

MAINTAIN GOOD LIVING AND WORKING AREAS

- ◆ Avoid overcrowding in living areas (follow person/sq ft guidance); ensure good ventilation; sleep head-to-toe; do not cough/sneeze toward others
- ◆ Follow Field Sanitation Team (FST) guidance (FM 21-10) to dispose of trash, garbage, and human waste

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 dangerous, life-threatening disease/illness. Reduce the risk of DNBI from diarrhea, *hepatitis A/E*, and other diseases and illness by following basic PPM's:

- ◆ Only consume food/water/ice from US military approved sources
- ◆ Avoid high-risk food (fresh eggs, unpasteurized dairy products, fruits/vegetables grown on the ground, uncooked vegetables, raw or undercooked meats) unless from approved sources
- ◆ If non-approved foods must be consumed, choose low risk foods like baked goods (bread), fruit grown on trees with thick peels (washed with safe water), or boiled food (rice, vegetables)

Water: Water and ice may carry disease-causing organisms. US PVNTMED or Veterinary personnel must inspect ALL water supplies (drinking water, water used for personal hygiene, cooking water, and ice) before use. Avoid waterborne DNBI by following basic PPM's:

- ◆ During deployments, Reverse Osmosis Water Purification Units (ROWPU's) are generally used to remove contaminants from water. If you must use non-approved water (lakes, rivers, streams, city water supplies) IN A LIFE OR DEATH SITUATION, disinfect following US Army approved methods: calcium hypochlorite at 5.0 ppm for 30 minutes; Chlor-Floc™ or iodine tablets (follow label instructions); boiling water (full boil) for 5-10 minutes; or add two to four drops of ordinary chlorine bleach per quart of water and wait 30 minutes
- ◆ Ensure US PVNTMED or Veterinary personnel inspect all bottled water supplies (bottled water does not guarantee purity)
- ◆ Avoid storing bottled water in direct sunlight (due to possible bacterial growth); follow shelf-life guidelines (usually 7-14 days)
- ◆ Water in canals, lakes, rivers, and streams is likely to be contaminated with industrial chemicals and waste or infected animal urine. Avoid unnecessary bathing, swimming or wading; if tactical situations require entering bodies of water, cover all exposed skin; after exposure, dry vigorously and change clothing
- ◆ Wear boots/shoes properly (remember to apply DEET to exposed skin (e.g., feet, ankles) to avoid DNBI, such as:
 - ✓ *Schistosomiasis* (occurs from exposure to parasites found on fresh water snails (note that some parasites in water/soil can penetrate human skin)
 - ✓ *Leptospirosis* (or mud fever) occurs after consuming or coming into contact with water or mud contaminated with infected animal urine

OPERATIONAL SAFETY AND STRESS

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

- ◆ Avoid being crushed or run over by not sleeping under or between vehicles
- ◆ If a task is too hard, or a load too heavy or awkward to lift, ask for help; use proper lifting techniques
- ◆ Wear eye protection and respirators where needed
- ◆ Wear hearing protection when exposed to loud or constant noise
- ◆ Wear safety equipment (eye and mouth protection) during recreational activities

Stress: Stress, fatigue and depression can weaken the body, making you more susceptible to DNBI. Deployment is stressful to everyone, however, you can reduce the symptoms of stress by:

- ◆ Knowing the types of operational stressors (jet lag; change of food and/or fluid intake; longer work hours; carrying heavy gear; high operations tempo (OPTEMPO); psychological stress)
- ◆ Being aware that stressors are different or may be intensified for personnel who are:
 - ✓ Exposed to or observe human suffering and death
 - ✓ Preparing for, currently in or returning from combat situations
 - ✓ Distracted by worries about home or family
 - ✓ Working in high OPTEMPO/continuous operations
- ◆ Recognizing the symptoms of depression in yourself and your buddies (change of or withdrawn behavior; excessive tiredness or insomnia; change in appetite; feelings of despair)
 - ⊃ Remember that talking to a friend/buddy or being available to listen can help relieve the weight of depression
- ◆ Seeking help and/or encouraging your buddies to seek help from Stress Team, Chaplain, or medical personnel if symptoms of stress are overwhelming
- ◆ Taking steps to reduce operational stress: maintain physical fitness; stay informed; sleep when the mission and safety permit; sleep/rest in areas away from generators and other noises; avoid or ensure proper use of over-the-counter medications; avoid alcohol and tobacco products

AVOIDING DNBI ~ POST-DEPLOYMENT

Returning from deployment can be festive and cheerful; however, a homecoming can quickly turn into a stressful event for personnel and their families who are not alert to the impact of changes or events that occurred during their separation. For example, children may be withdrawn, a spouse may be moody or depressed, or financial and property issues may require immediate attention. Further, the individual returning from deployment may still be experiencing the effects of operational stress and/or DNBI. Consider the following to reduce post-deployment difficulties:

- ◆ Prior to deployment:
 - ✓ Establish a reliable support network of family and friends
 - ✓ Ensure personal papers and information (wills, powers of attorney, etc.) are up-to-date and can be easily located
 - ✓ Provide names and phone numbers to your support network in case of emergency (ensure your network has your full name, and unit name)
- ◆ During deployment:
 - ✓ Remain in contact with family and friends through letters, e-mail, and/or audio/video tapes
 - ✓ Follow PVNTMED countermeasures to avoid DNBI; seek medical help if you experience symptoms of disease, illness, stress, or depression; and finish all prescribed medications and tests (like malaria prophylaxis and TB tests)

MEDICAL SCREENING AND FOLLOW-UP

As with your pre-deployment medical screening, post-deployment screening is also critical to ensure you are healthy and fit, and prepared to return to pre-deployment duties. Post-deployment screening generally includes:

- ◆ Verifying any DNBI you experienced during the deployment is resolved and/or establish a plan for follow-up screening/exams
- ◆ Reviewing DD Form 2796 (Post-Deployment Health Assessment)
- ◆ Verifying use of or provide prescribed immunizations/medications
- ◆ Establishing plans to continue or seek counseling from Chaplain or medical personnel as needed

TABLES

WORK-REST / WATER CONSUMPTION TABLE							
Heat Cat	WBGT Index °F	LEVEL OF WORK					
		EASY		MODERATE		HARD	
		Work Rest (minute)	Water Intake Qt/Hr	Work Rest (minute)	Water Intake Qt/Hr	Work Rest (minute)	Water Intake Qt/Hr
1	78-81.9	NL	1/2	NL	3/4	40/20	3/4
2	82-84.9	NL	1/2	50/10	3/4	30/30	1
3	85-87.9	NL	3/4	40/20	3/4	30/30	1
4	88-89.9	NL	3/4	30/30	3/4	20/40	1
5	> 90	50/10	1	20/40	1	10/50	1

The work-rest time and fluid replacement will sustain performance and hydration for at least 4hrs of work in the specified heat category. Individual water needs will vary ± (plus/minus) 1/4 qt/hr. NL = no limit to work time per hour. Rest means minimal physical activity (sitting or standing) (accomplished in shade if possible).
Caution: Hourly fluid intake should not exceed 1½ quarts. Daily fluid intake should not exceed 12 quarts.
Note: MOPP gear adds 10°F to WBGT Index

SUPPLY INFORMATION	
ITEM	NSN
Sunscreen Lotion	6505-01-121-2336
Non-alcohol Lotion Base Sunscreen	6505-01-267-1486
DEET Insect Repellent	6840-01-284-3982
Permethrin (IDA Kit) (*Shake & Bake*)	6840-01-345-0237
Urinal, Portable Female (Portable Urinary Device (PUD))	8530-01-470-2805* (note NSN change Sep01)

WIND CHILL TABLE

WIND SPEED (MPH)	ACTUAL TEMPERATURE (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
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	3	-9	-21	-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	15	0	-15	-29	-44	-59	-74	-89	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-22	-37	-53	-69	-85	-101	-117	-132	-148

Wind speed more than 40 mph has little additional effect

LITTLE DANGER (for 50-40 mph) | *LITTLE DANGER* (for 40-30 mph) | *INCREASING DANGER* (for 30-20 mph) | *INCREASING DANGER* (for 20-10 mph) | *GREAT DANGER* (for 10-0 mph) | *GREAT DANGER* (for 0 and below)

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GUIDE TO STAYING HEALTHY

Historical accounts of wars, battles, and military training consistently relate that the greatest loss of forces was not caused by combat wounds – rather the majority of losses were the result of disease and non-battle injury (DNBI). ⁽¹⁾

When emphasizing and practicing good personal protective measures (PPM's), including but not limited to measures associated with nutrition, personal hygiene, and occupational and personal safety, we can reduce, or even eliminate DNBI. The result of practicing these measures, in combination with field preventive medicine (PVNTMED) support and quality health care, is maximum force readiness – capable of successfully achieving the military mission.

A fit and healthy force is vital to military operations, and prevention of DNBI remains the easiest and most effective method of maintaining our fighting strength. It is critical to all military missions that personnel (including combat, support, and sustaining base military and civilian forces) are aware of health threats and the countermeasures discussed in this guide. Information in this pamphlet can be applied during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.

(1) Diseases such as Malaria and Sand Fly Fever, and water- and food-borne diarrheal diseases are as much a threat to US Forces today as they were for Napoleon's army

Specific or unique measures required by Federal Law, Status of Forces Agreements, DoD, Service Secretaries, Theater Commander, Theater Surgeon, and/or unit commanders may be identified for each military operation, in addition to specific occupational requirements and/or contract terms or conditions. Commanders and leaders are responsible for obtaining and acting on those measures they will need to prevent disease and injury during military operations.

This pamphlet is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Any individual who trains and prepares for, or participates in any type of military operation should keep and refer to this pamphlet. Also consider that:

- ◆ Health threats can change or become widespread because of weather conditions, natural disaster, war, outbreak of disease, or movement of displaced people and animals
- ◆ Personnel may encounter diseases not found in the US, but common to other countries and regions, when working with host-nation or displaced populations and/or multi-national forces

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.

AVOIDING DNBI ~ PREPARING TO DEPLOY

MEDICAL / DENTAL SCREENING

Pre-deployment medical and dental screening is critical to ensure you are healthy and fit, and generally includes:

- ♦ Verifying complete medical and dental records (including current HIV results and physical profile/examination); possession of ID warning tags, eyeglasses, mask inserts, etc.; immunizations and/or medications (prescribed by physician and/or directed by the Theater Surgeon or other sources) (2)
- ♦ Verifying sick/injured/pregnant status
- ♦ Reviewing DD Form 2795 (Pre-Deployment Health Assessment)
- ♦ Establishing follow-up appointments to correct deficiencies

(2) During medical screening, discuss prescribed medications or special personal hygiene requirements with the examiner; obtain at least 90-day supply of medications/hygiene products

PREPARE CLOTHING/GEAR/PERSONAL HYGIENE ITEMS

- ♦ Ensure uniforms, chemical protective clothing, protective masks (with lens as needed) and other gear are in good condition and fit properly
- ♦ Practice putting on/removing clothing, masks, and gear; ensure clothing items, hair, etc. do not interfere with proper wear
- ♦ Ensure uniforms are treated with insect repellent (permethrin); mark treatment date on the uniform
- ✓ Apply permethrin to uniforms with the Individual Dynamic Absorption (IDA) kit (preferred method – good for the life of the uniform) or aerosol spray (reapply after sixth wash)

RECOMMENDED/ADDITIONAL PACKING ITEMS: (3)

- ♦ Cotton underwear (10 changes)
- ♦ Birth control supplies (condoms, birth control pills) (if using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from inconsistent use)
- ♦ Unscented wet wipes; hand sanitizer gel/lotion
- ♦ Anti-fungal foot powder
- ♦ Anti-fungal cream, powder, or lotion (for relief of jock itch) (4)
- ♦ Yeast infection medication (two courses of vaginal treatment)
- ♦ Portable Urinary Device (PUD) (optional unit/indiv purchase) (5)
- ♦ Hygiene products for women (non-deodorant tampons, sanitary napkins, party liners; menstrual cramp pain reliever)
- ♦ Other medications or personal hygiene items (6)

(3) Some supplies may be available for purchase from AAFES/PX

(4) Jock itch is caused by infection of the groin area, especially affecting people who sweat a great deal in hot weather. While more common in men, women can also experience this condition. Since jock itch is also aggravated by clothes that chafe, ensure uniforms fit properly

(5) The PUD is for use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations) (see back panel for NSN)

(6) Preferred or special types/brands of personal hygiene items may not be available at all locations; if you need medications or hygiene items which may not be available through normal supply systems, obtain a 6-month supply, or enough for the duration of the operation (include pre-/post-deployment)

OVER-THE-COUNTER (OTC) MEDICINES/HEALTH PRODUCTS and USE OF ALCOHOL/TOBACCO

Use of OTC, alcohol, and tobacco products (including but not limited to those listed below) may cause health problems and/or increase susceptibility to dehydration, hot/cold weather injury, depression, stress, and fatigue. Individuals should consult medical personnel regarding use of OTC products during military operations.

Cold/allergy medicine; sleeping aids; cough syrup; body building or weight loss supplements; vitamins; salt tablets; cigarettes; smokeless tobacco; alcoholic drinks; any product containing alcohol

AVOIDING DNBI ~ DURING DEPLOYMENT

Hot Weather: If hot weather injuries are a threat:

- ♦ Wear natural fiber clothing (such as cotton) next to the skin for increased ventilation
- ♦ Protect yourself from exposure to sunlight and wind: work and rest in the shade when possible, construct shades/windscreens

Cold Weather: If cold weather injuries are a threat:

- ♦ When possible, remain inside well-ventilated warming tents and drink warm uncaffeinated liquids for relief from the cold
- ♦ Use the Extended Cold Weather Clothing System (ECWCS): layer clothing; wear headgear (to avoid heat loss from uncovered head) and wear polypropylene long underwear
- ♦ If unable to walk or exercise vigorously, keep hands and feet warm by frequently moving fingers and toes
- ♦ If working outside or on guard duty, insulate yourself from the ground with tree boughs or sleeping mats; avoid the wind or construct windscreens to reduce heat loss; watch for shivering

HOT AND COLD WEATHER INJURIES CAN KILL!

Seek immediate medical attention for:

- Heat injury (heat cramps, exhaustion, or stroke)
- Cold injury (loss of sensitivity in any body part)

All Environmental/Climate Conditions: The following measures are recommended for any environment:

- ♦ Wear uniforms properly and use unscented sun block (SPF 15 or higher), sunglasses, lip balm, and skin moisturizer
- ♦ Follow work/rest guidance (see back panel) for water consumption (urine color should be light with no strong odor)
- ♦ Avoid over-the-counter medications, alcohol, tobacco, and caffeinated beverages since any of these can cause or increase the effects of dehydration or solar radiation (sunburn) injury
- ♦ Use the buddy system – personnel who have had previous heat/cold injuries are especially susceptible to new or more serious injuries
- ♦ Be prepared for temperature changes at night; do not rest or sleep in tents or vehicles unless well ventilated to avoid potentially fatal carbon monoxide poisoning

High Altitude: During operations at elevations over 8,000 feet:

- ♦ Personnel must adapt to higher elevations by ascending (climbing upwards) slowly to avoid serious illness or death -- which can occur quickly if suddenly exposed to high altitudes
- ♦ Staged or graded ascent improves personal performance and reduces DNBI while adapting to higher elevations; personnel can maintain acclimatization only by remaining at altitude (acclimatization is lost after returning to lower elevations)
- ♦ Personnel with altitude sickness who continue to ascend are at risk for more serious illness or death, and must get immediate medical treatment and/or move to a lower altitude
- ♦ Prepare for other DNBI threats, including:
 - ✓ Environmental conditions, including greater threat of cold weather injury due to wind chill from mountain winds: solar radiation injuries (sunburn, snow blindness) from increased sunlight and reflection from snow and rock surfaces
 - ✓ Accidents resulting from: reduced physical capability and dehydration; increased effort needed to perform duties; physical and psychological effects of altitude sickness
 - ✓ Terrain injuries (falls, avalanches, lightning)
 - ✓ Carbon monoxide poisoning from lower oxygen content of air and use of stoves/heaters in poorly ventilated space

REMEMBER!

DNBI CAN HURT MILITARY OPERATIONS

AVOIDING DNBI TRANSMITTED PERSON TO PERSON

Using basic Personal Protective Measures (PPM's) and good personal hygiene can significantly reduce the threat of becoming a casualty of and/or spreading infectious disease (*meningitis, flu, tuberculosis, colds*); becoming pregnant or contracting sexually transmitted diseases (STD's) (*HIV, chlamydia, herpes*); and reduce personal discomfort during deployment

- ♦ Wash hands thoroughly before touching any areas on your face, eating, and after using the latrine; use wet wipes or hand sanitizer lotion/gel if soap and water are not available
- ♦ Bathe regularly to avoid fungal and bacterial conditions (vaginitis, jock itch); use unscented wet wipes if shower facilities are not available; avoid skin infections by not shaving underarms, legs, or bikini areas
- ♦ Male personnel with a history of, or who develop 'shaving rash' during deployment should seek medical treatment to ensure products used to reduce inflammation do not diminish the effectiveness of sunblock, insect repellent, or other PPM's
- ♦ Wear clean, well-fitting underwear (preferably of cotton fiber); 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)
- ♦ Do not use scented health care products (soaps, deodorants) since they may cause skin irritation and attract biting insects
- ♦ Dry thoroughly after showering
- ♦ Keep feet dry and use anti-fungal powder to avoid trench foot
- ♦ Wear clean, dry uniforms; change socks at least once daily
- ♦ Seek medical care for sores (painful/painless); discharge, swelling, or lumps from the vaginal area or penis; painful, uncomfortable or burning urination; or lower abdominal pain (7)

(7) Symptoms may indicate prostate conditions (men), vaginitis (women), or urinary tract infection (UTI) (all). Avoid serious health problems by seeking medical help if unsure about the problem, if experiencing the condition for the first time, or if symptoms do not respond to treatment

SEXUAL ACTIVITY

To maintain good order and discipline, and to avoid Sexually Transmitted Disease (STD) and/or pregnancy, Service, Theater, or unit commanders may prohibit sexual activity during military operations. If you choose to have sex during operations that allow sexual activity, it is your responsibility to use PPM's to prevent STD's and pregnancy. **Avoiding sexual activity is the most obvious and best choice available**, otherwise:

- ♦ You must choose an effective method of birth control
- ♦ Always use condoms during sex – regardless of other measures you choose. Do not reuse condoms. Using new condoms during each sexual encounter provides improved (not 100%) prevention against STD's and pregnancy

NUTRITION GUIDELINES DURING DEPLOYMENT

- ♦ Food and water play a major role in sustaining your health, performance and morale. To maximize physical performance and aid your body's ability to heat/cool, you must consume adequate amounts of food and fluids each day
- ♦ Energy needs typically increase in the field environment due to higher physical demands. To ensure optimum physical and mission performance, you should consume enough food to relieve hunger and avoid weight loss (maintain your weight; do not avoid food or attempt weight loss during field operations)
- ♦ Energy needs can vary based on individual body size, weight, walking/working surface, and level of fitness. Climate can also affect energy requirements, for example:
 - ✓ Work in cold weather can increase energy needs by 10-25%
 - ✓ Operations in high-altitude areas can increase energy needs by 50% or more

REDUCE VECTORBORNE DNBI

In nearly all parts of the world, the likelihood of exposure to harmful insects, ticks, and other pests exists year-round; therefore, the following measures are essential to reduce the risk of diseases transmitted by biting insects, including mosquitoes (*Dengue, malaria*), fleas (*plague, typhus*), sand flies (*leishmaniasis*), and ticks (*Lyme disease*):

- ♦ Use only DOD approved repellents for skin or clothing
- ♦ Treat uniforms and bednets with permethrin prior to deployment
- ♦ Minimize exposure by keeping sleeves rolled down when possible, especially during peak periods of mosquito biting (dusk and dawn); tuck undershirts into pants; tuck pant legs into boots
- ♦ Apply DEET (per label instruction) on all exposed skin including back of neck, ears, feet and ankles (when exposed) (do not apply permethrin directly on skin)
- ♦ Sleep or rest under a bednet treated with permethrin; tuck bednet under bedding; use bednet poles to prevent netting from draping onto skin; hang bednet inside (not over) the poles
- ♦ Avoid or minimize contact with animals (alive or dead)
- ♦ Perform regular "buddy-checks" for ticks
- ♦ Apply space sprays to control flying insects in enclosed areas (follow label instructions; avoid inhaling spray fumes)
- ♦ Take medications/prophylaxis (e.g., malaria pills) as prescribed

DOD INSECT REPELLENT SYSTEM



YOU NEED TO KNOW... Dry cleaning removes permethrin from the uniform and starch reduces the effectiveness of permethrin

AVOIDING DNBI FROM ANIMALS AND PLANTS

Rodents: Do not tolerate rodents in the unit area, as they can spread serious life-threatening diseases, such as *Hantavirus* or *plague*. Disease or illness can also occur from insects carried on rodents (such as fleas, ticks, or mites); contamination of food from rodent nesting or feeding; rodent bites or scratches; or from contact with rodent urine/fecal material. Avoid DNBI by:

- ♦ Maintaining a high state of sanitation throughout the unit area
- ♦ Sealing openings 1/4-inch or greater to prevent rodents from entering unit areas
- ♦ Not inhaling dust when clearing or cleaning unused areas (before sweeping, mist areas with water or, preferably, a disinfectant solution of 3-oz liquid bleach per 1-gal. water)
- ♦ Promptly removing dead rodents from the area (use disposable gloves or plastic bags over the hands when handling any dead animal, and place the dead rodent/animal into a plastic bag prior to disposal)
- ♦ Seeking immediate attention if bitten or scratched by a rodent or if experiencing difficulty breathing or flu-like symptoms

Animals: Animals can transmit rabies and cause other DNBI

- ♦ Avoid contact with domestic (cats, dogs), farm, or wild animals
- ♦ Discourage pests by properly disposing of trash and eliminate food consumption and storage in living areas
- ♦ Do not keep or adopt animal mascots or pets

Other:

- ♦ Avoid contact with snakes, plants, spiders and other insects and arthropods (including scorpions, centipedes, ants, bees, wasps, and flies) (ask US PVNTMED personnel for assistance in identifying hazardous snakes, insects, animals and plants)
- ♦ If bitten, stung, or skin irritation develops from any type of contact, seek help from US medical personnel