

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

A SOLDIER'S GUIDE TO STAYING HEALTHY IN HISPANIOLA: HAITI AND THE DOMINICAN REPUBLIC

SHG 015-0302



DISTRIBUTION: UNLIMITED

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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 countermeasures training/briefings prior to and, as required, throughout the length of your deployment.

HISPANIOLA OVERVIEW

Hispaniola is the second largest island in the Caribbean Sea and includes the countries of [Haiti](#) (the western one-third of the island) and the [Dominican Republic](#) (the eastern two-thirds of the island). Five mountain ranges cover approximately 70 percent of the land surface, with fertile valleys, semidesert plains, and tropical rain forests interspersed throughout. The borders of Hispaniola include the 80-mile-wide Mona Passage, which separates the island from Puerto Rico in the east; the Caribbean Sea in the south; the 50-mile-wide Windward Passage, which separates the island from Cuba in the west; and the Atlantic Ocean in the north. The elevation ranges from 10,410 feet above sea level at Pico Duarte, in the central mountain range of the Dominican Republic, to 141 feet below sea level at the inland, saltwater Lake Enriquillo, located near the southern border of Haiti and the Dominican Republic. The climate is tropical with an average annual temperature along the coasts of 78° to 81° F with little temperature variation year-round. The mountains are significantly cooler (61° to 68° F) with frost occurring frequently at elevations above 1,300 feet during the cool season. Snow is possible in the highest elevations. Relative humidity remains constant at about 80 percent. Rainfall is heaviest May through November. Average annual rainfall varies from 20 inches in northwestern Haiti to 100 inches in the northeastern part of the Dominican Republic. Flash flooding is a growing problem due to deforestation and erosion. Streams and river crossings can become treacherous with flash floods common at the onset and latter part of the rainy season. An average of eight hurricanes per year strike the Caribbean region between July and November. Earthquakes can occur frequently in the Haitian Highlands and trigger numerous rockfalls and landslides, but damage is usually slight. Destructive earthquakes occur mainly along the Atlantic coast and the northern coast of the southern Haitian Peninsula.

HISPANIOLA RISK ASSESSMENT

Based on a combination of all major infectious diseases that occur in a country, an [overall country risk level](#) is assigned as low, intermediate, high, or highest risk. Hispaniola is HIGH RISK for infectious diseases. Diseases of military importance to forces deployed to Hispaniola include [hepatitis A](#), [typhoid fever](#), and diarrheal diseases, all acquired by consuming contaminated food, water, and dairy products; vector-borne diseases such as [dengue fever](#), [malaria](#), [filiariasis](#), and [leishmaniasis](#), which are acquired through the bites of mosquitoes and sand flies; [leptospirosis](#) and [schistosomiasis](#) from swimming, wading, or other skin contact with contaminated water; [rabies](#) from animal contact; [meningococcal meningitis](#) and [tuberculosis](#) from contact with human respiratory secretions or droplets; and [sexually transmitted diseases](#). Environmental factors also pose a significant health risk to deployed forces and include sewage, agricultural, and industrial contamination of water and food supplies and seafood contamination due to algal toxins, sometimes seen as "red tide". Additionally, high altitude illnesses are a potential DNBI in the mountainous region

INCREASED REGIONAL DISEASE THREATS

Infections and parasitic diseases continue to be among the leading causes of death in both Haiti and the Dominican Republic. Haiti is often characterized as the poorest country in the western hemisphere, and the Dominican Republic has one of the most undernourished populations in the world. Haiti also has one of the highest population densities of all Latin American countries; this density contributes to disease exposure and spread. Large numbers of people living in crowded unsanitary conditions, such as shantytowns, increase the risk of epidemics, particularly respiratory infections such as influenza, colds, tuberculosis, and meningococcal meningitis.

Increased vector-borne disease threats include dengue fever and malaria. Both are transmitted year-round with an increased risk for dengue fever in coastal urban areas during the rainy season and for malaria in rural and jungle areas below 1600 feet. Malaria is a higher risk in Haiti than in the Dominican Republic.

FIELD SANITATION TEAM

Each company-sized unit has a Field Sanitation Team (FST) whose members are trained (40-hour course) and fully equipped IAW [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

VECTOR-BORNE DISEASES

Several vector-borne diseases are present in Hispaniola. They include [malaria](#), [dengue fever](#), and [filariasis](#) from mosquitoes and [leishmaniasis](#) from sand flies. 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.

- Take your malaria prevention pills when directed to do so. This is CRITICAL. Normally, you will begin taking medication prior to arriving in the area, while in the area, and after returning home.
- 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 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. Many insects in this region feed during the night, including mosquitoes that transmit malaria.
- 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

The diseases of greatest risk, in both rural and urban areas, are bacterial and protozoal diarrhea, hepatitis A, and typhoid fever, associated with contaminated food, water, and ice. Sanitation is extremely poor in Haiti and typically well below U.S. standards in the Dominican Republic. Do not consume any food, water, or beverages (to include bottled water) that have not been approved by the U.S. military. Assume all non-approved food, ice, and water is contaminated. Water and food items available on the island, including dairy products, fish, fruits, and vegetables, may contain unsafe levels of pesticides, chemical fertilizers, bacteria, and viruses. Contamination with human or animal waste is widespread. Even a one-time consumption of these foods or water may cause severe illness. See [GTA 08-05-062](#) for appropriate countermeasures.

HOT AND COLD WEATHER INJURIES

Temperature extremes on the island may impact military operations. Heat is a medical threat for soldiers deployed to the coastal and interior plains of the island, especially during the early phase of deployment; acclimatization is critical. Cold injuries are a threat in the mountains during the winter months. 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 regions of Hispaniola, check with your unit on the requirement for packing the extended cold weather clothing system. See [GTA 08-05-062](#) for appropriate countermeasures.

HAZARDOUS ANIMALS AND PLANTS

- No poisonous snakes are known to inhabit the island of Hispaniola. However, snakebites from nonpoisonous species can cause infection. Consider any snake encountered as a threat, and do not handle. Seek immediate medical attention if bitten. Several species of centipedes, spiders and scorpions, some with potentially fatal venom, are present throughout the island. Hives and swarms of stinging insects (bees, wasps, hornets) are also a significant hazard. These creatures are likely to be encountered around buildings, tents, and bunkers.
- Avoid contact and have hives treated by preventive medicine personnel. If possible, avoid sleeping on the ground. Shake out boots, bedding, and clothing prior to use, and never walk barefoot. If bitten or stung, seek medical attention immediately.
- Coastal waters contain poisonous jellyfish, sea urchins, and cone shells, as well as moray eels, rays, sharks, and several species of fish with venomous spines. The caiman and crocodile, two large meat-eating reptiles that can be as long as 9.8 feet and 13 feet, respectively, have rarely attacked humans. Avoid swimming or wading unless tactically required.
- Leeches are found in freshwater ponds and lakes and brackish waters of mangrove swamps. Do not pull leeches off. This can leave the mouthparts in the wound, leading to continued bleeding and possible infection. Seek medical attention for proper removal.

- Some regional plants have thorns, stinging hairs, or toxic resins that may puncture the skin or introduce poison into the skin causing skin irritation, rashes or infections. Avoid skin contact with plants when tactically feasible.
- Contact with the smoke from the burning of these plants can also cause skin rashes and damage to your lungs.
- Clean your clothing after contact with harmful plants. Decontaminate clothing by washing with soap and water.
- Some regional plants 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.

HIGH ELEVATIONS

High altitude illnesses are a threat in the central mountainous regions. High altitude or mountain illness can kill. Military operations occurring at elevations over 6,000 feet can seriously affect unit and individual effectiveness. Serious illness or death can result if you ascend rapidly without allowing for acclimatization. Remain well hydrated; individual water requirements are greater at higher altitudes.

- When deployed to high mountain areas, be observant of the common symptoms of mountain sickness: 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.
- Lower oxygen levels at high altitudes ("thin air") combined with the heavier work requirements when wearing mission-oriented protective posture (MOPP) gear can increase your risk of high altitude illnesses. When wearing 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](#).

SEXUALLY TRANSMITTED DISEASES

[Sexually transmitted diseases](#) are highly prevalent in Hispaniola. Haiti has the most widespread human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS) epidemic in the Americas, with about 90 percent of HIV infection due to heterosexual transmission. AIDS reportedly is the leading cause of death among "sexually active adults" in Haiti. Gonorrhea, chlamydia, and other infections are common, and may affect a high percentage of personnel who have sexual contact. Hepatitis B occurs throughout the island. Though the immediate impact of HIV/AIDS and hepatitis B on an operation is limited, the long-term impact on your individual health is substantial. See [GTA 08-05-062](#) for appropriate countermeasures.

HEARING PROTECTION

It is essential that you use properly fitted hearing protection during military operations. Exposure to high-intensity noise may cause hearing loss that can adversely affect your combat effectiveness and individual readiness. 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.

ORAL HEALTH

Dental disease is a common problem during deployments due to the challenge of maintaining good oral hygiene. You should deploy with toothbrush, dental floss, and fluoride toothpaste. Daily flossing and twice daily brushing of teeth is the best way to ensure prevention of periodontal disease and to decrease your risk of problems such as 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.

SKIN DISEASES

Skin irritations and infections, such as athlete's foot and ringworm, are common medical threats during any deployment and are commonly caused by fungi. The best prevention is to maintain clean, dry skin. See [GTA 08-05-062](#) for additional countermeasure information.

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.

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 threatens your ability to complete your tasks. Your unit is depending on you. It is always better to seek care early so that your problems can be documented appropriately and taken care of immediately.

POST-DEPLOYMENT HEALTH INFORMATION

- [Complete the Post-Deployment Health Assessment \(DD FORM 2796\)](#) to assess your state of 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 physician 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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