

U.S. Army Center for Health Promotion and Preventive Medicine

A SOLDIER'S GUIDE TO STAYING HEALTHY IN SOUTHEAST ASIA: LAOS, VIETNAM, AND CAMBODIA

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INTRODUCTION

This country-specific guide should be used in conjunction with [GTA 08-05-062, Guide to Staying Healthy](#) and is intended to provide information that can help reduce your risk of Disease and Non-battle Injuries (DNBI) when deployed. This health threat and countermeasure information is based on the most current data available from U.S. Department of Defense medical agencies at the time of production. In addition to the information in this guide, you should also receive force health protection, health threat, and preventive medicine countermeasure training/briefings prior to and, as required, throughout the length of your deployment.

SOUTHEAST ASIA OVERVIEW

[Laos](#), a country slightly smaller than Oregon, can be divided into two geographic regions: (1) the mountains in the northwest; and (2) the southern panhandle, which has a mountain range to the east, the Khammouan and Boloven Plateaus west of the mountains, and the Mekong River, the panhandle's western border. [Vietnam](#), a country slightly larger than New Mexico, can be divided into five geographic regions: (1) the Red River drainage area which includes the rugged plateaus of the Chinese border to the north and the Annamite Cordillera to the west; (2) the Annamite Cordillera, an extremely rugged and densely forested mountain range that extends from north to south; (3) a low-lying, narrow coastal plain connecting the Red and Mekong Deltas east of the mountains; (4) the lower one-fourth of Vietnam which is dominated by estuaries of the Mekong River system that form the low and marshy delta region; and (5) six islands or island groups. [Cambodia](#) is about the size of Oklahoma and consists of three geographic regions: (1) central Cambodia, a large level basin made up of numerous swamps, marshes, and wetlands; (2) the highlands that border the central basin to the east and northeast; and (3) the Cardamom and Elephant Mountains to the southwest. The Mekong River flows southward across the country. The climate of Laos, South Vietnam and Cambodia is tropical with temperatures that range between 70° F and 100° F depending on the season. Lower temperatures can be found in higher elevations. North Vietnam has a subtropical climate. The summer temperatures can exceed 100° F. During the winter, the temperature is usually in the 60s (° F) but can drop to the 40s (° F). From late April through December, the coastal lowlands experience a phenomenon called "crachin," which is a prolonged period of fog, cloudiness, and drizzle. All three countries have a monsoon season that runs from about May through October. This season can bring dangerous weather and flooding.

SOUTHEAST ASIA RISK ASSESSMENT

Based on a combination of all major infectious diseases that occur in a country, an [overall country risk level](#) is assigned. Countries can be rated as low, intermediate, high, or very high risk. Vietnam is HIGH RISK for infectious diseases, and Cambodia and Laos are VERY HIGH RISK for infectious diseases. All diseases are preventable when force health protection measures are followed. The greatest short-term health risks are associated with drinking water contaminated with raw sewage, industrial waste or fecal pathogens, and with high heat and humidity. High altitude and extreme cold weather also pose health risks in the mountains. The greatest long-term health risks are associated with urban and industrial air pollution. This guide discusses specific disease and environmental risks and ways to eliminate or lessen those risks.

VECTOR-BORNE DISEASES

Vector-borne diseases are diseases that are contracted through the bite of an insect. The vector-borne diseases of greatest risk are—

- [Dengue fever](#), a serious disease that is contracted from the bite of a mosquito carrying the virus.

- [Japanese encephalitis](#), a serious disease that is contracted from the bite of a mosquito carrying the disease.

- [Malaria](#), a serious illness that is contracted from the bite of a mosquito carrying the disease.

Other vector-borne diseases that pose a lesser risk to you are [rickettsioses \(spotted fever group\)](#) from ticks; [chikungunya virus](#) from mosquitoes; [murine typhus](#) and [plague](#) from fleas; and [scrub typhus](#) from mites. Your local medical authority will determine if these diseases or other vector-borne diseases are a threat in your specific location and provide appropriate countermeasures.

PREVENTION

- There is medicine you must take to help prevent malaria. Take your malaria prevention pills when directed to do so. This is CRITICAL. Normally, you will begin taking medication before arriving in the area, while in the area, and after returning home.
- When deployed to this region, use [the DOD Insect Repellent System](#) detailed in [GTA 08-05-062](#) to reduce your risk of acquiring a vector-borne disease.
- Wear [permethrin](#)-treated uniforms with trousers tucked into boots, sleeves rolled down, and undershirt tucked into trousers. Wear N-diethyl-meta-toluamide (DEET) on exposed skin.
- When deployed to this region, [sleep under a permethrin-treated bed net](#) to repel insects and further reduce risks of vector-borne diseases.
- When using both DEET and sunscreen products, apply sunscreen to the skin first so it does not interfere with the effectiveness of the DEET. After 30 minutes to an hour, apply the DEET. This allows the sunscreen to penetrate and bind to the skin first.

FOOD-BORNE AND WATER-BORNE DISEASES

DISEASE RISKS

Food-borne and water-borne diseases are caused by eating food or drinking water that contains certain bacteria, parasites or viruses. You are at great risk of contracting food- and water-borne diseases in this area. The food- and water-borne diseases of greatest risk are—

- [Diarrhea \(bacterial and protozoal\)](#) (travelers' diarrhea). The risk is worse after flooding.
- [Hepatitis A](#). This is a food- or water-borne disease that can make you sick for a month or more. The risk is worse after flooding.
- [Typhoid/paratyphoid fever](#). One can carry typhoid and give it to others without getting sick.

Other food- or water-borne diseases that pose a lesser risk to you are [brucellosis](#) (often caused by eating contaminated dairy products), [hepatitis E](#) and [cholera](#).

PREVENTION

- Assume all non-approved food, ice, and water is contaminated. You should not drink local tap water, fountain drinks, or ice cubes. Do not eat any food or drink any water or a beverage (including bottled water) that has not been approved by the U.S. military as

these may be contaminated. Even a one-time consumption of these foods or water may cause severe illness.

- See [GTA 08-05-062](#) for appropriate countermeasures.

ANIMAL-CONTACT DISEASES

DISEASE RISKS

Animal contact diseases are diseases that are contracted by coming into contact with the bodily fluids of an animal. The animal contact diseases that pose somewhat of a risk are [anthrax](#) (contracted by coming into contact with or eating infected animals), [Q fever](#) (contracted by inhaling dust that contains the organisms that cause the disease) and [rabies](#) (contracted from the bite of an animal carrying the disease). Rabies is fatal without treatment.

PREVENTION

- Avoid contact with all animals.
- If bitten, seek medical attention immediately.
- Keep living quarters free of rodents, and stay clear of buildings infested with rodents.
- Always check dug-in fighting positions for potentially dangerous animals.
- Clean your skin and clothing after contact with animals or dust.

WATER-CONTACT DISEASES AND SKIN INFECTIONS

DISEASE RISKS

Water-contact diseases are most often acquired by swimming or wading in contaminated water. The water-contact diseases that pose a risk in these countries are [leptospirosis](#) and [schistosomiasis](#). Leptospirosis is caused by bacteria and schistosomiasis is caused by parasitic worms. Skin irritations and infections, such as athlete's foot and ringworm, are also common medical threats during any deployment and are commonly caused by fungi that thrive in moist conditions.

PREVENTION

- Do not swim or wade in water that has not been treated with chlorine; if you must, wear protective clothing and footwear.
- Never go barefoot.
- Clean your skin and clothing after wading or swimming in freshwater ponds or streams.
- To prevent skin infections, maintain clean, dry skin.
- See [GTA 08-05-062](#) for additional countermeasure information.

DANGEROUS ANIMALS AND PLANTS

RISKS

- Highly poisonous snakes, including kraits, cobras, coral snakes, vipers, and sea snakes, live in the region.
- There are many aggressive lizards and crocodiles, and poisonous frogs and toads near swamps and rivers.
- There are many species of stinging rays, jellyfish, and poisonous fish in the region.

- Venomous species of scorpions, centipedes, and spiders are present throughout the region. Some beetles have a chemical in them that can blister skin or cause temporary blindness if you crush them.
- Large leeches, abundant in wet areas and forests, are not poisonous, but can cause slow-healing ulcers.
- Some regional plants have thorns, stinging hairs, or toxic resins that may cause serious puncture wounds, slow-healing cuts, or skin irritations, rashes or infections. Contact with the smoke from the burning of these plants can also cause skin rashes and damage to your lungs.
- There are many regional plants, some with fruits or seeds closely resembling edible species, that may cause systemic poisoning if leaves, berries, flowers, or other plant parts are chewed or swallowed. Symptoms include dizziness, vomiting, irregular heartbeat, and delirium or hallucinations.

PREVENTION

- Consider any snake, frog, toad or fish as poisonous, and do not handle. Avoid contact with all wildlife.
- Seek immediate medical attention if bitten or stung by any animal or insect; untreated snakebites may cause serious illness or death within 1 hour.
- If possible, avoid sleeping on the ground.
- Use DEET to provide effective protection from terrestrial leeches.
- Shake out boots, bedding, and clothing prior to use, and never walk barefoot.
- Avoid skin contact with plants if tactically feasible.
- Clean your clothing with soap and water after contact with animals or harmful plants.
- Swim only at approved beaches.

RESPIRATORY AND SEXUALLY TRANSMITTED DISEASES

RISKS

There is a risk of being exposed to the bacteria that causes [tuberculosis](#) (TB). Breathing in the bacteria that someone coughed or sneezed into the air spreads TB. Being exposed to the bacteria will cause a positive skin test even if you do not become sick. If you have a positive skin test, you may still be treated even if you have no symptoms. Soldiers are also at risk of contracting sexually transmitted diseases ([STDs](#)) such as [gonorrhea](#), [chlamydia](#), human Immunodeficiency virus ([HIV](#))/[acquired immune deficiency syndrome \(AIDS\)](#) and [hepatitis B](#). HIV/AIDS and hepatitis B are potentially fatal STDs that can also be passed by sharing needles. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term impact on your individual health is great.

PREVENTION

- There is a vaccine for hepatitis B but not for any other STD. **Anyone deployed to the region should not have unprotected sex and should not share needles.**
- Those deployed should see [GTA 08-05-062](#) for appropriate countermeasures.

ORAL HEALTH

[Dental disease](#) is a common problem during deployments because it is not easy to take care of your mouth. You should deploy with toothbrush, dental floss, and fluoride toothpaste. You should brush your teeth twice a day and floss your teeth once a day. This is the best way to prevent gum disease, trench mouth and tooth decay. In difficult tactical environments, teeth should be brushed at least once a day. Seek medical attention immediately at the onset of any dental problems. You are more vulnerable to other diseases when your mouth is not healthy.

TOXIC INDUSTRIAL CHEMICALS AND MATERIALS

When deployed, you may face health risks from industrial chemicals and materials as a result of activities by terrorists or warring parties; accidents related to improper design, maintenance, or operation of indigenous industrial facilities; inadvertent exposure to toxic waste materials in the environment; or improper handling or disposal of hazardous material with which our own forces deploy. The degree of health risks depends upon many parameters. Consult your medical authority for additional information.

HOT AND COLD WEATHER INJURIES

Heat injuries are possible when deployed to this region, especially during the early phase of deployment; acclimatization is critical. Individual and unit countermeasures are extremely important. Cold injuries can also occur in the mountainous areas of this region. The effects of cold weather are more severe in high mountainous areas due to reduced oxygen and lower air pressure. When deploying to the mountainous areas in this region, check with your unit on the requirement for packing the extended cold weather clothing system. See [GTA 08-05-062](#) for appropriate countermeasures.

HIGH ELEVATIONS

- Military operations occurring at elevations over 6,000 feet can be dangerous due to low levels of oxygen. Serious illness or death can result if you increase your elevation rapidly without allowing for acclimatization. Remain well hydrated; you need more fluids at higher altitudes.
- Symptoms of mountain sickness include headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately if you experience any of these symptoms.
- Pyridostigmine bromide tablets may increase the chance of dizziness or fainting during the first 24 hours at high altitude if you are not acclimatized.
- When wearing mission-oriented protective posture (MOPP) gear at higher altitudes, you may require more time and concentration to perform assigned tasks.
- For appropriate countermeasures during high altitude operations, see [GTA 08-05-062](#) and [GTA 08-05-060, A Soldier's Guide to Staying Healthy at High Elevations.](#)

HEARING PROTECTION

It is essential that you use properly fitted [hearing protection](#) during military operations. Exposure to high-intensity noise may cause hearing loss. Good hearing is essential to mission success. If you are a dismounted soldier, the [Combat Arms Earplug](#) (NSN 6515-01-466-2710) will protect you from the impact noise of weapons fire while only slightly interfering with voice communications and detection of combat sounds such as vehicle noise, footfalls in leaves, and the closing of a rifle bolt. While not as effective as the Combat Arms Earplug in preserving your ability to hear important mission-related sounds, noise muffs or standard earplugs are very effective at preventing noise-induced injury. If you are a member of vehicle or helicopter crews, your combat vehicle crew or aircrew helmets have built-in hearing protectors.

FIELD SANITATION TEAM

Each company-sized unit has a Field Sanitation Team (FST) whose members are trained (40-hour course) and fully equipped according to [AR 40-5](#), [FM 4-25.12](#), and [FORSCOM REG 700-2](#).

Know who the members of your FST are, and know how they can assist in preventing medical threats to your health. Become familiar with FST equipment and training.

PRE-DEPLOYMENT HEALTH INFORMATION

- [Complete the Pre-Deployment Health Assessment \(DD FORM 2795\)](#) to assess your state of health before deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.
- You will not have access to your health care record during the deployment. The Adult Preventive and Chronic Care Flowsheet ([DD FORM 2766](#)) will be used as your deployment health record. This document will include information on all your immunizations, any medications you are currently taking, and any ongoing medical problems that you may have. When you go through readiness processing, ensure that all appropriate information is documented on your DD FORM 2766. When you return home, this information will be placed in your regular health record.

INFORMATION ABOUT YOUR HEALTH CARE WHILE DEPLOYED

- It is important that you know where to seek health care while deployed. This may or may not be through the same channels as your home station. Ask your chain of command for more information.
- While deployed, you must maintain your health and seek care whenever an illness or injury affects your work. Your unit is depending on you. It is always better to seek care early so your problems can be documented appropriately and taken care of immediately. When problems are caught early, they are usually easier to treat.

POST-DEPLOYMENT HEALTH INFORMATION

- [Complete the Post-Deployment Health Assessment \(DD FORM 2796\)](#) to assess your health after deployment and to assist health care providers in identifying your medical needs and providing present and future medical care to you.
- If you become sick after you return home, tell your doctor that you were deployed.
- Complete malaria medications as directed, and receive follow-on medical care/tests as directed.

Contact your Preventive Medicine or Medical Support Unit for more information.



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