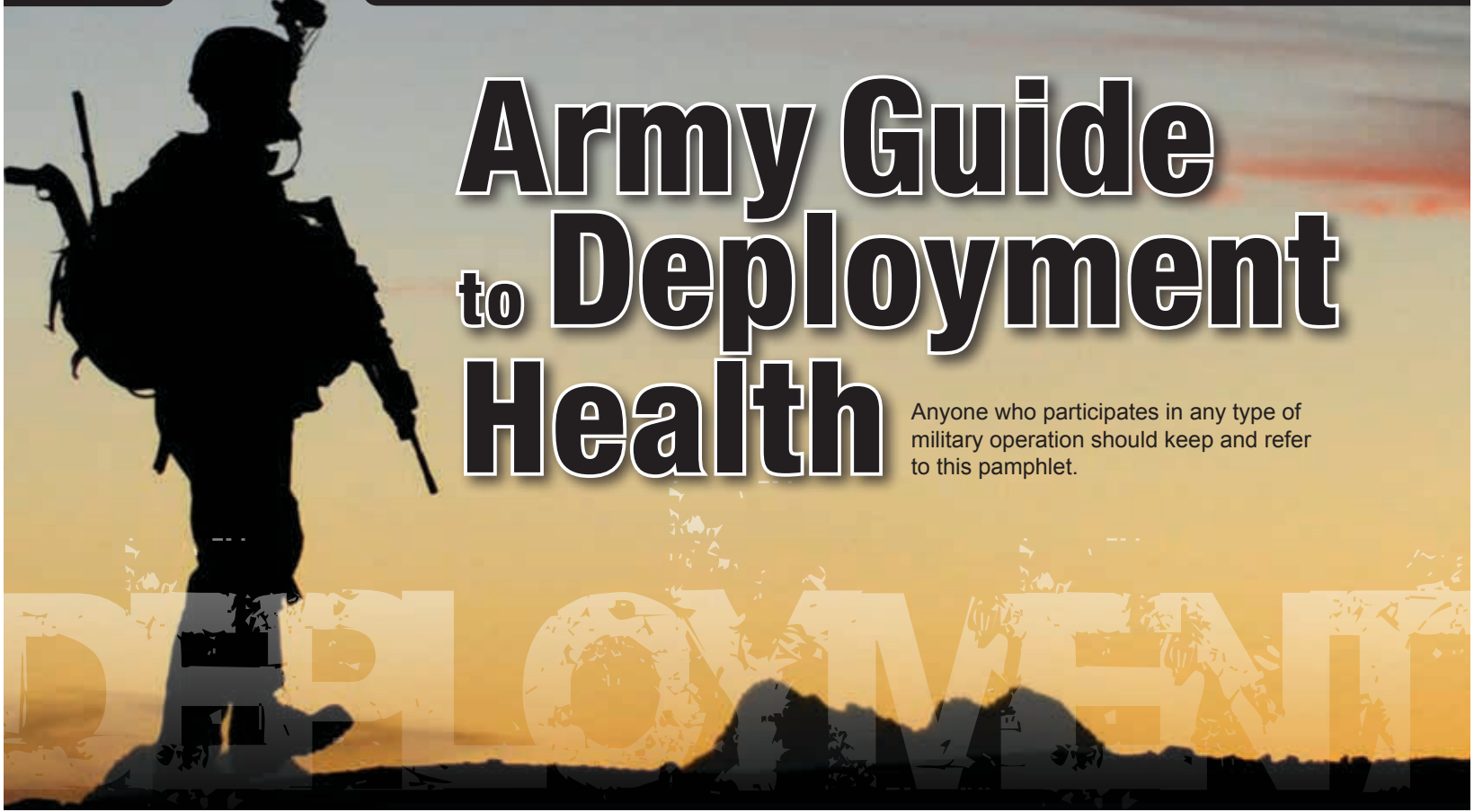
GTA 08-05-062

HEALTH THREAT INFORMATION AND COUNTERMEASURES

Army Guide to Deployment Health

Anyone who participates in any type of military operation should keep and refer to this pamphlet.



PREPARING TO DEPLOY

Pre-Deployment Medical Requirements and Screenings:

- Ensure possession of medical warning tags, eyeglasses, mask inserts, and hearing protection.
- Obtain a 180-day supply of prescription and other medications or enough for the duration of deployment, whichever is less (amount required may vary – confirm individual requirements with a health care provider, medical authority or Operations Orders (OPORD)).
- Receive all directed immunizations; initiate malaria chemoprophylaxis as directed.
- Complete all necessary forms, including DD Form 2795 and annual Periodic Health Assessment (PHA).
- Schedule initial visits and follow-up appointments with necessary medical personnel.
- Active Component personnel should complete a Pre-Deployment Medical Health Assessment (DD Form 2795) if required.

Refer to DA Form 7425, AR 40-501, MOD 10 to CENTCOM, the Department of the Army Personnel Policy Guidance, and http://www.benning.army.mil/infantry/197th/CRC/ for more complete information.

Clothing/Gear/Personal Hygiene items:

- Ensure uniforms, chemical protective clothing, protective masks (with lenses as needed) and other gear are in good condition and fit properly.
- Practice putting on/removing clothing, masks, and gear. Ensure clothing items and hair, do not interfere with proper wear.
- Soldiers can field treat their ACU's** with insect repellent using standard military clothing repellent products: permethrin aerosol spray (must reapply after sixth wash) or IDA kit (preferred and good for life of uniform). Mark treatment date on the uniform.
- Treat bed nets with permethrin aerosol spray.

**Soldiers cannot treat their Flame Resistant Army Combat Uniforms (FRACU's) or Nomex ACU's with permethrin in the field.

Recommended/Additional Packing items:

- Cotton underwear (10 changes).
- Sun block (SPF 30 or higher), lip balm, unscented lotion, insect repellent.
- Birth control supplies (condoms, birth control pills - if using birth control pills, then continue as prescribed).
- Alcohol-based hand cleaner.
- Anti-fungal foot powder, cream, and lotion (for relief of athlete's foot and jock itch).
- Toothbrushes (2) with vented cover, fluoridated toothpaste, dental floss.
- Yeast infection medication (two courses of vaginal treatment).
- Feminine hygiene products (unscented tampons, sanitary napkins, panty liners; menstrual cramp pain reliever).
- Other medications or personal hygiene items (i.e., nail files, nail clippers, tweezers, band-aids).
- Note: your preferred types of personal hygiene items may not be available at all locations. Obtain a 180-day supply or enough for the entire operation.

DURING DEPLOYMENT

Operational Safety

In addition to understanding and applying routine safety procedures, use common sense during occupational and recreational activities to prevent accidental injury.

- Do not sleep under or between vehicles.
- Do not jump off of vehicles. Use hand holds and steps to climb down.
- Always use proper lifting techniques (lift with your legs, not your back). If a task is too hard, or a load too heavy or awkward to lift, then ask for help.
- Wear eye protection and respirators when needed.
- Wear hearing protection when exposed to loud noise.
- Wear safety equipment (eye and mouth protection) during recreational activities.

Hot Weather

To avoid heat injuries:

- Drink water and maintain good nutrition to replace salt and minerals lost through sweating. Urine color should be no darker than light yellow.
- Wear lightweight, light-colored, loose fitting clothing.
- Protect yourself from exposure to sunlight and wind: work and rest in the shade when possible, construct shades/windscreens and wear sunscreen with SPF 30 or higher.
- Follow Work-Rest/Water Consumption Table on page 13.
- Heat storke is deadly. **Seek immediate medical attention** if you or your buddy becomes confused, dizzy, or has stopped sweating while working in the heat.

Cold Weather

To avoid cold injuries:

- Maintain good nutrition and drink plenty of fluids.
- Remain inside well ventilated warming tents and drink warm liquids when possible.
- Use the Extended Cold Weather Clothing System (ECWCS): layer clothing, wear headgear to avoid heat loss from uncovered head, and wear polypropylene long underwear.
- Keep moving! If unable to walk or exercise vigorously, then keep hands and feet warm by frequently moving fingers and toes.
- If working outside or on guard duty, then insulate yourself from the ground with tree boughs or sleeping mats. Avoid the wind or construct windscreens to reduce heat loss. Watch for shivering.
- **Seek immediate medical attention for loss of sensitivity in any body part.**

Refer to the Wind Chill Temperature Table on page 14.

High Altitude

- Operations at 1,800 meters (6,000 feet) can impact unit and individual effectiveness. Signs of altitude illness include headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing.

Acclimatization:

- Staged ascent: Ascend to moderate altitude (1,200 - 2,400m) and remain there for 4 days or more before ascending higher. When possible, Soldiers should stop at several altitudes to allow a greater degree of acclimatization.
- Graded ascent: Slow ascents allow partial acclimatization. Spend one or two nights at moderate altitude (1,200 - 2,400m). At altitudes above 2,400m, sleep no more than 300m above the previous night's sleeping altitude.

Treatment:

- The preferred method to treat any altitude illness is to evacuate the individual to a lower altitude. See GTA 08-05-060, A Soldier's Guide to Staying Healthy at High Elevations, for more information.

Refer to the Elevation Measurements Table on page 15.

Personal Protective Measures

Basic Personal Protective Measures (PPMs) and good personal hygiene can significantly reduce personal discomfort, the chance of becoming pregnant, and the threat of getting and spreading infectious diseases (meningitis, flu, tuberculosis, colds) and sexually transmitted diseases (HIV, chlamydia, herpes).

USAPHC Technical Guide 281 - Guide to Female Soldier Readiness addresses the unique healthcare and environmental situations female Soldiers encounter to help ensure readiness and good health before, during, and after deployment.

Basic PPMs and personal hygiene include:

- Clean hands thoroughly before touching your face, eating, and after using the latrine. Use alcohol-based hand cleaner if soap and water are not available.
- Wear clean, well fitting underwear (preferably cotton). Change underwear at least once daily; women using panty-liners should change them often, especially during menstrual cycles (liners are not a substitute for clean underwear).
- Use unscented health care products (soaps, deodorants). Scented products may cause skin irritation and attract biting and stinging insects.
- Trim your fingernails and toenails regularly.
- Brush your teeth twice a day and floss once a day.

- Dry thoroughly after showering.
- Keep feet dry and use anti-fungal powder to avoid trench foot and athlete's foot.
- Wear clean, dry uniforms; change socks at least once daily.
- Seek medical care for sores, discharge, swelling, or lumps in the vaginal area or on the penis; painful, uncomfortable or burning urination; lower abdominal pain, or menstrual cycle with heavy bleeding or lasting longer than 10 days.
- Avoid overcrowding in living areas – allow at least 72 square feet of floor space per person when sleeping. Ensure good ventilation, sleep head-to-toe in staggered bunks.
- Cough and sneeze into your sleeve.
- Visit a healthcare provider or go to sick call if you experience flu-like symptoms or nausea, vomiting, or diarrhea.
- Dispose of trash, garbage, and human waste (Reference Field Sanitation Team guidance in FM 21-10).

Sexual Activity

Commanders may prohibit sexual activity during military operations to maintain good order and discipline, and to avoid sexually transmitted diseases (STDs) and pregnancy.

- The best choice is to avoid sexual activity.
- Always use condoms during sex, regardless of other measures you choose. Condoms reduce the risk of STDs and pregnancy.
- Do not reuse condoms – use a new condom during each sexual encounter.
- Use an effective method of birth control every time. For example: the pill, birth control patch, birth control vaginal ring, diaphragm, condom, IUD.

Nutrition Guidelines

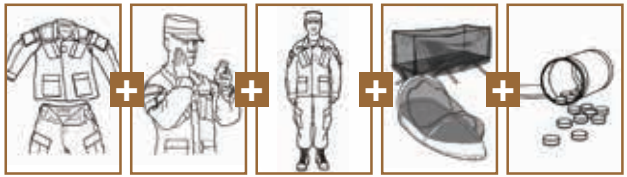
Good nutrition is a combat multiplier. Consuming adequate food and fluids each day is important to maximize physical and mental performance. They will provide you with energy to keep you alert for the long hours, strenuous work, and extreme environmental conditions you may encounter. Poor nutrition in extreme conditions (hot, cold, high altitude) can lead to fatigue, rapid weight loss, injury, illness, and dehydration.

- To get a balance of nutrients eat some of everything served by field kitchens or in your field ration.
- Eat whenever you have the chance, even when you don't feel like it. Aim for 3 meals a day and plan for snacks. Avoid skipping meals and dieting.
- Drink fluids frequently, even when you are not thirsty. Monitor the color of your urine and watch for signs of dehydration.

Vector-borne Disease Guidelines

In nearly all parts of the world, all year long, arthropods (insects, ticks, and mites) that can transmit diseases exist. Take the following measures to reduce the risk of diseases transmitted by biting arthropods, including mosquitoes (dengue, malaria, viral encephalitis), sand flies (sand fly fever, leishmaniasis), and ticks (Lyme disease, Rocky Mountain spotted fever, human ehrlichioses).

- Use the DOD Insect Repellent System to prevent bites from insects. This System combines the use of DOD-approved insect repellents for skin and clothing with properly worn uniforms.



Permethrin on Uniform | DEET on Exposed Skin | Properly Worn Uniform | Permethrin Treated Bed Net | Anti-Malarial Medication as Prescribed

- Minimize exposure to insects: wear your uniform with the sleeves down, wrist openings secured, and collar closed; tuck the pant leg into the boot or into the sock; wear uniform loosely, with an undershirt.
- Apply DEET in a thin layer over the forearms, upper arms, face, neck, ears, and other exposed areas. Do not apply to the eyes and lips, or to sensitive or damaged skin.
- Permethrin is for use on clothing and bed nets only. Do not apply permethrin directly to skin.
- Sleep or rest under a bed net treated with permethrin. Set up the bed net so that it does not touch the sleeping person. Always leave the bed net tucked under the mattress or sleeping bag.
- Avoid contact with animals (alive or dead).
- Perform routine “buddy-checks” for ticks.
- Take malaria prevention medicine as directed.

**Please note: Soldiers cannot treat their Flame Resistant Army Combat Uniforms (FR ACUs) or Nomex ACUs with permethrin in the field. Since 2010, deploying Soldiers are issued FR ACU-Ps (uniforms that have been factory treated with permethrin). If unsure of the uniform type, check the Use and Care Label on the inside of the garment.

Hazardous Animals and Plants

Stay clear of buildings infested with rodents. Do not tolerate rodents in the unit area. Nesting and feeding rodents can contaminate food and they can spread serious life-threatening diseases such as Hantavirus or plague.

- Do not allow trash or garbage to accumulate in unit areas.
- Seal openings 1/4-inch (the width of a pencil) or greater to prevent rodents from entering buildings.
- Do NOT inhale dust when clearing or cleaning unused areas (before sweeping, mist areas with water or, preferably, a disinfectant solution of 3 ounces of liquid bleach per gallon of water).
- Promptly remove dead rodents from the area (use disposable gloves or plastic bags over the hands when handling any dead animal, and place the dead animal in a plastic bag prior to disposal).
- Seek immediate medical attention if bitten or scratched by a rodent or other animal, or if you experience difficulty breathing or flu-like symptoms.

Animals and Plants

Animals can transmit rabies and other diseases.

- Avoid contact with all animals (dead or alive).
- Some snakes, spiders and other arthropods (including scorpions, centipedes, ants, bees, caterpillars, and wasps) have potentially dangerous venoms.
- Assume that any snake you encounter is venomous and do not handle.
- Seek immediate medical attention if bitten or stung by any animal or insect; untreated snakebites may cause serious illness or death within one hour.
- Some plants have thorns, stinging hairs, or toxic resins that may puncture the skin or cause skin irritation, rashes or infections.
- Discourage pests by promptly and properly disposing of trash.
- Do not eat or store food in living areas.
- Do not keep animal mascots or pets.
- Avoid sleeping on the ground.
- Shake out boots, bedding, and clothing before use, and never walk barefoot.
- Clean your skin and clothing with soap and water after contact with animals or harmful plants.

Foodborne and Waterborne Disease

DO NOT CONSUME UNAPPROVED FOOD, WATER, OR ICE

Food

Consuming food from unapproved sources or food items that have been improperly stored, prepared, held, or served can result in life-threatening illness. Reduce the risk of diarrhea, hepatitis A and E, and other illnesses by following basic personal protective measures:

- Only consume food, water and ice from U.S. military-approved sources.
- Avoid high-risk food (fresh eggs, unpasteurized dairy products, fruits/vegetables grown on or in the ground, uncooked vegetables, raw or undercooked meats).
- If non-approved foods must be consumed, then choose low risk foods like baked goods (bread), fruit grown on trees with thick peels (wash thoroughly with safe water before consuming), or boiled food (rice, vegetables).
- Wash your hands before handling food. If soap and water are not available, then use an alcohol-based hand cleaner.
- When possible, an experienced preventive medicine or veterinary officer should apply health risk assessment in accordance with MIL-STD 3041, Requirements for Food and Water Risk Assessments.

Water

Water and ice may carry disease-causing organisms. Preventive medicine or veterinary personnel must inspect and approve ALL water supplies (water used for drinking, cooking, personal hygiene, and ice) before use.

- IN AN EXTREME EMERGENCY SITUATION if you must use non-approved water (untreated lakes, rivers, streams, or questionable OCONUS municipal water supplies), then disinfect following one of the approved methods:
  - Use calcium hypochlorite at 2.0 parts per million (ppm) measured after 30 minutes contact time and optimally 1.0 ppm chlorine residual at point of consumption.
  - Use Chlor-Floc™ or iodine tablets (follow label instructions).
  - Boil water (full boil) for 1-2 minutes (3 minutes at altitudes greater than 2000 meters or 6560 feet). Allow to cool and store in covered container. If the water appears cloudy, filter it through a clean cloth prior to boiling.
  - Add two to four drops of ordinary household chlorine bleach (5-7%) per quart of water and wait 30 minutes before drinking.
- Only drink bottled water that has been approved by preventive medicine or veterinary personnel. Inspect all bottled water before drinking (using bottled water does not guarantee purity). Bottled water supplies should only be purchased from facilities listed in the Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement. See USAPHC Circular 40-1 or http://phc.amedd.army.mil/topics/ foodwater/ca/Pages/ DoDApprovedFoodSources.aspx.
- NOTE: Bottled water does not generally contain a disinfecting residual. Opened bottles should be consumed at the time of opening and not held or stored for later consumption.
- If possible, store bottled water in a cool, dry facility. Avoid storing bottled water in direct sunlight. Use on a first into storage, first out for consumption protocol.
- Follow shelf-life guidelines. Most bottled water manufacturers now use date stamps. If stored properly, bottled waters generally have a 1-year shelf life.

Note: Canals, lakes, rivers, and streams may be contaminated with industrial chemicals/wastes, sewage, or animal wastes. Avoid unnecessary bathing, swimming or wading. If tactical situations require entering water, then cover all exposed skin and wear boots or shoes to avoid unnecessary contact with water. After exposure, dry vigorously and change clothing. Preventive medicine should conduct a sanitary survey of any natural bodies of water designated for swimming to ensure there are no wastewater sources impacting the water quality.

Hearing Protection

You must use properly fitted hearing protection during military operations. Exposure to high-intensity noise, especially weapons fire, can cause permanent hearing loss. Good hearing is essential to mission success. The Combat Arms Earplug (CAE) protects you from the impulse noise from weapons fire and also allows clear communications and detection of mission-related sounds, such as footsteps, when impulse noise is not present. Noise muffs and pre-formed or foam earplugs are also very effective at preventing noise-induced hearing loss, but they do not preserve your ability to maintain situational awareness in a tactical environment.

Oral Health

The risk of tooth decay and gum disease increases during deployments. High amounts of starch and sugar in rations and limited opportunity to brush make it difficult to maintain good oral health.

- Floss once a day. Brush twice a day with fluoride toothpaste. In difficult tactical environments brush or wipe teeth with a cloth at least once a day.
- You can brush without running water. Apply toothpaste to the dry toothbrush and brush all of your teeth.
- DO NOT rinse, eat or drink for 30 minutes after brushing. Spit several times to remove excess toothpaste.
- Limit consumption of sugary snacks or drinks to meal times. If you cannot brush your teeth after having sugary snacks or drinks, then rinse your mouth with water.
- Chew xylitol gum (included in MREs) 3-5 times a day, after meals or snacks.
- Avoid tobacco (tobacco causes gum disease, tooth decay, and oral cancer).
- When working outside, use lip balm with sunscreen (SPF 30 or higher).

Stress

Deployment is stressful. Any Soldier can run into rough times. Common Combat Operational Stress Reactions include: anxiety, irritability, inability to focus or remember details, change in behavior, change in appetite, change in sleep patterns, feelings of despair, inability to sleep, jumpiness, cold sweats, and a lack of energy.

Certain actions can help you cope with combat stress:

- Drink plenty of fluids, maintain good nutrition, and stay physically fit.
- Sleep at least 7-8 hours during each 24 hour period, if possible.
- Learn effective relaxation techniques like playing cards or sports, keeping a diary, taking slow deep breaths, reading a book, or hanging out with friends.
- If things are out of control, talk to your immediate supervisor, unit leaders, Chaplain, medical care providers, mental health officers, or specialists in the Combat Stress Control teams.
- If you are worried that your battle buddy is thinking about committing suicide or hurting himself or herself, then act *immediately!*
- **ASK your battle buddy**: “Are you thinking about killing yourself or someone else?”
- **CARE for your battle buddy**: Actively listening may produce relief from the pain. Calmly control the situation. Do not use force.
- **ESCORT your buddy** immediately to your chain of command, a Chaplain, a behavioral health professional, or a primary care provider. DO NOT LEAVE YOUR BUDDY ALONE.
- **Get help immediately! A suicidal person needs immediate attention.**

Fluid Replacement and Work/Rest Guide

Heat Category	WBGT Index, ºF	Easy Work	Moderate Work	Hard Work
		Water Intake (Quart/Hour)	***Water Intake (Quart/Hour)***	***Water Intake (Quart/Hour)***
1	78º - 81.9º	½	¾	¾ (1)*
2	82º - 84.9º	½	¾ (1)*	1 (1 ¼)*
3	85º - 87.9º	¾	¾ (1)*	1 (1 ¼)*
4	88º - 89.9º	¾	¾ (1 ¼)*	1 (1 ¼)*
5	> 90º	1	1 (1 ¼)*	1 (1 ½)*
Body Armor = +5º		Easy Work = Walking on hard surface 2.5 mph <30 lb. load, weapon maintenance, marksmanship training.	Moderate Work = Patrolling, walking in sand 2.5 mph no load, calisthenics	Hard Work = Walking in sand 2.5 mph with load, field assaults.
MOPP 4 = +10º				
Rest - sitting or standing in the shade if possible			*Use the amounts in parentheses for continuous work when rest breaks are not possible.	
The work/rest times and fluid replacement volumes will sustain performance and hydration for at least 4 hours of work in the specified heat category. Fluid needs can vary based on individual differences (± ¼ qt/h) and exposure to full sun or full shade (± ¼ qt/h).				
CAUTION: Hourly fluid intake should not exceed 1 ½ qts. Daily fluid intake should not exceed 12 qts.				

Wind Chill Chart

Wind mph	Temperature (°F)																	
Calm	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
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

30 minutes 10 minutes 5 minutes

Elevation Measurement Chart

Altitude	Meters	Effects of Acute Altitude Exposure
Low	Sea level - 1200 (4000 ft.)	None.
Moderate	1200 (4000 ft.) - 2400 (7870 ft.)	Mild altitude illness and decreased performance may occur.
High	2400 (7870 ft.) - 4000 (13,125 ft.)	Altitude illness and performance decrements are more common and greater.
Very High	4000 (13,125 ft.) - 5500 (18,000 ft.)	Altitude illness and decreased performance is the rule.
Extreme	5500 (18,000 ft.) - and higher	With acclimatization, humans can function for short periods of time.

NOTICE TO READERS: Health threat information and countermeasures in this pamphlet are based on the most current information available at the time of publication. This document provides general information for maintaining health and performance during military operations. It does not replace Federal, Defense, Service or command policy and doctrine. Countermeasures and procedures are based on Army guidance, lessons learned and current trends.

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