Travel Health Insurance
As a traveler you must ensure that you are familiar with your health insurance coverage while abroad. You must determine whether coverage applies to pre-existing medical conditions, to conditions acquired during travel, to hospitalizations, or to medical evacuation from abroad. It is recommended that you contact your current insurance carrier for information and documentation. You may wish to purchase travelers insurance to cover such conditions if your current insurance plan does not meet your needs. For information regarding purchasing travelers insurance you may visit the web site www.travel.state.gov. This web site also provides information on acquiring passports, visas and special documents for your destinations. Furthermore, you may search for local physicians for medical care at the International Association for Medical Assistance to Travelers web site www.IAMAT.org. Again, you must check with your insurance provider as to coverage and if any limitations apply.

Medical Kit
All travelers are encouraged to carry a travel kit which allows you to have supplies and medications readily accessible during your trip. The amount of supplies needed for such a kit will depend on various factors such as travel expertise, location and conditions of destination, duration of stay, pre-existing illnesses and availability of medical care if needed. Because diarrhea and cold symptoms are the most common complaints during travel, it is advisable to include items such as a thermometer, loperamide (Imodium), antacid, Bismuth subsaliclyate (Pepto Bismol tablets), analgesics (acetaminophen/non-steroidal anti-inflammatory), decongestants (psuedoephedrine), antihistamines (diphenhydramine), and cough suppressant/expectorant. In addition, items such as sunscreen, antifungal cream, and cortisone cream will be useful as skin problems are also common from insect bites, sun exposure, and skin allergens. Injuries although common are usually minor such as blisters, cuts, abrasions or bruises. Items to assist with the self treatment of these conditions include bandages and adhesives, scissors, splints, ace bandage, and duoderm or mole skin for blister care.

Another factor to consider when preparing your kit is the endemic diseases found in the area of destination. Anti-malarial medication and insect repellent are a must to malaria endemic areas. Visit the following web sites for detailed information about recommendations for your destination, www.cdc.gov/travel and www.mdtravelhealth.com.

If you have pre-existing conditions you must ensure that usual medications are sufficient for your trip and that your supply is adequate. If you have chronic medical conditions you may notice exacerbation of your conditions while traveling. For instance, if you have asthma you must ensure that you have a supply of a bronchodilator (Albuterol) in case of an exacerbation. If you suffer from severe allergic reactions to certain foods or animal bites you must carry an Epinephrine injection in case of anaphylaxis. In addition, if your destination is to remote areas in developing countries where blood supply and medical access are questionable you should consider carrying needles and syringes to ensure that sterile equipment is utilized.

For most travelers purchasing a kit is less expensive then assembling one. More information on travel kits is available at the www.adventuremedicakits.com web site.
Note: All travelers should carry original copies of their prescriptions if narcotics or injectable medications are included. A written letter from the prescribing clinician which indicates the medications and their purpose may also be utilized. Prescription medications and needles and syringes may be obtained through your travel clinician during your consultation.

**Accidents**

In travelers the major cause of serious disability or loss of life is not infection. Trauma caused by accidents, particularly automobile accidents, leads the list. Most vehicle accidents are preventable or can be abated. In developing areas, roads are generally not as well engineered as in developed areas, and road hazards are common. Defensive driving is the most important preventative measure. You should use safety belts when available. As a high proportion of accidents occur at night when returning from “social events,” avoid non-essential nighttime driving, alcohol, and driving with persons who are obviously under the influence of alcohol or drugs. Pedestrian travel is sometimes risky in poorly regulated traffic, common in developing countries.

Other major accidents include drowning, carbon monoxide poisoning, electric shocks, and drug reactions from exposure to dangerous drugs. Protection against some potentially hazardous drugs is nonexistent in some countries. Do not buy medications “over the counter” unless you are familiar with the product.

**Food and Water Precautions**

Contaminated food and beverages are common sources for the introduction of infection into the body. Among the more common infections that travelers may acquire from contaminated food and drinks are *Escherichia coli* (E. coli), *shigellosis*, *bacillary dysentery*, *giardiasis*, *cryptosporidiosis*, and hepatitis A. Other less common infectious disease risks for travelers include *typhoid fever* and other *salmonellosis*, *cholera*, infections caused by *rotavirus* and *Norwalk-like viruses*, and a variety of *protozoan* and *helminth* parasites (other than those that cause *giardiasis* and *cryptosporidiosis*). Many of the infectious diseases transmitted in food and water can also be acquired directly through the fecal-oral route.

**Water**

In areas where chlorinated tap water is not available, or where hygiene and sanitation are poor, travelers should be advised that only the following may be safe to drink:

1. Beverages, such as tea and coffee, made with boiling water.
2. Canned or bottled carbonated beverages, including carbonated, bottled soft drinks and canned or bottled juice.

Travelers should consider ice, and containers for drinking, contaminated if water itself may be contaminated in that region. Thus, in these areas ice should not be used in beverages. If ice has been in contact with containers used for drinking, the container should be thoroughly cleaned, preferably with soap and hot water, after the ice has been discarded.
It is safer to drink directly from a can or bottle than from a questionable container. However, water on the outside of cans or bottles of beverages might be contaminated. Therefore, wet cans or bottles should be dried before being opened, and surfaces which are contacted directly by the mouth in drinking should first be wiped clean. Where water may be contaminated, travelers should avoid brushing their teeth with tap water.

**Treatment of Water**
Boiling is by far the most reliable method to make water of uncertain purity safe for drinking. Water should be brought to a vigorous boil and allowed to cool to room temperature - do not add ice. At very high altitudes, for an extra margin of safety, boil for several minutes or use chemical disinfection.

Chemical disinfection with iodine is an alternative method of water treatment when it is not feasible to boil water. Two well-tested methods for disinfection with iodine are the use of tincture of iodine, and the use of tetracycline hydroperiodide tablets (Globaline, Potable Agua, Coghlan’s, etc). The tablets are available from pharmacies, sporting good stores and/or travel stores. The manufacturer’s instructions should be followed. There is a variety of potable filters currently on the market which according to the manufacturers’ data will provide safe drinking water. The CDC makes no recommendations regarding the use of any of these portable filters.

As a last resort, if no source of safe drinking water is available or can be obtained, tap water that is uncomfortably hot to touch is usually safe. After allowing such hot water to cool to room temperature in a thoroughly cleaned container, it may be used for brushing teeth, as well as drinking.

**Food**
To avoid illness, food should be selected with care. All raw food is subject to contamination. Particularly in areas where hygiene and sanitation are inadequate, the traveler should be advised to avoid salads, uncooked vegetables, unpasteurized milk and milk products such as cheese, and to eat only food that has been cooked and is still hot, or fruit that has been peeled by the traveler. Undercooked and raw meat, fish and shellfish may carry various intestinal pathogens. Food and beverages from street vendors should be avoided.

**Treatment of Travelers’ Diarrhea**

**Oral fluids**
Most cases of diarrhea are self limited and require only simple replacement of fluids and salts lost in diarrhea stools or vomiting. Fluid and electrolyte balance can be maintained by potable fruit juices, soft drinks (preferably caffeine-free), and salted crackers. Iced drinks and noncarbonated bottled fluids made from water of uncertain quality should be avoided. Dairy products aggravate diarrhea in some people and should be avoided. Travelers may prepare their own fruit juice from fresh fruit. Individuals with dehydration may require fluid and electrolyte replacement in the form of oral re-hydration solutions (ORS) such as those recommended by the World Health Organization (WHO). An ORS packet, available at stores and pharmacies in almost all developing countries, should be added to boiled or treated
water, according to the packet instructions, and consumed or discarded within 12 hours if held at room temperature, or 24 hours if held refrigerated.

**Diet and Travelers’ Diarrhea**
Let your stools dictate your diet. If stools are watery, stick to a liquid diet. If stools are soft, eat semi-solid foods. When stools return to normal, resume a regular diet.

**Medications**
When traveling to a developing country, consider carrying a thermometer. Loperamide (Imodium AD - an over the counter anti-motility agent) and an antibiotic prescribed by your clinician (e.g. Ciprofloxacin, Zithromax). In case of severe diarrhea (3 or more loose stools in an 8 hour period or one loose stool accompanied by abdominal pain or blood), take your temperature:

1. If there is not an increase in your temperature, take the antibiotic and the Loperamide.
2. If you have a fever, take the antibiotic only. In case there is no prompt improvement, seek medical assistance.

(Loperamide is contraindicated in cases where fever accompanies travelers’ diarrhea. The reason: fever may be due to organisms which are more likely to invade the intestinal lining. Imodium slows intestinal motility. This may give the organism a better chance to invade the lining and prolong diarrhea).

**Schistosomiasis**
Schistosomiasis is a parasitic infection found in travelers to Africa and occasionally Asia and South America. It is found in contaminated fresh waters in these areas. Travelers are advised to avoid swimming, bathing or wading in fresh bodies of water such as streams, ponds, rivers, lakes where this parasite may be found. Salt and chlorinated waters are thought to be free of this parasite. Toweling oneself dry after unavoidable contact with these waters decreases the risk of infection with this parasite. For more detailed information, visit the CDC website at www.CDC.gov/travel/diseases.

**Leptospirosis**
Leptospirosis is an infectious disease that is primary contracted through contact with contaminated soil or surface water in tropical areas. Activities such as kayaking, canoeing, rafting, scuba diving, jungle trekking, and swimming in jungle rivers have been associated with higher risk for this infection. Measures to minimize risk is to avoid potentially contaminated soil and water and in some cases using an antibiotic as prophylaxis. Toweling oneself dry after unavoidable contact with these waters decreases the risk of infection. Protective clothing and footwear should be worn and submersion in and drinking of surface water should be avoided. For more detailed information, visit the CDC website at www.CDC.gov/travel/diseases.
Animal-associated Hazards
Animals in general tend to avoid humans beings, but they can attack, particularly if they are with their young. In areas of endemic rabies, domestic dogs, cats, or other animals should not be petted or fed. Wild animals should be avoided. Rabies vaccine might be recommended in certain countries for long term travelers or certain occupations or activities (missionaries, those en route with bikes, in those working with animals, or in those who explore caves). For more detailed information, visit the CDC website at www.CDC.gov/travel/diseases.

Sexually Transmitted Diseases
International travelers are at risk of contracting sexually transmitted infections (STIs) including human immunodeficiency virus (HIV, the cause of AIDS) if they choose sexual partners who have these diseases. Travelers should be aware that the risk of STIs is high in some areas of the world. AIDS has become a global health problem and the prevalence of HIV infection in many populations continues to escalate. Also of concern are the antibiotic-resistant STI agents, particularly penicillin-, tetracycline-and quinolone-resistant strains of Nesseria gonorrhea.

To avoid the risk of acquiring an STI, travelers should not have sexual contact with persons who may be infected. Persons most likely to be infected are those with many sex partners, such as prostitutes and others who have anonymous partners. In many areas, persons who make themselves available for sex with travelers are likely to be persons with many partners. In addition, persons who use intravenous drugs are at high risk of being infected with HIV, regardless of their number of sex partners.

Persons choosing to have sexual contact may reduce their risk of acquiring infections if they avoid anal intercourse and ensure that a latex condom is always used during any genital contact. Some unproven strategies for reducing the risk of STI transmission during sexual contact include: (1) using vaginal spermicides, (2) washing the genitals before and after intercourse; and (3) mutual genital inspection prior to contemplated sexual contact with avoidance of contact if signs of an STI are noted in either partner.

Persons with possible exposure to an STI should promptly seek competent medical examination and treatment if they develop vaginal or urethral discharge, unexplained rash or genital lesion, or genital or pelvic pain. Since STIs are often asymptomatic, especially in women, persons with possible exposure should consult their clinician regarding the advisability of screening for STIs.

Recommendation for prevention of HIV infection
HIV infection is preventable. HIV is transmitted through sexual intercourse, needle sharing, by blood or blood components, and perinatally from an infected mother. HIV is not transmitted through casual contact; air, food, or water routes; contact with inanimate objects; or through mosquitoes or other arthropod vectors. The use of any public conveyance (e.g., airplane, automobile, boat, bus, train) by persons with AIDS or HIV infection does not pose a risk of infection for other passengers.

Travelers are at risk if they:
• Have sexual intercourse (homosexual or heterosexual) with an infected person;
• Use or allow the use of contaminated, un-sterilized syringes or needles for any injections or other skin-piercing procedures including acupuncture, use of illicit drugs, steroid injections, medical/dental procedures, ear piercing, or tattooing;
• Use infected blood, blood components, or clotting factor concentrates. HIV infection by this route is a rare occurrence in those countries or cities where donated blood/plasma is screened for HIV antibody.

In less-developed nations, there may not be a formal program for testing blood or biological products for antibody to HIV. In these countries, use of locally-produced blood clotting factor concentrates should be avoided (when medically prudent). If transfusion is necessary, the blood should be tested if at all possible for HIV antibodies by appropriately trained laboratory technicians using a reliable test. Needles used to draw blood or administer injections should be sterile, preferably of the single-use disposable type, and prepackaged in a sealed container. Insulin-dependent diabetics or other persons who require routine or frequent injections should carry a supply of syringes and needles sufficient to last their entire stay abroad.

**Post-exposure prophylaxis**
A traveler who has had contact with blood or bodily fluids of another individual should consider post-exposure prophylaxis (PEP) with antiretroviral medications. It should be started as soon after exposure as possible and within 72 hours. Examples of high risk contacts include travelers who are sexually assaulted or health care workers with accidental needle sticks. The travelers should receive medical evaluation as soon as possible and baseline blood testing (e.g. HIV, hepatitis C and B, Syphilis) should be done immediately, and repeated at 6 weeks, 12 weeks, and 6 months. Current guidelines recommend antiviral drugs be used for at least 4 weeks after exposure. Discuss with your travel clinician current recommendations for self administered antiretroviral medications in case high risk contact occurs. For example a health care worker or volunteer providing care to HIV patients in rural areas may choose to obtain a prescription for an antiviral regimen in case a high risk contact occurs while carrying for these patients. For further information and resources visit the www.aidsinfo.nih.gov web site.

**Insect Borne illnesses**

**Personal protection measures/Avoiding mosquitoes and other anthropods**
• Avoidance is the main factor. Many insects are active at dusk and thus remaining indoors at night is best. Stay in air-conditioned or well screened housing, and/or sleep under an insecticide treated bed net.
• Wearing long-sleeved shirts, socks, full length pants and a hat will protect most skin surface.
• Tucking pant legs into socks or boots.
• Apply insect repellent to exposed skin, clothing, mesh insect nets or shelters, window screen, tents, or sleeping bags. This is the most effective and easiest way to protect
against bites. The CDC recommends repellent products that contain either 20-35% DEET (N, N-diethyl-m-toluamide) or Picaridin (Bayrepel). They may be available in lotion, towelette, gel, solid stick, and spray forms. Higher concentrations of active ingredient(s) provide longer duration of protection. Products with sustained release or controlled release formulations may provide longer protection time. However, concentrations above 50% do not confer more protection. Picaridin is odorless, not greasy or oily. The 20% Picaridin is as effective as DEET at the same concentration and the 7% Picaridin is as effective as 10% DEET. Picaridin is less likely to cause skin irritation.

- Use a mosquito net over the bed if your bedroom is not air conditioned or screened. For additional protection, treat the mosquito net with the insecticide permethrin.
- Spray an insecticide, permethrin (Permanone, Duranon), on clothing or to fabrics as mosquitoes may bite through thin clothing. Do not apply to skin.
- Spray permethrin or a similar insecticide in your bedroom before going to bed.
- If using sunscreen, apply sunscreen first and then repellent.

Note: **Vitamin B and ultrasound devices do not prevent mosquito bites.**

**Malaria**

Malaria in humans is caused by one of four protozoan species of the genus *Plasmodium*: *P. falciparum*, *P. vivax*, *P. ovale*, and *P. malariae*. All are transmitted when an infected female Anopheles mosquito bites and injects malaria parasites into humans. Occasionally transmission occurs by blood transfusion or congenitally from mother to baby. The disease is characterized by fever and flu-like symptoms including chills, headaches, myalgias, and malaise, which may occur at intervals. Malaria may be associated with anemia and jaundice, and *P. falciparum* infections may cause kidney failure, coma, and death. Deaths due to malaria are preventable.

Information on malaria risk in specific countries is derived from various sources including the World Health Organization (WHO) and the Center for Disease Control (CDC). While this is the most accurate information available at the time of publication, factors which can vary from year to year, such as local weather conditions, mosquito vector density and prevalence of infection can have a marked effect on local malaria transmission patterns.

**General advice for travelers to malaria-endemic areas**

All travelers to malarious areas of the world are advised to use appropriate drug regimen and personal protection measures to prevent malaria; however, regardless of methods employed, malaria may still be contracted. Malaria symptoms can develop as early as 8 days after initial exposure in a malaria-endemic area and as late as several months after departure from a malarious area, after chemoprophylaxis has been terminated. Travelers should understand that malaria can be treated effectively in the course of the disease, but that delay of appropriate therapy can have serious or even fatal consequences. Individuals who have symptoms of malaria should seek prompt medical evaluation, including thick and thin blood smears, as soon as possible.
**Chemoprophylaxis**
In choosing an appropriate chemoprophylaxis regimen before travel, persons should consider several factors. The travel itinerary should be reviewed in detail and compared with the information on areas of risk within a given country to determine whether the traveler will actually be at risk of acquiring malaria. It should also be determined whether the traveler will be at risk of acquiring chloroquine-resistant *P. falciparum* malaria. In addition, it should be established whether the traveler has previously experienced an allergic or other reaction to the antimalarial drug of choice and whether medical care will be readily accessible during travel.

Malaria chemoprophylaxis should begin several days or weeks before travel to malarious areas (depending on antimalaria medication used). In addition to assuring adequate blood levels of the drug, this allows any potential side effects to be evaluated and treated by the traveler’s clinician before departure. Chemoprophylaxis should continue during travel in the malarious areas (and depending on the antimalaria medication) for days to weeks after leaving the malarious areas.

**In case of illness**
Symptoms of malaria may be mild, and you should suspect malaria if you experience unexplained fever or other symptoms such as persistent headaches, muscular aching and weakness, vomiting or diarrhea.

Malaria may be fatal if treatment is delayed. Medical help should be sought promptly if malaria is suspected, and a blood sample should be taken and examined for malaria parasites on one or more occasions.

Self-treatment should be taken only if prompt medical care is not available. Medical advice should still be sought as soon as possible after self-treatment.

**Special categories**
Pregnant women and young children require attention because they cannot use some drugs (e.g. doxycycline). Concurrent use of other drugs, e.g. beta-blockers, may be a contraindication for use of mefloquine.

**Drugs recommended for prevention of malaria in travelers**
Strict adherence to the recommended doses and schedules of the antimalarial drug selected is necessary for effective protection.

- Take tablets on the same day each week for once a week medication and at the same time each day for daily pills.
- Take tablets with meals.
- Take the recommended doses as directed including the period instructed after leaving the malarious area.
- Do not stop taking the tablets after arriving home; it is essential to complete the full course.
**Trypanosomiasis/Tumbu fly larva infections.**

Trypanosomiasis infection is transmitted via the tsetse fly found primarily in game parks of East, Central and South Africa. It is also found in South America where it is called Chagas’ disease. Precautions include wearing long shirts and trousers, keeping vehicle windows rolled up, by using insect repellents. Using bed netting permeated with insect spray when sleeping in rural areas will also decrease transmission.

Tumbu fly larva infection occurs in tropical Africa. It occurs when the fly deposits eggs on clothing or bathing suits dried outdoors. The larvae hatch and then penetrate the skin when the garment comes in contact with the skin. It is prevented by ironing clothes dried outdoors.

**Dengue Fever**

Primarily found in urban areas Dengue fever or breakbone fever affects travelers to Southeast Asia and Latin America and less frequently in Africa. It is transmitted via the Aedes aegypti mosquito. Symptoms include fever, headache, body aches and at times a rash. The more serious form of Dengue fever which is hemorrhagic fever occurs in people who are exposed with a second dengue infection. Preventative measures involve insect repellent/insecticide use and mosquito avoidance.

**References**

www.CDC.gov/travel
www.travel.state.gov.
www.IAMAT.org
www.adventuremedicalkits.com
www.aidsinfo.nih.gov
Recommendations BEFORE Traveling

You will need to the following supplies for your travel:
- Water disinfecting tablets
- Plastic water bottles
- DEET-containing insect repellant
- Mosquito net
- Permanone
- Imodium AD
- First aid kit supplies
- Extra pair of glasses
- Antihistamine

You will need the following vaccinations/prescriptions for your travel:
- Tetanus/Diphtheria vaccine
- Tdap vaccine
- Polio adult booster
- MMR vaccine (Measles, Mumps, Rubella)
- Varicella vaccine (0, 4-8 weeks)
- Hepatitis B vaccine (0, 1 mo, 6 mo) OR (0, 7d, 21-28d, & 12 mo)
- Hepatitis A vaccine (0, 6-12 mo)
- Twinrix vaccine (0, 1mo, 6mo) OR (0, 7d, 21-28d, & 12mo)
- Typhoid injectable
- Typhoid oral vaccine
- Rabies vaccine (0, 7d, 21d or 28d)
- Yellow Fever vaccine
- Menactra
- Pneumovax
- Flu
- Pre-PPD (TBST)
- Post-PPD (TBST)
- Other ________________________________
- Malaria pills (Chloroquine, Mefloquine, Doxycycline, Malarone)
- Antibiotic for Diarrhea

You will need the following blood tests to check for immunity:
- Hep B Surface Antibody
- Rubella
- Measles
- Mumps
- Varicella
- Hep A Antibody Total

Other clinician recommendations: