degree of mobility, which impacts on soldier heat generation.
 - (2) Contact with ground or other surfaces that may increase conductive cooling.
 - (3) Exposure to wet conditions (for example, stream crossings).

C-4. Developing controls

Cold casualties can be controlled through—

- a. Education.
 - (1) Troop education, to include—
 - (a) Assessing cold stress.
 - (b) Recognizing and preventing cold injuries.
 - (c) Limiting the effects of cold through clothing, shelter, and nutrition.
 - (d) Learning how to work effectively in cold environments.
 - (2) Leadership education, to include—
 - (a) Supervising troops who often have only a superficial understanding of cold.
 - (b) Evaluating the impact of cold on the mission (for example, everything takes longer; troops will be more fatigued, more likely to make mistakes).
 - (3) Experiential learning, to include—
 - (a) Remembering that true effectiveness in cold environments only comes with experience.
 - (b) Practicing the clothing principles of layering and staying dry. These principles must be tailored to the individual, and must be practiced so that soldiers will learn when to dress down (before sweating begins) and when to add layers (before shivering begins).
 - (c) Using equipment in the cold. Everything takes longer, so practice is needed; soldiers also need to be able to identify where special tools or clothing (for example, contact gloves) may be necessary.
 - (d) Planning for longer missions (weather may change quickly and hinder operations, and troop fatigue impacts even routine operations).
 - (4) The posting of cold-casualty prevention information as an ongoing reminder.
 - (5) Establishing standing operating procedures for most routines.
- b. Training.
 - (1) Clothes are to be appropriate and worn properly.
 - (a) Clothing must be kept dry, and wet, damp clothes changed as soon as possible.
 - (b) Clothing is to be worn loose and in layers, and hands, fingers, and the head are to be covered and protected.
 - (c) All clothing must be clean and in good repair (no broken zippers or holes).
 - (d) Proper boots must be worn, ones that are not too tight and are dry.
 - (e) Socks must be clean and dry, an extra pair of socks must be carried, wet or damp socks must be changed as soon as possible, and foot powder will be used on feet and boots.
 - (f) Feet are to be washed daily if possible.

- (g) Gaiters are to be worn to keep boots dry when necessary.
- (h) Gloves or mittens are to be worn.
- (i) Hands must be warmed under clothes before hands become numb.
- (j) Skin contact with snow, fuel, or bare metal is to be avoided, and proper gloves are to be worn when handling fuel or bare metal.
- (k) Gloves are to be waterproofed by treating them with waterproofing compounds.
- (l) Face and ears are to be covered with a scarf, and an insulated cap with flaps over the ears or a balaclava is to be worn.
- (m) Face and ears are to be warmed by covering them with warm hands, and the face and ears must not be rubbed.
- (n) Face camouflage will not be used when the air temperature is below 32 °F.
- (o) Sunscreen are to be worn.
- (p) Sunglasses are to be worn to prevent snow blindness.
- (2) The body will be kept warm.
 - (a) Soldiers are to keep moving.
 - (b) Big muscles (arms, shoulders, trunk, and legs) are to be exercised to keep warm.
- (3) Health and nutrition must be sustained.
 - (a) Alcohol use is to be avoided (alcohol impairs the body's ability to shiver).
 - (b) Tobacco products are to be avoided (tobacco products decrease blood flow to the skin).
 - (c) All meals are to be eaten to maintain energy.
 - (d) Water or warm nonalcoholic fluids are to be drunk to prevent dehydration.
 - (e) CO poisoning must be prevented by using only Army-approved heaters in sleeping areas, by not sleeping near the exhaust of a vehicle while the vehicle is running, and by not sleeping in an enclosed area where an open fire is burning.
- (4) Soldiers will protect each other.
 - (a) Soldiers are to watch for signs of frostbite and other cold weather injuries in their buddies.
 - (b) Soldiers are to ask about and assist with rewarming of feet, hands, ears or the face.
- (5) Leadership initiatives will be practiced.
 - (a) Activities or exercise will be limited or possibly discontinued during very cold weather.
 - (b) Covered vehicles are to be used for troop transport.
 - (c) Warming tents will be available.
 - (d) Warm food and drink will be on hand.
 - (e) All equipment are to be checked and working properly.

C-5. Implementing controls

Cold casualty controls can be implemented through—

- a. Identified controls already in place (buddy checks, sock changes, available shelter, and warm meals).
- b. Controls that are integrated into standing operating procedures.
 - (1) Soldiers (including newly arrived soldiers) will be educated about hazards and controls.
 - (2) The buddy system will be implemented to check clothes/personal protection.

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- (3) Soldiers will be encouraged and allowed to speak up about any problem (self-checks).
- c. A decision to accept risk at the appropriate level.

C-6. Supervising and evaluating

The final step in the risk-management process is the supervision and evaluation of the controls taken to prevent cold casualties. Examples are—

- a. Ensuring all soldiers and leaders are educated and experienced in the prevention, recognition, and treatment of cold-weather injuries, as well as effective measures for working in cold environments.
- b. Delegating responsibilities (inspections, buddy checks) to ensure control measures have been implemented.
- c. Monitoring the adequacy/progress of implementation of control measures.
- d. Performing spotchecks of shelters, rewarming facilities, and food and drink supplies.
- e. Recording and monitoring indicators of increasing cold risks, such as—
 - (1) An increase in the number of cold-weather injuries.
 - (2) An increase in the number of complaints/comments about cold.
 - (3) Observations of shivering and signs of cold-weather injuries.
- f. Continuously evaluating current control measures and strategizing new or more efficient ways to keep warm and avoid cold injuries.