

Medical Force Protection: South Korea



Medical Force Protection countermeasures required before, during and after deployment to the “area” are as follows: Significant health risks exist in certain areas of South Korea related to poor public health sanitation efforts in food, water, and infectious disease control. Consumption of unapproved food or water by U.S. personnel carries high risk of diarrhea.

Major Threats: In Order of Greatest Threats to Health

Food or Waterborne Diseases: Food and waterborne disease from fecal contamination (diarrhea, Hepatitis A/E, typhoid fever) is the greatest infectious threat to U.S. Personnel. Resistance to common anti-diarrheal antibiotics (TMP/SMX) is reported. Shigellosis outbreaks occurred in 1998 and 1999 in Taegu, Pusan, Cheju, and North Kyongsang Province. An average of 8 percent of the population suffered from chronic infection with *Cryptosporidium* in a 1992 study. Drink and eat only food and water approved by U.S. authorities.

Vector-Borne Diseases: Risk of malaria is variable, with primary endemicity along the western DMZ, mainly in northern areas of Kyungi Do Province. However, *Plasmodium vivax* infected mosquitoes were reportedly detected in Seoul in 1999. Highest risk is from June to October, peaking in August. Transmission is higher at this time due to *Anopheles* mosquito vectors breeding in standing water. The milder form of malaria, *P. vivax*, predominates. Malayan filariasis is a mosquito-borne disease, focally endemic, especially in Cheju-do Province, with microfilarial infection rates up to 30 percent, and in southern coastal provinces, where microfilarial infection rates up to 17 percent have been reported, including foci in the cities of Yongju, Kwangju, and Pusan. Other vector borne diseases occurring focally at low endemicity include, Japanese Encephalitis (vector *Culex* species), scrub typhus (mite borne), tick borne encephalitis, louse-borne typhus, and louse-borne relapsing fever.

Respiratory Diseases: Tuberculosis is endemic at low to moderate levels, with decreasing incidence and prevalence. Prevalence in 1995 was estimated at 81 cases per 100,000 population. In a 1995 nationwide survey, 6 percent of *Mycobacterium tuberculosis* isolates showed drug resistance. Resistance has been reported to the standard therapeutic agents. Hantaviral disease is low to moderately endemic. Transmission occurs from inhalation of aerosolized infected rodent excreta and saliva, usually in the form of dust. Great care must be exercised when working in dusty environments. Personnel should avoid unnecessary contact with soil, dust and rodents.

Sexually Transmitted Diseases: Syphilis is endemic at low levels. HIV is endemic, with the majority of HIV infections reportedly acquired through heterosexual transmission. A 1994 serosurvey of blood donors reported HIV seroprevalences of 1 percent. Hepatitis B, chlamydia, and gonorrhea are also endemic, with high levels of gonorrhea and non-gonococcal urethritis among prostitutes.

Other Diseases of Military Significance: Meningococcal meningitis is Endemic at low levels. Serogroup data are not available, but during the 1980s, areas of China bordering North Korea reported outbreaks caused by group A organisms; group B also likely occurs, based on regional data. Risk is year-round and countrywide, and may be elevated in the cooler months of October through April. Transmission is through direct contact, including respiratory droplets from noses and throats of infected persons. Anthrax is enzootic (persistent infection of animal populations) at low levels. Human cases officially were reported annually from 1992 through 1995 from the provinces of Kyongi-do and Kyongsang-pukto, associated with the consumption of infected beef. Additional animal related diseases (Brucellosis, Q Fever, Rabies, Leptospirosis), and other infectious diseases (Cholera, Intestinal Helminthic/worm infections, trematode infections, anisikiasis, echinostomiasis).

Environmental: Fecal and chemically contaminated ground and surface water, temperature extremes in certain areas, 70% of rainfall in summer months (primarily July/August), untreated industrial waste, heavy metal soil contamination in industrial areas, and air pollution.

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Requirements before Deployment

1. **Before Deploying report to Medical to:**
 - a. Ensure routine immunizations for deployable personnel are up to date: **MMR, Polio, Hepatitis A, Tetanus (Td), Typhoid, Influenza, Yellow fever and Meningococcal vaccines.**
 - b. If you have not been immunized against Hepatitis A (two dose series over 6 months) get an injection of Immunoglobulin with the initial Hepatitis A dose.
 - c. Personnel should receive **Japanese encephalitis vaccine.** Every attempt should be made to complete the 3 shot series (0, 7, and 30 days) series prior to deployment. A shorter series is available, but may not be as effective.
2. **Malaria Chemoprophylaxis: Begin if exposure anticipated. Recommended regimens follow:**
 - a. **Chloroquine (approved in flight status):** 500mg per week starting 2 weeks before entering risk area. Must continue until 4 weeks after leaving risk area.
 - b. **Mefloquine (Alternative prophylaxis, Non-aviators only):** 250 mg per week starting 2 weeks before entering risk area. Must continue until 4 weeks after leaving risk area.
 - c. **Doxycycline (Alternative Prophylaxis, approved in flight status):** 100 mg per day starting 2 weeks before entering risk area. Must continue until 4 weeks after leaving risk area.
 - d. **Post Exposure Prophylaxis:** The most common type of malaria in South Korea is Plasmodium vivax, a relapsing form. To prevent this, **Primaquine** is begun at 15 mg per day starting on the day leaving the risk area and is continued for 14 days. It is taken with either the Mefloquine or Doxycycline regimens noted above. (Alternate dosages of Primaquine are recommended for G-6-PD deficient personnel.)
3. **HIV, PPD (Tuberculin Skin Test), G-6-PD testing** should be up to date.
4. **Obtain Adequate Personal Protective Supplies:** DEET anti-arthropod skin lotion must be issued and used by all personnel. Permethrin treatment is highly recommended for all field uniforms and bednets. Sunscreen, lip balm, and hearing protection should be used as needed.
5. **Complete pre-deployment health assessment (DD Form 2795)*.** Form can be downloaded from the website: http://amsa.army.mil/deploy_surv/Dsurv_Forms.htm

Requirements during Deployment

1. Deploy appropriate Preventive Medicine personnel and equipment.
2. Provide or obtain US-approved source safe food, water, and ice. Avoid local food, water, and ice. Drink only carbonated beverages and avoid drinks with ice. **“Boil it, cook it, peel it, or forget it”.** Never eat undercooked ground beef and poultry, raw eggs, and unpasteurized dairy products.
3. Perform environmental hazard assessments as needed.
4. Operate messing facilities in accordance with service directives. Ensure hand-washing facilities near messing facilities.
5. Operate latrine facilities in accordance with service directives. Ensure hand-washing facilities near latrine facilities.
6. Enforce hand-washing often with soap and water.
7. Ensure proper removal of garbage and solid waste. Eliminate food/waste sources that attract pests to living areas.
8. Enforce chemoprophylaxis. Command supervision necessary to ensure accountability for anti-malarial medications.
9. Enforce personnel protective measures (DEET, Permethrin treated uniforms, Bed nets). Use DEET and other personal protective measures against insects and other arthropod-borne diseases. Personal protective measures include but are not limited to proper wear of uniform and daily “buddy checks” in tick and mite infested areas.

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10. Perform vector surveillance and control as needed, particularly during rainy months when mosquito vectors breed.
11. Always use latex condoms to reduce the risk of HIV and other sexually transmitted diseases.
12. Don't eat or drink dairy products unless you know they have been pasteurized.
13. Don't share needles with anyone.
14. Avoid contact with animals and hazardous plants.
15. Avoid contact with lakes, rivers, streams, and other surface water.
16. Conduct DNBI surveillance per CINC and Joint Staff directives.
17. Minimize non-battle injuries by ensuring safety measures are followed. Precautions include hearing and eye protection, enough water consumption, suitable work/rest cycles, stress management and acclimatization to environment.
18. Because motor vehicle crashes are a leading cause of injury among travelers, walk and drive defensively. Avoid travel at night if possible and always use seat belts.

Requirements after Deployment

1. **Complete post-deployment health assessment (DD Form 2796) per CINC or Joint Staff directives***. Form can be downloaded from the website: http://amsa.army.mil/deploy_surv/Dsurv_Forms.htm
2. Supervise and enforce post-exposure malaria chemoprophylaxis if applicable.
3. Receive preventive medicine debriefing after deployment.
4. Seek medical care immediately if ill, especially with fever.
5. Get HIV and PPD testing as required by your medical department or Task Force Surgeon.

* Mail completed original copy of DD 2795 and 2796 to:

Army Medical Surveillance Activity
Building T-20, Room 213 (Attn: Deployment Surveillance)
6900 Georgia Ave, N.W.
Washington D.C. 20307-5001

For more information on pre and post-deployment health assessment forms please contact:

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