

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

A SOLDIER'S GUIDE TO STAYING HEALTHY ON THE KOREAN PENINSULA

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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.

KOREA OVERVIEW

The Korean Peninsula is made up of North Korea and South Korea.

[North Korea](#) is about the size of Mississippi and is located on the northern half of the Korean Peninsula in eastern Asia. It is mostly covered by mountains and uplands and can be divided into three geographic regions: (1) the Kaema Plateau, (2) the Hamgyong Mountains, and (3) the Pyongyang and the Chaeryong Plains. The Kaema Plateau covers much of the northeast and has a mean elevation of 3,300 feet. The Hamgyong Mountains rim the eastern edge of the plateau and extend to the Sea of Japan. They are heavily forested and include North Korea's highest peak, Mount Paektu, which rises to 9,000 feet. The Pyongyang and the Chaeryong Plains extend from the southwest coast inland, covering approximately 200 square miles. The climate in the continental part of North Korea consists of long, cold, dry winters and wet summers. The climate changes very quickly from season to season. In the winter (November through March), the average temperature ranges from 24° F to 36° F, but it can go as low as 32° F. The windchill can often make the temperature feel like -25° F. In the summer (June through September), the average temperature ranges from 65° F to 80° F, but it can go as high as 100° F. Summer is the monsoon season. Most of the rain occurs during July and August, and typhoons occasionally occur during the summer months.

[South Korea](#) is about the size of Indiana and is located on the southern one-half of the Korean Peninsula in eastern Asia. Low mountainous terrain covers nearly 70 percent of the country. The west and south are made up of wide coastal plains. The Taebaek Mountains run in a north-south direction along the eastern coast. From the Taebaeks, several other ranges extend in a northeast-southwest direction. The river basins of the Han River in the northwest, the Naktong River in the southeast, and the Yongsan River in the southwest are heavily cultivated areas. South Korea also has over 3,000 islands off the south and west coasts. The borders of South Korea include North Korea in the north, the Sea of Japan in the east, the Korea Strait and Japan in the south, and the Yellow Sea in the west. The elevation ranges from sea level along the Sea of Japan to 6,398 feet on one of the islands. The mainland has no elevations that are over 5,700 feet. The continental climate of South Korea is hot and humid in summer, and cold and dry in winter. The countrywide average monthly temperature is 23° F in January and 79° F in August, although the temperature can go as low as -12° F in the winter and as high as 99° F in the summer. The annual rainfall varies from about 40 to 55 inches. Most of the rain occurs in the summer during monsoon season (July and August). Late summer typhoons occasionally cause heavy showers and storms along the southern coast.

KOREA RISK ASSESSMENT

Based on a combination of all major infectious (contagious) diseases that occur in a country, an [overall country risk level](#) is assigned. Countries can be rated as low, intermediate, high, or highest risk. North and South Korea are INTERMEDIATE 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 that contains raw sewage or runoff containing fecal matter. In addition, there are short-term health risks that result from cold winter weather. Environmental contamination also may present short- and long-term health risks to personnel deployed to the Korean Peninsula. The greatest long-term health risks are associated with water contaminated with industrial waste and air pollution in industrial areas.

This guide discusses specific disease and environmental risks and ways to eliminate or lessen those risks.

DISEASES OF GREATEST RISK

- [Bacterial diarrhea](#) (travelers' diarrhea) is a food- or water-borne disease. It is contracted when you eat food or drink water, ice or milk contaminated with the disease. The risk of contracting bacterial diarrhea occurs year-round. All water and food not approved by the U.S. military should be considered contaminated.
- [Hantavirus hemorrhagic fever with renal syndrome](#) (Korean hemorrhagic fever) is a disease that is spread in poorly ventilated, rodent-infested areas. It is contracted when you breathe in dust that contains infected rodent urine, feces or saliva, or when contact is made with broken skin. It occurs year-round and in all areas. An increased threat occurs during the harvest season of October through December when rodents are more likely to be in closer contact with people.
- [Hepatitis A](#) is a food- or water-borne disease that can make you sick for a month or more. This disease is contracted when you eat food or drink water, ice or milk contaminated with the disease. The risk of contracting hepatitis occurs year-round. Receiving the hepatitis A vaccine can eliminate the risk of contracting hepatitis A.
- [Malaria](#) is the major vector-borne (insect-borne) disease on the Korean Peninsula. It is transmitted through the bite of a mosquito that is carrying the disease. The greatest risk for personnel is within 20 kilometers of the demilitarized zone (DMZ). This disease threat occurs June through October.
- [Typhoid/paratyphoid fever](#) is a food- or water-borne disease. It is contracted when you eat food or drink water, ice or milk contaminated with the disease. The risk of contracting typhoid/paratyphoid fever occurs year-round and in all areas of the country. All water and food not approved by the U.S. military should be considered contaminated.
- Information pertaining to how to prevent these and other diseases can be found under each disease category.

VECTOR-BORNE DISEASES

DISEASE RISKS

In addition to malaria, other vector-borne diseases of lesser risk do exist. These include [Japanese encephalitis](#) from mosquitoes; [Lyme disease](#) from ticks; [murine \(flea-borne\) typhus](#) from fleas; and [mite-borne \(scrub\) typhus](#) from mites. Vector-borne diseases are a greater threat from May to October than at other times of the year. There may be other diseases spread by various insects and ticks. 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

- You **MUST** take your malaria prevention pills when directed to do so. This is **CRITICAL**. Normally, you will take medication before 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 N-diethyl-meta-toluamide (DEET) on exposed skin.
- [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

DISEASE RISKS

In addition to bacterial diarrhea, hepatitis A and typhoid/paratyphoid fever, other food-borne diseases of lesser risk do exist. These include [brucellosis](#), [cholera](#), [hepatitis E](#), [protozoal diarrhea](#) and [neurotoxic and paralytic shellfish poisoning](#). All are associated with contaminated food, water, and ice. Sanitation varies with location, but is typically well below U.S. standards. In addition, there is a risk of contracting [leptospirosis](#) from swimming or wading in contaminated water.

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 beverages (including bottled water) that have not been approved by the U.S. military as they 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.

To help prevent contracting leptospirosis, do not swim or wade in water that has not been treated with chlorine. If you must be exposed to non-chlorinated water, wear protective clothing and footwear.

HAZARDOUS ANIMALS AND PLANTS

RISKS

- Cattle, sheep, and goats are the primary carriers of [Q fever](#), but Q fever can be found in a wide variety of other animals, including other breeds of livestock and domesticated

pets. Organisms are excreted in milk, urine, feces and amniotic fluid of infected animals. Infection of humans usually occurs by inhalation of airborne barnyard dust that is contaminated with infected material.

- Contracting [rabies](#) is rare but it could occur. Cattle and stray dogs are the main source of rabies on the Korean Peninsula. You can be exposed to rabies through bites or, more rarely, when infected saliva contacts wounds or moist membranes, such as the nose or eyes.
- At least four species of venomous snakes, which are well camouflaged and have highly toxic venom, can be found on the Korean Peninsula.
- Spiders and scorpions of the region are capable of painful bites and stings that cause swelling, local tenderness, or necrotic lesions (dead tissue). The sting of one scorpion can be life-threatening.
- Some caterpillars in the region have spines that are poisonous. When crushed, some beetles emit body fluids that can produce blisters and temporary blindness.
- Some plants have thorns, stinging hairs, or toxic sap that may puncture the skin or introduce poison into the skin causing skin irritation, rashes or infections. Avoid skin contact with plants when possible.
- Some regional plants may cause systemic poisoning if leaves, berries, flowers, or other plant parts are chewed or swallowed. Some regional plants have fruits that resemble edible varieties, but contain dangerous compounds and are extremely poisonous if eaten. Poisonous milk may occur if cows eat white snakeroot, a plant commonly found in this region. Symptoms include dizziness, vomiting, irregular heartbeat, and delirium or hallucinations.
- Contact with the smoke from the burning of harmful plants can also cause skin rashes and damage to your lungs.

PREVENTION

- Do not make contact with animals.
- Consider any snake encountered as poisonous, and do not handle.
- Clean your clothing after contact with harmful plants.
- Shake out boots, bedding, and clothing prior to use, and never walk barefoot.
- Decontaminate clothing by washing with soap and water.
- If bitten or stung, seek medical attention immediately. (Only doctors can treat some stings or bites.)
- Always check dug-in fighting positions for potentially dangerous animals.

HOT AND COLD WEATHER INJURIES

Temperature extremes on the Korean Peninsula may have an impact on military operations. Heat is a medical threat for soldiers deployed to this region, especially during the early phase of deployment; acclimatization is critical. Cold injuries are also a threat. The effects of cold weather are more severe in high mountainous areas due to reduced oxygen and lower air pressure. When deploying to mountainous regions, check with your unit on the requirement for packing the extended cold weather clothing system. See [GTA 08-05-062](#) for appropriate countermeasures.

CONTAGIOUS AND SEXUALLY TRANSMITTED DISEASES

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. [Sexually transmitted diseases](#), such as [gonorrhea](#), [chlamydia](#), [human immunodeficiency virus \(HIV\)](#)/acquired immune deficiency syndrome ([AIDS](#)) and [hepatitis B](#), occur throughout the region. 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. Those deployed should see [GTA 08-05-062](#) for appropriate countermeasures and guidance regarding the hepatitis B vaccine. **Anyone deployed to the region should not have unprotected sex and should not share needles.**

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 in industrial facilities; accidental exposure to toxic waste; or improper handling or disposal of hazardous material with which our own forces deploy. Due to agriculture and industry, the environment in South Korea tends to be slightly more polluted than U.S. standards would permit. Because North Korea still burns coal for energy, the air tends to be very polluted. In addition, rivers and water sources have become contaminated. How much the environment will affect your health depends on many things. Consult your medical authority for additional information.

HIGH ELEVATIONS

High altitude illness is a significant threat in the mountainous areas. 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 and high elevation urban areas, watch for 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 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.

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 and never go barefoot. See [GTA 08-05-062](#) for additional countermeasure information.

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.



Prepared by:

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