

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

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## A SOLDIER'S GUIDE TO STAYING HEALTHY IN HORN OF AFRICA

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## Table of Contents

	Page
INTRODUCTION.....	1
HORN OF AFRICA OVERVIEW.....	2
HORN OF AFRICA RISK ASSESSMENT.....	2
INCREASED REGIONAL DISEASE THREATS.....	3
FIELD SANITATION TEAM.....	3
FOOD-BORNE AND WATER-BORNE DISEASES.....	3
VECTOR-BORNE DISEASES.....	3
SAND, WIND, AND DUST.....	4
HOT AND COLD WEATHER INJURIES.....	4
HAZARDOUS ANIMALS AND PLANTS.....	5
TOXIC INDUSTRIAL CHEMICALS AND MATERIALS.....	5
SEXUALLY TRANSMITTED DISEASES.....	5
HIGH ELEVATIONS.....	6
HEARING PROTECTION.....	6
ORAL HEALTH.....	6
SKIN DISEASES.....	7
PRE-DEPLOYMENT HEALTH INFORMATION.....	7
INFORMATION ABOUT YOUR HEALTH CARE WHILE DEPLOYED.....	7
POST-DEPLOYMENT HEALTH INFORMATION.....	7

## 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.

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## HORN OF AFRICA OVERVIEW

The Horn of Africa includes the countries of [Djibouti](#), [Eritrea](#), [Ethiopia](#), [Kenya](#), [Somalia](#), [Sudan](#), and [Uganda](#). This region is a combination of sea-level coastline, deserts, flat plains, rolling plains, mountainous rain forests, and high mountainous areas. The elevation ranges from 425 feet below sea level in the Great African Rift Valley to over 17,000 feet on Mount Kenya. This region has many of the highest peaks in Africa. The climate varies considerably depending upon elevation and season, from below freezing temperatures in mountainous areas to temperate climates in higher and medium altitude valleys and plains, tropical humid climates in the coastal plains, and extreme heat (120° F) in the dry desert regions. The climate in any particular country depends on its proximity to major mountains or large bodies of water, its elevation, and local topography. Seasonal monsoon winds, intense sun, frequent dust storms and sandstorms, and strong nighttime temperature inversions can occur throughout the region. Annual rainfall amounts are extremely variable depending on elevation but range from 4 inches in northern Sudan to 104 inches in the rain forests of southwestern Ethiopia.

## HORN OF AFRICA RISK ASSESSMENT

Based on a combination of all major infectious diseases that occur in a country, an [overall country risk level](#) is assigned from low to highest risk. Ethiopia, Kenya, Somalia, Sudan, and Uganda are HIGHEST RISK; and Djibouti and Eritrea are HIGH RISK for infectious diseases. Diseases of military importance to forces deployed to Horn of Africa include [hepatitis A and E](#), [typhoid fever](#), and several diarrheal diseases to include [cholera](#), all acquired by consuming contaminated food, water, and dairy products; vector-borne diseases such as [malaria](#), [Rift Valley fever](#), [dengue fever](#), [trypanosomiasis](#), [sandfly fever](#), [leishmaniasis](#), [West Nile fever](#), [yellow fever](#), [Crimean-Congo hemorrhagic fever](#), and [murine typhus](#) which are acquired through the bites of insects or ticks; [schistosomiasis](#) and [leptospirosis](#) from swimming, wading, or skin contact with contaminated water; [rabies](#), [anthrax](#), and [Q fever](#) from animal contact; [meningococcal meningitis](#) and [tuberculosis](#) from contact with human respiratory secretions or droplets; and [sexually transmitted diseases](#). [Polio virus](#) infection still occurs in this region but does not pose a health threat to you. All U.S. military personnel are vaccinated against polio, usually as children. Person-to-person, fecal-oral contact, or consumption of food or drink contaminated with feces spreads polio.

Environmental factors also pose a significant health risk to deployed forces and include sewage, agricultural, and industrial contamination of water and food supplies; extreme heat; significant night and day temperature changes; localized air pollution; and severe sandstorms and dust storms. Additionally, high altitude illnesses are a potentially significant DNBI in the mountainous regions.

## INCREASED REGIONAL DISEASE THREATS

The potential for acquiring infectious diseases in the Horn of Africa region is higher than in most locations to which you may deploy and poses a very serious risk to your health. It is critical that you use appropriate countermeasures AT ALL TIMES to avoid incapacitation, hospitalization, and loss to your unit.

Malaria is widespread and occurs year-round throughout this region. Additionally, there is significant risk in this region for acquiring other incapacitating vector-borne diseases, including dengue fever, Rift Valley fever, trypanosomiasis, Crimean-Congo hemorrhagic fever, and leishmaniasis. All are transmitted year-round, day and night, in both urban and rural areas. You are at especially high risk for Rift Valley fever when operating in Ethiopia and Eritrea. Preventing exposure to mosquitoes, ticks, sand flies, or other biting vectors at all times and in all areas will help reduce your risk of acquiring vector-borne diseases.

Water treatment and disposal systems in this region are non-existent or unreliable. Water sources have been military targets of clans and bandits in Somalia. Fish caught from lakes, rivers, or streams may be contaminated with pesticides that fishermen use as a means of increasing their catch.

## 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.

## FOOD-BORNE AND WATER-BORNE DISEASES

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 in this region, 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.

## VECTOR-BORNE DISEASES

The Horn of Africa climate and ecological habitat support large populations of disease vectors, including mosquitoes, ticks, and sand flies. Significant disease transmission is sustained year-round and region-wide, including urban areas. There are several vector-borne diseases present throughout this region. They include [malaria](#), [Rift Valley fever](#), [West Nile fever](#), [yellow fever](#), and [dengue fever](#) from mosquitoes; [trypanosomiasis](#) from tsetse flies; [sandfly fever](#) and [leishmaniasis](#) from sand flies; [Crimean-Congo](#)

[hemorrhagic fever](#) from ticks; and [murine typhus](#) from fleas. There are many other diseases spread by the bites of mosquitoes, ticks, sand flies, fleas, mites, and lice. Prior to deploying to this region, you may receive the yellow fever vaccine. 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. Malaria is widespread in this region. 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 bloused and sleeves down.
- 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.

## **SAND, WIND, AND DUST**

Sand, wind, and dust cause health problems, particularly to skin, eyes, throat and lungs. Take care of problems early to avoid infection. Dry air, dust and wind dry out the nose and throat and can also cause nosebleeds, coughing and wheezing. Cracked, chapped fingers reduce manual dexterity. Body areas (such as ears, armpits, groin, elbows, knees, feet, and the area under breasts) that collect dust and sand are susceptible to chafing, abrasion and infection. High winds can turn tent pegs and loose objects into flying missiles (which may not be visible in blowing sand).

- Take a daily sponge bath, using an approved water source.
- Wash your face and eyelids several times per day.
- Carry at least two pairs of glasses and a copy of your prescription. Do not wear contact lenses; [AR 40-63](#) prohibits contact lens use during a military deployment.
- Breathe through a wet face cloth, or coat the nostrils with a small amount of petroleum jelly to minimize drying of mucous membranes. Protect your lips with lip balm.
- Shield your face with cloth materials to protect from blowing dust and sand.
- Wear goggles to protect your eyes from wind, dust and sand or when traveling in open vehicles.
- Wear gloves and use moisturizing skin lotion to protect your hands.

## **HOT AND COLD WEATHER INJURIES**

Temperature extremes in this region will impact military operations. This region is one of the hottest places on earth during the summer months. Ethiopia has the earth's highest annual average temperature (93° F). Heat is the overall greatest medical threat in 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.

## **HAZARDOUS ANIMALS AND PLANTS**

- Several species of highly poisonous snakes, which are well camouflaged and very aggressive, live in the region. Consider any snake encountered as poisonous, and do not handle. Seek immediate medical attention if bitten; untreated snakebites may cause serious illness or death within 1 hour.
- Several species of scorpions and spiders, some with potentially fatal venom, are present throughout the region. 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.
- 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.

## **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 materials with which our own forces deploy. The degree of health risks depends upon many parameters. Consult your medical authority for additional information.

## **SEXUALLY TRANSMITTED DISEASES**

[Sexually transmitted diseases](#) are highly prevalent in this region. Gonorrhea, chlamydia, and other infections are common, and may affect a high percentage of personnel who have sexual contact. This region has the highest rates of human immunodeficiency virus (HIV) in the world. Hepatitis B is widespread. Though the immediate impact of HIV 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.

## HIGH ELEVATIONS

High altitude illnesses can kill. Military operations occurring at elevations over 6,000 feet can seriously impact 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](#).

## 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 clean, dry skin. See [GTA 08-05-062](#) for additional countermeasure 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.**





*Prepared by:*

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