GENERAL GUIDANCE FOR ALL COLD WEATHER TRAINING

- **Skin**: Cover exposed skin because it is more likely to develop frostbite. Avoid wet skin (common around the nose and mouth). Inspect hands, feet, face and ears frequently for signs of frostbite.
- **Clothing**: Change into dry clothing at least daily and whenever clothing becomes wet. Wash and dry feet and put on dry socks at least twice everyday.
- **Nutrition**: Consume 4500 calories/day/Soldier. This is equivalent to three meal packets in Meal-Cold Weather (MCW) or three to four MREs.
- **Hydration**: Consume 3 to 6 quarts of liquid (canteens)/day/Soldier. Warm, sweet drinks are useful for re-warming.
- **Camouflage**: Consider not using skin camouflage below 32º F because skin camouflage obscures detection of cold injuries.
- **Weather**: Recognize that wind speeds obtained from weather reports do not take into account man-made wind. Soldiers riding in open vehicles, exposed to propeller/rotor-generated winds, or working at high altitudes are at higher risk of cold injuries.

Leaders must continually be aware of the conditions of their Soldiers and be alert for the signs and symptoms of cold injuries. Commanders and Unit Non-Commissioned officers (NCO) are responsible for:

- Conducting a systematic risk assessment to identify potential hazards and plan accordingly.
- Training Soldiers on the proper use of cold weather clothing.
- Ensuring Soldiers stay hydrated and eat enough for their level of activity.
- Educating Soldier about the signs and symptoms of cold weather injuries.

Leaders should be aware that windy climates or wet skin can cause frostbite to occur quickly. Trench foot can occur at any temperature.

For additional copies:
US Army Public Health Command Publications and Products e-Catalog at
http://usachppm.amedd.army.mil/HIOShoppingCart
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GEN III ECWCS

is a 12-piece kit that enables Soldiers to utilize seven different layers, depending on the mission and environment. The system functions through insulation, which resists the transmission of heat, traps air, and wicks moisture away from the body; layering, which increases air space and allows easy adjustment to a Soldier's activity level; and ventilation, which allows moisture to escape. By mixing and matching Gen III ECWCS components, Soldiers can protect themselves from temperatures ranging from 40 degrees Fahrenheit to minus 60 degrees.

TA-093-0715

COLD WEATHER INJURIES

USAPHC

U.S. ARMY

When Dressing for the COLD Remember

C LEAN
Keep your clothes clean

O VERHEATING
Do not overdress

L OOSE and in LAYERS
Loose layers trap body heat

D RY
Wet clothing causes rapid heat loss

APHC
ARMY PUBLIC HEALTH CENTER

For more information read the USAPHC Fact vs. Fiction Cold Weather Injuries Fact Sheet: http://go.usa.gov/3v2pd

OPH1001

COLD WEATHER INJURIES

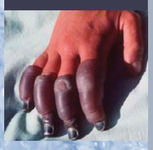
CHILBLAIN

CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Occurs when skin is continuously or repeatedly exposed to cold/wet weather conditions. Skin becomes red, swollen, tender and sometimes itchy. Most commonly affects the fingers but ears, face, and toes may be affected as well.	Swollen, red skin (or darkening of the skin in dark-skinned Soldiers) with rash-like appearance. Tender, painful skin. Upon rewarming, skin is red, hot, and itchy.	• 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. • Apply dry sterile dressings. • Seek medical care.	• Keep dry and warm. • Use the "Buddy System." • Use contact gloves to handle all equipment; never use bare hands. • Avoid cotton clothing, which holds perspiration, in cold-weather environments.

HYPOTHERMIA

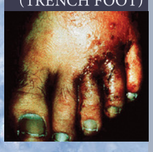
CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Occurs when a person loses more heat, then they are able to produce, causing an abnormally low core body temperature. Typically happens in very cold climates. May also occur at temperatures above freezing, especially when a person's skin or clothing is wet.	Intense shivering. Drowsiness, mental slowness, lack of coordination; may progress to unconsciousness, irregular or slow heartbeat. Watch for the "*umbles*"- grumbles, mumbles, fumbles and stumbles, as signs of hypothermia.	• Hypothermia is a medical emergency and may be fatal. Take the Soldier to a medical facility as soon as possible. • Prevent further cold exposure. • Remove wet clothing. • Rewarm with body-to-body contact or in a warmed sleeping bag. • If conscious, give warm sweet liquids. • Give CPR if needed.	• Wear uniform properly (layers worn loosely). • Stay dry. • Keep active. • Eat properly and often. • Use warming tents. • Get plenty of rest. • Use the "*Buddy System*" and NCO checks.

FROSTBITE



CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Exposure to below freezing temperatures (< 32°F) causing freezing of skin, fingers, toes, ears, chin, nose or groin area. Exposure of skin to metal, super cold fuel and petroleum, oil, lubricants, wind chill. Tight clothing, particularly boots, may reduce blood flow and increase risk.	Numbness. Tingling, swollen, or tender areas. Pale, yellowish, waxy-looking skin (grayish in dark-skinned Soldiers). Frozen skin that feels wooden to the touch.	• Take the Soldier to a medical facility as soon as possible. Frostbite can lead to amputation. • Remove from the cold to prevent further heat loss. • Remove restricting clothing and jewelry. • Rewarm affected area evenly with body heat until pain returns. • Do not thaw frozen areas if treatment will be delayed and the injury could refreeze or if the victim must walk for medical treatment. • Do not massage affected parts or rub with snow.	• Wear uniform property (layers and loose). • Keep socks and clothing dry (use poly pro/thermax liner socks and foot powder/change insoles). • Protect yourself from the wind. • Stay active. Use the *"Buddy System."* • Don't sleep on the ground (sleep pad/ tree branch, etc.) • Drink hot fluids and eat often. • Use contact gloves to handle all equipment; never use bare hands. • Use approved gloves to handle all fuel and POL* products.

IMMERSION FOOT (TRENCH FOOT)



CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Occurs when feet are wet for long periods of time. Inactivity and damp socks and boots (or tightly laced boots that impair circulation) speed onset and severity	Cold, numb feet that may progress to hot with shooting pains. Swelling, redness, and bleeding. Feet may become pale and blue.	• Get medical help immediately. • Remove wet and constrictive clothing. • Dry and clean tissues gently. Rewarm feet by exposing them to warm air. • Do not allow victim to walk on injury. • Do not massage, rub, moisten, or expose affected area to extreme heat or lotions. Do not pop blisters. • Evacuate victim to a medical facility.	• Keep feet clean and dry; change wet or damp socks as soon as possible. • Wipe the inside of Vapor Barrier boots dry at least once per day, or more often as feet sweat. • Dry leather boots by stuffing with paper towels.

** POL- Petroleum, oil, lubricants*

For additional information refer to U.S. Army Technical Bulletin 508.

USAPHC Fact vs. Fiction Cold Weather Injuries Fact Sheet: http://go.usa.gov/3v2pd

ADDITIONAL MEDICAL CONSIDERATIONS

SNOW BLINDNESS

CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
A very painful inflammation of the eye caused by overexposure to the sun.	Gritty feeling in eyes. Redness and tearing. Eye movement causes pain. Headache.	• Remove from sunlight. • Blindfold both eyes or cover with cool, wet bandages. • Seek medical attention. • Recovery may take 2-3 days.	• Use sunglasses with side protection in a snow-covered environment. Use improvised slit glasses if sunglasses are not available. Cut or tear opaque strips of tape and apply to glasses or make cardboard glasses and cut out horizontal slits from eye area. • Do not wait for discomfort to begin.

CARBON MONOXIDE POISONING

CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Occurs when a person breathes too much carbon monoxide. Carbon monoxide is a gas produced by burning any type of fuel- gas, oil, kerosene, wood, or charcoal; without proper ventilation and safety measures.	Headache, confusion, dizziness, excessive yawning. Cherry red lips and mouth (in light-skinned individuals); grayish tint to lips and mouth (in dark-skinned individuals). Unconsciousness.	• Move to fresh air and administer oxygen if available. • Seek medical attention • CPR if needed.	• Use only Army-approved heaters in sleeping areas and ensure that personnel are properly trained to operate the heaters. • Never sleep in idling vehicles. • Always post a fire guard when operating a heater in sleeping areas.

SUNBURN

CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
Burning of the skin, due to overexposure to the sun and UV light. Sunlight reflected off snow.	Redness of skin. Slight swelling. Pain and blistering. Chills, fever, headache.	• Smoothing skin creams in mild cases. • Seek medical attention for severe cases. • Aspirin for pain.	• Cover exposed skin with clothing. • Use sunscreen and lip balm with Sun Protective Factor (SPF). • Limit exposure of the skin to the environment.

DEHYDRATION

CAUSE	SYMPTOMS	FIRST-AID	PREVENTION
A loss of body fluids.	Dark urine. Headache. Thirst. Dizziness. Weakness or fatigue. Increased or rapid heartbeat.	• Slowly drink water or other warm liquids. • Do not eat snow (not potable). • Rest.	• Consume 3-6 quarts of water per day at a minimum. • Monitor urine color-drink more water if it is dark or you are urinating infrequently • Do not wait until you are thirsty to drink, thirst sensation is reduced in the cold.