

Guide to Healthy Travel

2016 Edition



IAMAT



IAMAT

International
Association for
Medical Assistance
to Travelers

► About us

IAMAT's mission is to make the world a healthier place to travel. We protect and improve the well-being of travelers with up-to-date health information and our international network of English-speaking doctors and mental health practitioners committed to helping our members. Our travel medicine scholarships improve lives by enhancing healthcare standards in clinics and hospitals abroad.

Our vision is to work towards a world where travelers have access to quality medical care no matter who or where they are.

Our focus is on prevention. We believe in being well informed about potential health risks during travel. We also believe that trusted and affordable medical assistance should be accessible to all travelers.

We are a registered charity in the USA and Canada and our work is made possible through the generous donations from our members. This allows us to provide impartial information and recruit qualified healthcare practitioners around the world without compromising medical ethics.

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Why we wrote this guide

Welcome to the 2016 edition of the IAMAT Guide to Healthy Travel!

We are delighted to share our collective expertise from IAMAT staff and consulting clinicians regarding preparation for travel and treatment of common health concerns. We wrote this guide to teach you the basic steps for a healthy trip — before, during, and after your journey abroad.

The information in this guide is based on clinical experience and up-to-date medical research. Please note that medicine is an ever-changing field: Prior to travel, check drug information regarding recommended dosage, side effects, expiration dates, drug interactions and contraindications. We provide both generic and brand

names for product identification, however, this does not constitute an endorsement.

The travel health recommendations in this guide are intended as guidelines only. Advice for travel-related health concerns should be based on a careful assessment of your health history, age, destinations, itinerary, type of travel, and length of stay. The information provided is meant to complement, not substitute, the advice of your healthcare provider. To ensure that all your travel health needs are covered, seek further assistance from your doctor or travel health practitioner.

We wish you a great travel experience!

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Planning for healthy travel

Planning for a healthy trip will optimize your travel experience — you can focus on the sights and activities instead of a health problem brought on by illness or the challenges of an unfamiliar environment. For the purpose of planning healthy travel, we divide international travelers into three groups:

- Traditional travelers
- Adventure travelers
- Travelers visiting friends and relatives

The type of traveler you are, the geographic location, the itinerary, and the duration of your trip, all determine how far in advance you need to begin pre-travel preparations. In general, the more remote your destination, the more

rustic the accommodations, the more tropical the climate, and the longer the trip, the more time you will need for pre-trip preparations.

Traditional travelers include tourists and business travelers who stay in large cities or well-developed resort areas where the amenities are similar to those available at home. Travelers in this category may include persons traveling independently or in an organized group. Although hotel or resort accommodations may be luxurious on the surface, hidden health risks may be present in the form of unsanitary food handlers, untreated tap water, disease-carrying insects, intense sun, and exposure to local environmental and road conditions during side trips to the countryside. Traditional travelers may benefit from immunization against Hepatitis A and viral influenza, and may wish advice on managing traveler's diarrhea and preventing infections transmitted by insects.

Adventure travelers include recreational sports enthusiasts who go great distances to enjoy unique locales where they can participate in their favorite sporting activity such as kayaking, river rafting, scuba diving, surfing, fishing, bird watching, hiking, climbing, bicycling or skiing. In preparation for these trips, it is essential to consider the technical needs of these activities and how far removed from medical care you will be.

Adventure travelers also explore wilderness destinations, remote villages and cultural sites. Often, these travelers seek out contact with residents of destination countries and are likely to be exposed to illnesses and conditions which require special immunizations and health advice. They often sleep in the wilderness, encounter challenging terrain and need to pay extra attention to selecting gear, equipment and provisions.

If you are traveling by foot or using local transportation extensively, the total bulk, weight, and portability of the packed baggage are important factors during planning. Travelers in this category are often far from comprehensive medical care and will likely provide their own first aid in the event of illness or injury. Adventure travelers should consider taking educational courses on injury prevention, advanced first aid, equipment repair and emergency rescue techniques during the pre-travel period. Fitness and endurance training programs are also advised months in advance.

Travelers visiting friends and relatives (VFR)

generally travel from a developed country to a less developed one to visit friends or relatives where risks like infectious diseases, road-related injuries, and access to the usual standard of medical care are a concern. They are more likely to make last-minute travel plans, stay for longer periods, and stay in homes rather than tourist accommodations. These travelers may believe that they are immune to infectious diseases at their destination, and are less likely to seek advice from a doctor or travel health practitioner before a trip. They may not perceive an activity as risky because it is the local norm; for example riding a motorcycle without a helmet, drinking untreated tap water, or not taking antimalarial medications.

If you are visiting friends and family, you are at higher risk of returning home with preventable infectious diseases such as Typhoid Fever, Hepatitis A, Malaria, and Tuberculosis. In general, VFR travelers need advice on vaccine-preventable diseases, food and water safety, Malaria prevention, insect and animal bite prevention, treatment for traveler's diarrhea, and road safety.

Many VFR travelers also bring young children and infants to introduce them to extended family members, but they may be too young to be vaccinated against certain illnesses. These travelers may benefit from seeking professional advice on possible acceleration of some pediatric vaccinations and other means to stay healthy abroad.

Before travel: When to seek advice from a healthcare provider

Consult a physician or travel health professional, especially for the following trips and needs:

- **Travel lasting more than one month:** Prolonged stays abroad increase the chances of experiencing an illness and may require the services of unfamiliar healthcare providers.
- **Travel to multiple destinations:** Each destination may have its own requirements for entry, especially if you are on a work or study assignment. Check if you need special vaccines, blood tests and other health certifications for entry.

- **Travel to Malaria risk areas:** *P. falciparum* and *P. vivax* Malaria parasites continue to develop resistance to some antimalarial drugs used for prevention. If you are going to an area with risk of Malaria, get advice on the most suitable antimalarial drugs for your destination and planned activities.
- **Travel to less developed countries:** Lack of adequate sanitation services in some areas may increase the risk of infectious diseases.
- **Travel to remote and wilderness environments:** Natural terrain and climate conditions may be associated with an increased risk of injury. Plan ahead to get detailed information, learn advanced first aid skills, pack an expedition medical kit, and make emergency medical evacuation plans.
- **Travelers with special health needs** should seek counseling from a physician or travel medicine specialist before making the final decision to travel abroad. Special health needs may include allergies to vaccines, medications or foods; pregnancy; travel with infants and children; insulin-dependent diabetes; cardiovascular disease; bleeding disorders; seizure disorders; depression, anxiety, and other mental health concerns; compromised immune status; HIV infection; cancer; organ transplant; cardiac pacemaker; and dialysis-dependent renal disease.

Travel clinics provide vaccines and personalized medical advice based on geographic destinations and planned travel activities. Travel medicine clinicians can help determine your need for immunization against vaccine preventable diseases such as Yellow Fever, Hepatitis A, Hepatitis B, Typhoid Fever, Cholera, Meningococcal

Meningitis, Rabies, Japanese Encephalitis, and Tick-Borne Encephalitis.

In addition, they can review your status for routine immunizations such as Tetanus, Diphtheria, Pertussis, Polio, Measles, Mumps, Rubella, Varicella (chickenpox), Zoster (shingles), Pneumococcal Pneumonia, Viral Influenza, and indicate if booster doses are needed. Screening for Tuberculosis exposure is recommended for certain travelers going on prolonged trips or working in the healthcare field as medical volunteers.

Travel clinics also have detailed and up-to-date information on Malaria, traveler's diarrhea, parasites, and other diseases transmitted by human, insect or animal contact. They can provide information on known environmental health hazards, water disinfection methods, insect repellents, and other tips on how to maintain your health while traveling. Some travel clinics can address the special needs of group trips, expeditions, cruise travel, student travel as well as 'voluntourism', and travelers on work assignments.



During travel: Reasons to seek medical care

Seek medical care if you experience:

- **Fever greater than 102°F / 38.9°C** with any of the following symptoms: Chills, headache, stiff neck, abdominal pain, bone and joint pain, skin rash, yellow skin or eyes, or bloody diarrhea. In addition to Malaria, these symptoms may indicate other serious illnesses such as Meningitis, Dengue, Typhoid Fever, Hepatitis, Leptospirosis, or severe diarrhea.
- **Difficulty breathing** and/or numbness and tingling of the extremities and around the mouth following the ingestion of mussels, clams, and other shellfish, or after eating tropical reef fish such as red snapper, grouper, or barracuda. These symptoms occur in seafood poisoning.

- **Animal bites** from dogs, monkeys, bats and other potentially rabid animals. Clean the bite wound thoroughly with soap and water. Seek medical care as soon as possible to assess the need for post-exposure Rabies treatment and further wound cleansing, as well as removal of damaged skin and tissue. Animal bites should be immediately reported to the local public health authorities in order to get updated information about the regional risks of Rabies.
- **Injuries due to motor vehicle accidents and trauma**, including falling, tripping, slipping or near-drowning.

Potential challenges to getting safe healthcare abroad include lack of access to knowledgeable medical practitioners, language barriers, medications and equipment that are different from those available at home, needles and syringes that may not be sterile, varying blood banking practices, and different cultural attitudes towards wellness and illness. For listings of reputable English-speaking doctors, see IAMAT's **Medical Directory** available in print and online. You can also contact the consulate or embassy of your destination country to get medical contacts, although the listings are not vetted by consular staff.

After travel: When to see a healthcare provider

Seek medical care if you experience:

- **Fever greater than 102°F / 38.9°C** with any of the following symptoms: Chills, headache, stiff neck, abdominal pain, bone and joint pain, skin rash, yellow skin or eyes, or bloody diarrhea.

▶ Important

Even when medications to prevent Malaria are taken as prescribed, a Malaria attack can occur weeks to months after return. Some healthcare providers are unfamiliar with the initial flu-like clinical presentation and diagnosis of Malaria. If you have returned from a malarious area and have a fever, make sure to inform your practitioner of your trip and request tests to rule out Malaria.

- **Diarrhea and digestive symptoms** that last for more than a week after return.
- **Worsening upper respiratory infection symptoms** such as persistent cough, shortness of breath, or swollen glands.
- **Unresolved skin rashes, lesions or blisters** that enlarge or become painful.
- **Report animal bites or scratches** to your doctor or travel medicine consultant – even if medical care was received abroad – in case further treatment is recommended.

Countdown to a healthy trip

▶ 6-8 MONTHS PRIOR TO DEPARTURE

Health education	Research or consult a healthcare provider regarding travel health advisories for your destination. Enroll in classes for basic and advanced first aid and/or wilderness survival.
Vaccination	Check to ensure that all your routine immunizations are up-to-date.
Fitness training	Begin exercise and endurance training if strenuous physical activities are planned for your trip.
Cultural awareness	Begin to research the people, cultures, religions, regional geography, social mores, and languages of your destination country.

▶ 3 MONTHS PRIOR TO DEPARTURE

Passport and travel documents	Ensure that your passport is up-to-date. Application for a foreign visa may require submitting a copy of your airfare and a passport that is valid for at least 6 months after the date of entry.
Medical exams for visas and permits	A physical exam, laboratory tests, a chest x-ray, and special assessments may be required by some countries for extended stays, including work, school, and climbing permits.
Travel health insurance	Check into insurance coverage requirements for overseas medical care and membership with emergency medical evacuation companies. See IAMAT's Guide to Travel Health Insurance .
Special needs	Begin to make arrangements for special health needs abroad such as oxygen equipment, laboratory tests, and dialysis.

▶ 2-3 MONTHS PRIOR TO DEPARTURE

Vaccines	Consult your healthcare practitioner to determine if you need any travel-related vaccines such as Yellow Fever, Hepatitis A, Typhoid Fever, Meningococcal Meningitis, Rabies, Japanese Encephalitis, or Polio. Many travel vaccines come in a series.
Water disinfection	Consider purchasing a water disinfection system appropriate for your travel destination. See <i>Water disinfection</i> .

▶ 4-6 WEEKS PRIOR TO DEPARTURE

Vaccines	Complete travel immunizations.
Travel medicine kit	Prepare a travel medicine kit and add extra components as needed, such as Malaria pills, traveler's diarrhea treatment, remedies for common travel ailments, and personal care items. See <i>Travel medicine kit</i> .

► 4-6 WEEKS PRIOR TO DEPARTURE

Malaria prevention

If you are planning to visit a Malaria risk area, obtain prescription medication recommended for prevention. Purchase an insecticide-treated bed net. Spray or soak outer-layer clothing with a permethrin solution. Note that permethrin is not commercially available in Canada.

► 1-2 WEEKS PRIOR TO DEPARTURE

Emergency contacts

Make a list of contact addresses and phone numbers. Include your family doctor, medical specialists, and friends or relatives at home who may offer assistance. Record your travel health insurance policy name and number, and the customer service emergency hotline. Take a printed copy with you in case you don't have access to your mobile device due to theft, power failure, or network outage.

Travel documents

Make two copies of your passport and visa(s), as well as the International Certificate of Vaccination if you were given one. Carry a set separately from the originals during travel. Give the second set plus a copy of your itinerary to a friend or relative not traveling with you. For extended trips, consider carrying extra passport photos.

Travel medicine kit

Carry a list of common ailments and the treatments/medications recommended by your healthcare provider and check-off items on the *Travel medicine kit* chart in this guide. Also, carry a list of all medications, vitamins, and supplements taken on a regular basis.

▶ 1-2 WEEKS PRIOR TO DEPARTURE

Test baggage weight

Pack all the items you plan to take on your trip into your travel bags then practice walking at least 2 blocks with the fully packed bags to see if you need to eliminate anything to lighten the load.

▶ DAY OF DEPARTURE

Travel medicine kit

Pack your travel medicine kit in your carry-on luggage, including medications taken daily.

Travel medicine kit

The travel medicine kit is an essential tool for both the novice and expert traveler. Its size and complexity depends on the length of stay, travel destination, type of travel (urban vs. remote), planned activities, as well as your age and health. Travel medicine kits are designed to treat travel-related illnesses and injuries, and to ensure pre-existing medical conditions are managed appropriately. For most travelers, this kit provides treatment for common health issues that are acquired abroad and provides peace of mind for the unexpected travel mishap.

A personal travel medicine kit contains the following four categories:

- **First aid supplies**
- **Personal health items**
- **Over-the-counter medications**
- **Prescription medications**

Health record

Always carry documentation of your current health status. Keep a copy on paper and on a protected website or email. Personal health documentation should include:

- All allergies (medications, vaccines, foods, toxins)
- Current medications (prescribed and over-the-counter)
- Immunization records
- List of current medical conditions
- Surgical history
- Contact information for healthcare provider(s), travel health insurance information, and contact person(s) in case of emergency

Review your current travel health insurance coverage and consider purchasing a separate policy for medical evacuation prior to departure. If you have severe allergies or a life-threatening health condition, wear a universal medical alert bracelet like MedicAlert®.

▶ Best advice

Take a printed copy of your health record in case you do not have access to your mobile device due to theft, power outage or network failure.

Prescriptions

Ensure that prescription medications are kept in their original containers, labeled with your passport name, dosage, generic name, and brand name if applicable. Always put them in your carry-on luggage and place extra supplies in another piece of luggage. Also bring a copy of the prescription for each medication.

If your prescription runs out or the medications are lost or stolen, be aware of fake medications. They are present worldwide, especially in Asia and Africa. Counterfeit drugs may look the same but often lack the active drug ingredient, may be expired, or have harmful additives. Be aware that you can only carry a maximum amount of some prescription medications such as narcotics or psychotropics (medications used for neurologic or mental health conditions). Each country has specific limitations on certain medications and controlled substances vary from country to country, including cold and cough medications (pseudoephedrine and diphenhydramine), stimulants commonly used for ADHD and ADD, and some antidepressants. Bring a signed physician's letter outlining the reason for treatment with these types of medications. Contact the embassy and/or consulate of your destination country to ensure there are no restrictions. Also check the **International Narcotics Control Board** for country entry regulations.

Travel medicine kit notes

- The amounts specified are for a 3-4 week trip.
- All generic drug names are capitalized.
- Rx is a prescription medication.
- \$\$\$ denotes an expensive item.
- ® or ™ indicates a trademark item.

Amount	Item	Uses
▶ FIRST-AID SUPPLIES		
3-4	Antiseptic pads, individual	Cleanses skin
12	Applicators, sterile tipped, cotton	Topical treatment application
1 roll	Bandages (Ace® Wrap)	Sprains and strains
Multiple	Bandages (Band-Aid®), assorted sizes	Wounds, cuts, abrasions
1 bottle	CHLORHEXIDINE (Hibiclens®) liquid antiseptic and skin cleanser	Wound cleansing and topical antiseptic
1 roll	Cloth tape	Dressings
1 roll	Duct Tape	First aid, gear repair
1	Emergency blanket	Prevention of hypothermia
1	First aid manual	Instructions for first aid
2-4	Gauze pads 2"x 2" or nonstick pads	Wounds, cuts, abrasions
1 pair	Gloves	Protection from infection
1 tube	Liquid bandage (New-Skin®, Nexcare®)	Adhesive bandage glue
1	Mask	Protection from airborne infection
1 box	Matches	Fire starter
2-5	Moleskin (Molefoam®, Blist-O-Ban®)	Blister prevention/treatment
Multiple	Safety pins	Secure bandages, drain blisters if sterilized

Amount	Item	Uses
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▶ FIRST-AID SUPPLIES

1	SAM® Splint (flexible, foam-backed)	Extremity and neck injuries
1 pair	Scissors	Cut tape, moleskin, clothing
1	Syringe	Irrigation
1	Thermometer	Monitor temperature
1	Triangular bandage	Splint/arm sling
1 pair	Tweezers	Foreign body removal (ticks and splinters)

▶ PERSONAL HEALTH

1 bottle	Alcohol-based hand sanitizer	Disinfecting hands prior to eating
1	Flashlight/headlamp	Examine objects in low light conditions
1 tube	Lip balm with SPF 30 or greater	Sun protection
1	Medical alert bracelet (MedicAlert®)	Provides information on health conditions during an emergency
1	Mirror (shatterproof)	Remove items from eyes and for signaling
1-4	Resealable plastic bags	Waterproof storage of supplies
1-2	Sunglasses with UV protection	Protects eyes from the sun
1 tube	Sunscreen SPF 30 or greater	Sun protection
Multiple	Toilet paper/tissues	Sneezing and personal hygiene, rolls or packages
1	Water bottle	Drinking water/hydration
1	Water filter (AquaPure®, Katadyn®), UV (SteriPEN®), or halogens (Aquamira®, Potable Aqua®)	Water disinfection: Filtration, UV light, or chemical treatment

Amount	Item	Uses
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▶ ALLERGIC REACTIONS

20 tablets	DIPHENHYDRAMINE (Benadryl®) 25 mg - 50 mg	Antihistamine for treatment of allergic reactions to insect bites, seasonal allergies, and food
1-2 Rx in USA \$\$\$	EPINEPHRINE (auto-injector/EpiPen®) 0.3 mg/2 ml	Emergency treatment for life-threatening anaphylaxis (severe allergic reaction) in persons with a history of severe allergic reactions to insect bites, food (ie. peanuts) or other substances
1 tube	HYDROCORTISONE CREAM 1% (Cortaid®, Cortizone®)	Topical steroid for itching bites or skin irritants
15 tablets	LORATIDINE 10 mg (Claritin®), or CETIRIZINE 10 mg (Zyrtec®)	Antihistamine to control nasal drainage and congestion due to allergies or a respiratory virus. Also available in combination with PSEUDOEPHEDRINE 240 mg (Claritin-D and Zyrtec-D)
10 tablets Rx	PREDNISONE 20 mg	Steroid treatment (oral) for severe and persistent allergic reactions

▶ ALTITUDE ILLNESS

20 tablets	ACETAZOLAMIDE (Diamox®) 125 mg - 250 mg	Prevention and treatment of altitude illness. Avoid if allergic to sulfa-based antibiotics
20 tablets	DEXAMETHASONE (Decadron®) 4 mg	Prevention and treatment of altitude illness

Amount	Item	Uses
▶ GASTROINTESTINAL CONDITIONS		
30 tablets	BISMUTH SUBSALICYLATE (Pepto-Bismol®)	Symptomatic treatment of traveler's diarrhea, stomach upset
24 tablets	LOPERAMIDE (Imodium®) 2 mg	Symptomatic treatment of traveler's diarrhea and cramping
6-12 tablets Rx	AZITHROMYCIN (Zithromax®) 250 mg	Broad spectrum antibiotic: Self-initiated treatment of traveler's diarrhea; also used for respiratory infections (see below)
6 tablets Rx	CIPROFLOXACIN (Cipro®) 500 mg	Broad spectrum antibiotic: Self-initiated treatment of traveler's diarrhea; also used for respiratory, skin, and urinary tract infections (see below)
9 tablets Rx \$\$\$	RIFAXIMIN (Xifaxan®) 200 mg	Antibiotic, self-initiated treatment of traveler's diarrhea
4 tablets	TINIDAZOLE (Tindamax®) 500mg	Giardia treatment
2 packets	ORAL REHYDRATION SALTS (Pedialyte®, CeraLyte®)	Treatment of dehydration due to traveler's diarrhea
30 tablets	FIBER SUPPLEMENT (Metamucil®, Citrucel®, Benefiber®)	Prevention of constipation
30 tablets	DOCUSATE SODIUM (Colace®) 100 mg	Stool softener, constipation
7 dose bottle	POLYETHYLENE GLYCOL (MiraLAX®)	Severe constipation
1 tube Rx	HYDROCORTISONE ACETATE (Anusol®) 25 mg	Topical steroid, hemorrhoids
1 package	WITCH HAZEL pads (Tucks®)	Hemorrhoids

Amount	Item	Uses
▶ JET LAG		
20 tablets	MELATONIN 6 mg	Sleep issues, insomnia
10 tablets Rx	ZOLPIDEM (Ambien®) 5 mg female, 10 mg male	Sleep issues, insomnia
▶ MALARIA PREVENTION		
Rx \$\$\$	ATOVAQUONE 250 mg + PROGUANIL 100 mg (Malarone®)	Prevention against chloroquine-resistant Malaria
Rx	CHLOROQUINE PHOSPHATE (Aralen®) 500 mg. Alternative: HYDROXYCHLOROQUINE SULFATE (Plaquenil®) 400 mg	Prevention against chloroquine-sensitive Malaria
Rx	DOXYCYCLINE (Vibramycin®, Doryx®) 100 mg	Prevention against chloroquine-resistant Malaria, as well as Leptospirosis, marine skin infection, ricketsial infection
Rx	MEFLOQUINE HYDROCHLORIDE (Lariam®) 250 mg	Prevention against chloroquine-resistant Malaria
Rx	PRIMAQUINE PHOSPHATE (30 mg)	Prevention or treatment against chloroquine-sensitive Malaria
▶ MOTION SICKNESS		
10 tablets	MECLIZINE (Bonine®) 25 mg	Motion sickness prevention or treatment
10 tablets	ONDANSETRON (Zofran®) 4 mg or 8 mg	Prevention or treatment of nausea
4 patches Rx \$\$\$	SCOPOLAMINE (Scopace®) transdermal patches	Motion sickness prevention
2 bands	Wristbands (Sea-Bands®)	Apply pressure to a selected acupuncture point on each wrist

Amount	Item	Uses
▶ PAIN AND FEVER		
20 tablets	ACETAMINOPHEN (Tylenol®) 325 mg - 500 mg	Pain, headache, fever
20 tablets	IBUPROFEN (Advil®) 200 mg	Pain, headache
▶ RESPIRATORY CONDITIONS		
15 tablets	LORATIDINE 10 mg (Claritin®), or CETIRIZINE 10 mg (Zyrtec®)	Antihistamine to control nasal drainage and congestion due to a respiratory virus or allergies. Also available in combination with PSEUDOEPHEDRINE 240 mg (Claritin-D and Zyrtec-D)
1 bottle	OXYMETAZOLINE 0.05% nasal spray (Afrin®)	Decongestant for nasal passages; useful for treatment of nosebleeds
1 bottle	FLUTICASONE 27.5 mcg per metered nasal spray (Flonase®)	Decreases symptoms of stuffy, itchy or runny nose, and itchy, watery or red eyes due to seasonal or year-round allergies
1 inhaler Rx	ALBUTEROL metered dose inhaler (Proventil® HFA, Ventolin® HFA)	Wheezing, bronchospasm
20 tablets Rx	AMOXICILLIN- CLAVULANATE (Augmentin®) 875 mg	Broad spectrum antibiotic: Strep throat, ear infection, sinusitis, bronchitis, pneumonia; also used for dental infection, skin infection (see below) especially animal bite wounds
6-12 tablets Rx	AZITHROMYCIN (Zithromax®) 250 mg	Broad spectrum antibiotic: Strep throat, ear infection, sinusitis, bronchitis, pneumonia; also used for traveler's diarrhea (see above)

Amount	Item	Uses
▶ RESPIRATORY CONDITIONS		
20 tablets Rx	CIPROFLOXACIN (Cipro [®]) 500 mg	Broad spectrum antibiotic: Ear infection, sinusitis, bronchitis, pneumonia; also used for traveler's diarrhea (see above), skin infection and urinary tract infection (see below)
10 tablets Rx	OSELTAMIVIR (Tamiflu [®]) 75 mg	Prevention or treatment of suspected influenza
1 inhaler Rx	ZANAMIVIR (Relenza [®]) 5 mg	Prevention or treatment of suspected influenza
▶ SKIN CONDITIONS		
1 bottle/tube	DEET 20-30% (Sawyer [®] , 3M Ultrathon [®] , Off Deep Woods [®])	Apply to skin to repel mosquitoes, ticks, flies, insects
1 bottle	PICARIDIN 20% (Sawyer [®])	Apply to skin to repel mosquitoes, ticks, flies, insects
1 tube Rx	MUPIROCIIN (Bactroban [®]) 2% ointment	Topical antibiotic for skin infections including infected insect bites and impetigo
20-40 tablets Rx	CEPHALEXIN (Keflex [®]) 250 mg - 500 mg	Antibiotic, treatment of skin infections
14-20 tablets Rx	TRIMETHOPRIM 160 mg + SULFAMETHOXAZOLE 800 mg (Bactrim DS [™])	Antibiotic: Treatment of skin infection, particularly MRSA; also used for treatment of urinary tract infection (see below)
20 tablets Rx	AMOXICILLIN- CLAVULANATE (Augmentin [®]) 875 mg	Broad spectrum antibiotic: Skin infection, especially animal bite wounds; also used for treatment of respiratory and dental infection (see above)

Amount	Item	Uses
▶ SKIN CONDITIONS		
20 tablets Rx	CIPROFLOXACIN (Cipro [®]) 500 mg	Broad spectrum antibiotic: Skin infection; also used for treatment of traveler's diarrhea, respiratory infection (see above) and urinary tract infection (see below)
1 tube	Antifungal creams: MICONAZOLE (Micatin [®]), CLORTRIMAZOLE (Lotrimin [®]), TERACONAZOLE (Terazol [®])	Self-treatment of Athlete's Foot, fungal skin infection
1 bottle	TOLNAFTATE 1% (Tinactin [®]) powder	Prevention of Athlete's foot, fungal infection
▶ WOMEN'S HEALTH		
Multiple	Menstrual supplies: Pads, tampons, menstrual cup	Pads and tampons may also be used as wound dressing in remote areas
1 tube + applicator	Antifungal creams: MICONAZOLE, (Monistat [®]), CLORTRIMAZOLE (Lotrimin [®]), TERACONAZOLE (Terazol [®])	Self-initiated treatment (topical) for vaginal yeast infection
2 tablets Rx	FLUCONAZOLE (Diflucan [®]) 150 mg	Anti-fungal, self-initiated treatment for vaginal yeast infection
6 tablets Rx	CIPROFLOXACIN (Cipro [®]) 250 mg	Broad spectrum antibiotic, self-initiated treatment for urinary tract infection; also used for treatment of traveler's diarrhea, respiratory infection and skin infection (see above)
14 tablets Rx	NITROFURANTOIN (Macrobid [®]) 100 mg	Antibiotic, self-initiated treatment for urinary tract infection

Amount	Item	Uses
▶ WOMEN'S HEALTH		
6 tablets Rx	TRIMETHOPRIM 160mg + SULFAMETHOXAZOLE 800 mg (Bactrim DS™)	Antibiotic, self-initiated treatment for urinary tract infection; also used for treatment of skin infection (see above)
1 tablet Rx	LEVONORGESTREL (Plan B One-Step®) 1.5 mg	Emergency contraception
1 tablet Rx	ULIPRISTAL (Ella®) 30 mg	Emergency contraception

Travel A-to-Z: Prevention and treatment of common travel health concerns

This section lists common health problems encountered by travelers and gives a brief summary of the steps to prevent illness. Recommendations for initial self-treatment are also provided.

Adult doses of medications are given to guide you and your prescribing practitioner. Consult a healthcare provider for pediatric medications. Brand names are given to help in product identification only and do not constitute an endorsement. If a given medication name is not followed by an Rx (prescription drug) this means that it is available over-the-counter without a prescription. Discuss medication side effects and contraindications with your healthcare provider prior to travel.

ALLERGIC REACTIONS

Alert your travel companions about any allergies so they can call for help and assist with emergency treatment as needed. Wear a medical alert bracelet or necklace tag that identifies your life-threatening allergies.

Prevention

- Avoid eating known foods that cause allergies such as shellfish, nuts, or eggs. Inquire about menu choices at your travel destination prior to booking travel. Bring translated cards or use an app to alert wait staff and cooks abroad about your food allergies.
- To avoid skin contact, do not touch plants and foliage with bare hands.
- Take proper precautions against insect bites, especially if you are allergic to bees, yellow jackets, wasps or hornets. See *Insect bites and stings*.
- Carry medications for allergy treatment such as antihistamines and epinephrine in carry-on bags. Do not place them in checked luggage in case they get lost.

Allergic Reaction	Symptoms	Treatment
Localized skin reaction with hives, burning sensation	Red patches, itching	HYDROCORTISONE CREAM 1% (Cortaid®, Cortizone®)
Example: Skin contact with plant allergens, insect bites		CETRIZINE (Zyrtec®) 10mg or LORATADINE (Claritin®) 10mg, non-sedating antihistamines

Allergic Reaction	Symptoms	Treatment
Localized skin reaction with swelling, pain, possible blistering Example: Bee sting	Severe swelling of the face, hand, or foot, redness and itching	HYDROCORTISONE CREAM 1% (Cortaid®, Cortizone®) DIPHENHYDRAMINE (Benadryl®) 25-50mg PREDNISONE (oral steroid) 20mg, 5-7 days (Rx) Seek medical advice immediately if there is no response to treatment
Severe life-threatening allergic reactions Example: Multiple bee stings, shellfish ingestion	Throat swelling, shortness of breath and possible shock	EPINEPHRINE AUTO INJECTOR (EpiPen®) (Rx in USA). Use according to directions and contact emergency services immediately

ALTITUDE ILLNESS

Altitude illness, also known as Acute Mountain Sickness (AMS), is a condition that occurs in many travelers making rapid ascents to high altitude. It most often occurs at altitudes above 7874 ft/ 2,400 m when the body reacts to lower levels of oxygen. The illness may occur several hours to days after ascending to high altitudes and symptoms may range from mild to severe.

Mild symptoms associated with altitude illness may include headache, fatigue, sleep disturbance, loss of appetite, nausea, and shortness of breath with exertion. More severe symptoms may include shortness of breath while resting, rapid heart rate while resting, decreased urine output, visual changes, severe headache, loss of coordination (ataxia), mental confusion, and a productive cough.

Prevention

The best prevention for altitude illness is to ascend no more than 1,000 ft / 305 m of sleeping altitude per day when at altitudes greater than 8,000-10,000 ft / 2440-3048m above sea level. If you are flying to high altitude destinations or making rapid ascents with excessive altitude gain, medications such as ACETAZOLAMIDE (Diamox®) or DEXAMETHASONE (Decadron®) may be prescribed.

Medication	Dosing	Side effects & contraindications
ACETAZOLAMIDE (Diamox®)	125 mg - 250 mg (Rx) 1 tablet twice daily Start 24 - 48 hours prior to ascent above 8,000 ft - 10,000 ft / 2440 m - 3048 m Continue taking for 2-3 days at altitude	CAUTION: Do not take ACETAZOLAMIDE (Diamox®) if you are allergic to sulfa drugs. Common side effects include abnormal skin sensation, frequent urination, and unusual taste with carbonated beverages
DEXAMETHASONE (Decadron®)	2 mg - 4 mg (Rx) 2 mg every 6 hours or 4 mg every 12 hours. Start taking on ascent and do not take for longer than 1 week	Option for travelers with sulfa-based allergies. Common side effects include nausea, insomnia, anxiety, dizziness, heartburn, and fluid retention

Treatment

The most important treatment for altitude illness is rapid descent to lower altitudes. Drink plenty of fluids, eat regularly and treat symptoms such as headache with IBUPROFEN (Advil®), see *Travel medicine kit*. If symptoms are severe and/or rapid descent is not possible, drug treatment may be needed. The following table outlines altitude illness treatment with ACETAZOLAMIDE (Diamox®) or DEXAMETHASONE (Decadron®).

Medication	Dosing	Side effects & contraindications
ACETAZOLAMIDE (Diamox®)	250 mg (Rx) 1 tablet twice daily until symptoms resolve or lower altitude is reached	See above
DEXAMETHASONE (Decadron®)	4 mg (Rx) Initial dose of 1-2 tablets, then 1 tablet every six hours until symptoms resolve or lower altitude is reached	See above

BLOOD CLOT PREVENTION | DEEP VEIN THROMBOSIS

Due to immobility during flights and road trips, long distance travelers are at increased risk of blood clots resulting from the slow or lack of blood flow, usually to the legs. Deep Vein Thrombosis (DVT) occurs when blood clots form in the deep veins of the legs. Dislodged clots are carried by the venous blood flow to the right heart and then to the lungs where they clog pulmonary arteries, also known as pulmonary embolism. This can be a life-threatening event.

While numerous factors contribute to DVT, sitting for prolonged periods – usually more than four hours – during long road trips or flights is probably the most important risk factor among travelers. Other underlying risk factors for DVT include obesity, smoking, pregnancy, taking hormones (birth control pills, hormone replacement therapy), age (more than 40 years), varicose veins, previous DVT, previous leg trauma, some cancers, and genetic predisposition (Factor V Leiden, antiphospholipid syndrome).

The development of DVT may be asymptomatic or symptoms may occur during or shortly after travel. These include swelling and tenderness in the calf and/or thigh in one of the legs, enlarged veins, and redness and/or warmth of the skin. In some cases, symptoms associated with pulmonary embolism such as sudden shortness of breath, chest pain, cough producing blood-tinged or bloody sputum, lightheadedness or feeling weak, can appear days or weeks after travel. Seek medical care immediately.

Prevention

- Get up and move around every hour during long distance travel. The pumping action of the leg muscles during activity enhances the circulation of blood in the legs.
- Select an aisle seat on the airplane to facilitate getting up.
- Avoid taking sedatives during flights to decrease the likelihood of prolonged sleep.
- Stay well hydrated by drinking water or fruit juices.
- Limit alcohol and caffeine drinks during flights to prevent dehydration.
- If you are at higher risk of developing blood clots, wear compression hose/socks (knee length, 20-30 mm Hg of pressure).
- Travelers with chronic DVT risk factors should also discuss the benefits and risks of anticoagulation therapy with a healthcare provider.

DENGUE, CHIKUNGUNYA, AND ZIKA VIRUS INFECTIONS

Dengue, Chikungunya, and Zika Virus are viral illnesses transmitted by daytime biting female *Aedes aegypti* and *Aedes albopictus* mosquitoes. Their peak biting times are just after daybreak and again for several hours before dark. These mosquitoes are often found indoors and outdoors in both urban and rural areas in tropical and semi-tropical climates.

Dengue and Dengue Hemorrhagic Fever

Symptoms of Dengue may include sudden onset of fever, severe headache, muscle and joint pain, nausea, and/or vomiting. A rash usually develops on the torso on the third or fourth day which then spreads to the arms and legs. Usually the illness is self-limited and relatively mild, meaning it runs its course over a week or two. In rare circumstances it can cause severe symptoms such as severe abdominal pain, vomiting, diarrhea, convulsions, bruising, and uncontrolled bleeding. Dengue is also known as 'break-bone fever' due to the extreme bone pain that can accompany this illness.

Chikungunya

Chikungunya symptoms are similar to those of Dengue. The illness can be debilitating and is usually characterized by fever, headache, joint pain, fatigue, and gastrointestinal symptoms, including nausea and vomiting. The incubation period is usually between three to seven days. Disabling joint pain may persist for months after acute infection and can be particularly severe in adults 65 years and older.

Zika Virus

Zika Virus infections may be asymptomatic or cause symptoms, such as fever, rash, joint pain, and conjunctivitis (red eyes) lasting a few days to a week.

In adults, there has been an association between Zika Virus infection and the development of neurological abnormalities (Guillain-Barre Syndrome) in rare cases. The virus is also sexually transmitted. In addition, women planning pregnancy or who are pregnant should consider postponing travel to areas with active Zika Virus transmission. The virus crosses the placenta causing brain growth retardation and microcephaly in the fetus. Consult the following websites to identify areas of Zika Virus transmission which are rapidly expanding in Central America, South America, and the Caribbean at the time of writing: **IAMAT**, **CDC**, **Public Health Agency of Canada** .

Prevention

Preventing mosquito bites is the primary way to protect against Dengue, Chikungunya, and Zika Virus infections. Yellow Fever, Japanese Encephalitis, and Tick-Borne Encephalitis are caused by related viruses, but vaccines are available to prevent these illnesses. A new Dengue vaccine is available to residents in high-risk areas but not to travelers. There are no vaccines available against Chikungunya and Zika Virus. To prevent mosquito bites, see *Insect bites and stings*.

Treatment

There is no specific treatment for illness caused by Dengue, or Chikungunya or Zika viruses. Supportive treatment of symptoms is recommended. To help with recovery get plenty of bed rest, drink lots of fluids, and take ACETAMINOPHEN (Tylenol®, Paracetamol®) to reduce fever. Do not take ACETYLSALICYLIC ACID (Aspirin®) or non-steroidal anti-inflammatory drugs (NSAIDs) such as IBUPROFEN (Advil®) if you suspect Dengue virus infection due to the risk of uncontrolled bleeding.



GASTROINTESTINAL CONDITIONS

Traveler's diarrhea

Traveler's diarrhea is one of the most common ailments among travelers, especially in tropical and less developed areas where food (storage, preparation, and handling), water (supply, treatment, and storage), and sanitation (disposal of human waste) may be suboptimal. Most of the time, it is a mild gastrointestinal illness characterized by frequent watery stools, mild abdominal discomfort, and nausea or loss of appetite.

Untreated, the illness will gradually resolve over 3-6 days. Most travelers cannot afford the interruption of travel plans and wish to control the inconvenience and side effects of diarrhea as soon as possible.

The presence of blood and mucus in bowel movements, along with fever, abdominal pain and tenderness, may indicate a more serious illness commonly known as Dysentery which may be caused by bacteria, parasites or toxins. Watery diarrhea that continues for more than a week accompanied by sulfur burps, foul-smelling intestinal gas, and abdominal bloating and discomfort – especially following a meal – and is unresponsive to antibiotic treatment may also suggest a protozoan parasite infection like *Giardia*, *Entamoeba histolytica*, *Cyclospora*, *Cryptosporidium* or *Blastocystis*. Seek medical care immediately if these symptoms occur.

Prevention

- Use this common motto, “Boil it, cook it, peel it, or forget it”.
- Drink boiled, filtered, or chemically treated water in areas where the water quality is at risk. See [*Water disinfection*](#).
- Avoid ice cubes in beverages and eat well cooked foods served piping hot.

- Avoid raw, partially cooked or marinated foods such as vegetables, fruits, meats, poultry, eggs, fish, and shellfish served in salads, including cold buffet dishes.
- Drink only pasteurized or boiled milk and make sure that cheeses, ice cream, yogurt and other dairy products are made from pasteurized milk.
- Brush your teeth with disinfected water, not tap water, in areas of risk. Avoid swallowing water in the shower or when swimming.

Treatment

- **Hydration:** Oral rehydration treatment alone may significantly improve the discomfort experienced with traveler's diarrhea. Drink flavored seltzers, clear soups, or a commercially prepared oral rehydration solution – especially after the frequency exceeds 5 stools per day. Commercial preparations of oral rehydration salts (Pedialyte®, CeraLyte®) based on glucose or rice starch formulas are available in a variety of flavors. Include one or more packets into your travel medicine kit.
- **Antidiarrheal or antimotility agents:** Frequent bowel movements and abdominal cramps can be relieved by taking an antidiarrheal like LOPERAMIDE (Imodium®) or BISMUTH SUBSALICYLATE (Pepto-Bismol®). LOPERAMIDE (Imodium®) tablets can be safely combined with antibiotic treatment.

▶ Caution

Do not take BISMUTH SUBSALICYLATE (Pepto-Bismol®) if you are on aspirin therapy or taking antibiotics as their absorption will be decreased. Also, avoid antidiarrheal agents like BISMUTH SUBSALICYLATE (Pepto-Bismol®) or LOPERAMIDE (Imodium®) if there is blood in the stools or you have a fever.

- **Antibiotic treatment:** Clinical studies have shown that taking an antibiotic against bacterial agents commonly associated with traveler's diarrhea may shorten the duration of the illness. Consultation with a physician to select an appropriate antibiotic regimen is advised. Commonly prescribed antibiotics include:

- **AZITHROMYCIN** (Zithromax[®]), 250 mg (Rx). Take 2 tablets (500 mg) plus 1-2 LOPERAMIDE (Imodium[®]) 2 mg tablets. Subsequent doses: Take 2 tablets per day of AZITHROMYCIN (Zithromax[®]) for two more days if needed. Stop once symptoms are gone.

- **CIPROFLOXACIN** (Cipro[®]), 500 mg (Rx). Take 1 tablet plus 1-2 LOPERAMIDE (Imodium[®]) 2 mg tablets. Subsequent doses: Take CIPROFLOXACIN (Cipro[®]) every 12 hours as needed for up to three days. Stop once symptoms are gone.

▶ Caution

CIPROFLOXACIN (Cipro[®]) should not be taken by pregnant or breastfeeding women, or children under the age of 18.

- **RIFAXIMIN** (Xifaxan[®]), 200 mg (Rx): Take 3 times per day for three days until symptoms are gone. This medication is recommended for travelers who may not be able to tolerate other antibiotics.

- Persistent, watery diarrhea that continues for more than a week accompanied by sulfur burps, foul-smelling intestinal gas, and abdominal bloating that is unresponsive to antibiotic treatment may suggest *Giardia*. Travelers at higher risk for *Giardia* infection include prolonged travel to remote locations with ingestion of potential contaminated water, often in streams – for example, trekkers in Nepal. Treatment includes taking TINIDAZOLE (Tindamax[®]), 500 mg. This medication can be prescribed prior to travel for high-risk patients and is available over-the-counter in many pharmacies overseas.

Constipation

Constipation can be a major source of discomfort regardless of the style of travel. You may develop inconvenient constipation during travel because of the hurried pace of some itineraries, decreased access to fresh fruits and vegetables, as well as reduced fluid intake while in transit or touring.

Prevention

- Drink plenty of water and juices.
- Stay active and maintain your usual level of physical activity.
- Take a fiber supplement (ie. Metamucil®, Citrucel®, Benefiber®) on a regular basis according to package directions. The fiber acts as a stimulus for regular bowel movements.
- Taking a daily stool softener, such as POLYETHYLENE GLYCOL (MiraLAX®, powder) or DOCUSATE SODIUM (Colace®, capsule) may also prevent constipation.

Treatment

- Increase fluid intake and take a laxative if there are no bowel movements after three days.
- Natural laxatives such as prunes may bring relief.

Hemorrhoids

Hemorrhoids may reactivate or become a problem during travel due to traveler's diarrhea, constipation, or physical activities such as bicycle riding.

Prevention

- Use disposable pre-moistened towelettes for personal hygiene such as WITCH HAZEL Pads (Tucks®).
- Prevent and control constipation or traveler's diarrhea. See *Constipation* and *Traveler's diarrhea*.

Treatment

- Sitz baths relieve symptoms but may be inconvenient during travel.
- Use a stool softener. See *Constipation*.
- HYDROCORTISONE CREAM 1% (Cortaid®, Cortizone®) applied to the external skin areas may help decrease itching and burning.
- HYDROCORTISONE ACETATE (Anusol®), 25 mg rectal suppository (Rx): Use according to package directions. If the problem persists and is severe, seek medical care.
- Use WITCH HAZEL Pads (Tucks®) for cleansing and symptom relief.

Worms

Worms may be acquired by eating foods such as leafy green vegetables and root vegetables like carrots, radishes, and potatoes that were not cooked sufficiently to destroy parasite eggs. The vegetables become contaminated through cultivation in soil fertilized with untreated human or animal waste, a common practice in some rural areas of developing countries. Other worms, such as beef and pork tapeworms, and Trichinosis are acquired from eating raw or undercooked meat. Worms and flukes may be transmitted through ingestion of undercooked fish and seafood. A few parasites such as Hookworm, Strongyloides and Schistosomiasis can infect humans by larval penetration of intact skin. Parasites usually have a 4-8 week incubation period before the eggs (ova) or other diagnostic parasite forms are detectable in an infected person's stool or urine.

Prevention

- Wash your hands thoroughly prior to handling food and eating.
- Eat only well cooked foods, including vegetables, meat, poultry, and seafood.
- Always wear shoes or sandals on beaches and in rural areas of tropical countries. Sit or lay on a towel or mat when resting on the ground.

- Avoid swimming or wading in bodies of fresh water in Africa, South America, Asia, and the Middle East where Schistosomiasis is present. See IAMAT's **World Schistosomiasis Risk Chart** and **Be Aware of Schistosomiasis** whitepaper.

Treatment

- Seek evaluation from a post-travel health specialist if you suspect worms and to discuss appropriate treatment options.

JET LAG

Jet lag is a popular term used to describe tiredness and fatigue due to interruption of the normal sleep/awake cycles when you cross three or more time zones. There are several approaches towards managing jet lag.

Prevention

- Sleep an adequate amount in the days before flying so you don't start travel on a sleep deficit.
- Advance or set back your daily schedule by one hour per day in the week(s) prior to travel so your daily schedule is set to the local time at your destination.
- Schedule travel in stages if possible, so that different segments of the trip cross fewer than three time zones and are separated by several days of rest in between.
- Upon arrival at your destination, adopt the daily cues for meals, exposure to daylight, and bedtime to the local time.

Treatment

- If you use medications to relieve jet lag, wait until after you arrive at your destination. Avoid taking them during long flights since inactivity may increase the risk of forming blood clots. See *Blood Clot Prevention*.
- MELATONIN, 6 mg: Take 1 tablet at bedtime to encourage sleep in a new time zone when traveling.

▶ Note

Reported effectiveness varies among individuals so it may be worthwhile to test the medication prior to travel.

- ZOLPIDEM (Ambien®), 5 mg or 10 mg (Rx): Take 1-2 tablets at bedtime to encourage sleep in a new time zone while traveling. This is a non-benzodiazepine sleep medicine which may have fewer side effects than other sleep medicines.

▶ Caution

Do not drink alcoholic beverages while taking this drug.

MALARIA

Malaria is transmitted by the female *Anopheles* mosquito found in tropical and subtropical regions.

Travelers visiting rural areas with risk of Malaria may have greater exposure to infected mosquitoes than travelers staying in air conditioned hotels in urban areas. However, if you go on rural excursions between dusk and dawn for star gazing, animal observing or bird watching, for example, you may be at risk. Review your itinerary with a travel medicine consultant who is familiar with the regional geographic risks of Malaria.

A Malaria attack is characterized by fever, chills, headache, abdominal discomfort, muscle aches, and extreme weakness or exhaustion. The fever and chills of a first time Malaria attack are severe and erratic, and some have likened it to having a severe attack of the flu. Malaria should be suspected in a returned traveler with a fever. Seek medical care immediately.

▶ Note

An attack of Malaria is possible even if you are taking suppressive medication exactly as prescribed. This is due to the emergence of highly resistant strains of Malaria parasites in many regions around the world.

For detailed information on prevention and risk areas, see IAMAT's **How to Protect Yourself Against Malaria** whitepaper and **World Malaria Risk Chart**.

Prevention

- Avoid mosquito bites, especially from dusk to dawn when the Malaria-carrying *Anopheles* mosquito is active. Note that this species of mosquito does not hum and the bite does not itch or cause a welt. With the increasing resistance of Malaria parasites to antimalarial drugs, it is very important to use effective insect repellents, protective clothing and mosquito bed nets. See *Insect bites and stings*.
- Take an antimalarial drug regimen appropriate for the risk at your destination. One of the following drug regimens may be prescribed:

– ATOVAQUONE 250 mg + PROGUANIL 100 mg (**Malarone[®]**) (Rx): Recommended for protection against chloroquine-resistant *P. falciparum* Malaria. Take 1 tablet one or two days prior to departure, 1 tablet once daily every day during travel, and continue for seven days after leaving the Malaria risk area.

▶ Note

Common side effects may include headache and abdominal pain. There is insufficient data on the use during pregnancy.

– DOXYCYCLINE (**Vibramycin[®]**), 100 mg (Rx): Recommended for protection against chloroquine-resistant *P. falciparum* Malaria. Take 1 tablet one or two days prior to departure, 1 tablet once daily every day during travel, and for four weeks after travel in a Malaria risk area.

► Note

Common side effects may include abdominal discomfort, yeast vaginitis in women, and rarely, phototoxicity (increased sun burn risk). DOXYCYCLINE is contraindicated in pregnant women and in children less than 8 years of age.

- MEFLOQUINE HYDROCHLORIDE (Lariam®), 250 mg (Rx): Recommended for protection against chloroquine-resistant *P. falciparum* Malaria. Take 1 tablet one week prior to departure, 1 tablet once a week (same day of the week each time) every week during travel, and continue to take 1 tablet once a week for four weeks after travel.

► Note

Side effects include nausea and headache, as well as neurological side effects such as dizziness, ringing of the ears, and loss of balance. Psychiatric side effects include anxiety, depression, mistrustfulness, and hallucinations. Travelers with a history of neurologic or psychiatric conditions should not take MEFLOQUINE HYDROCHLORIDE. Neurological side effects can occur any time during use and can last for long periods of time or become permanent even after the drug is stopped. Stop taking MEFLOQUINE HYDROCHLORIDE and seek medical advice if any neurological or psychiatric side effects occur. If highly strenuous physical or mental activities are anticipated, you may wish to test tolerance to this drug prior to departure by using a loading dose regimen prescribed by a travel medicine consultant.

- CHLOROQUINE PHOSPHATE (Aralen®), 500 mg (Rx): Recommended for prevention of chloroquine-sensitive Malaria. Take 1 tablet one week prior to departure, 1 tablet once a week (same day of the week each time) every week during travel, and continue to take 1 tablet once a week for four weeks after travel.

► Note

Common side effects may include dizziness, headache, and in Africans and people of African descent, an itching skin rash. As an alternative, HYDROXYCHLOROQUINE SULFATE (Plaquenil®), 400 mg (Rx) may be prescribed since it is better tolerated, more widely available, and affordable.

–If you are going to an area where *P. vivax* Malaria is predominant, you may be prescribed PRIMAQUINE PHOSPHATE, 30 mg. This drug is also used for Malaria treatment.

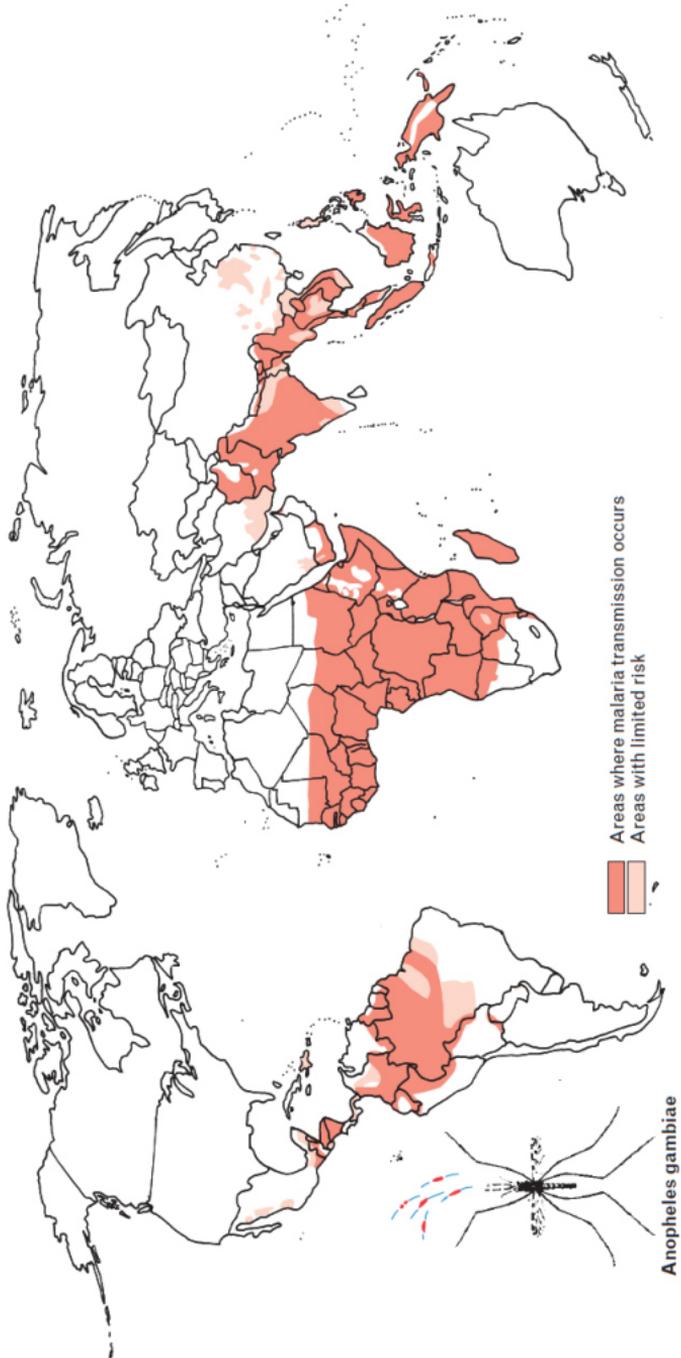
► Note

Before taking PRIMAQUINE PHOSPHATE, make sure to get a G6PD (glucose-6 phosphate dehydrogenase) blood test. This precaution is necessary since this drug may cause a serious potentially life-threatening hemolytic anemia in persons with a genetic deficiency of G6PD.

Treatment

- If a Malaria attack is suspected, seek medical care immediately. Evacuation from the remote area should begin at once.
- Emergency SelfTreatment (also called Standby Emergency Treatment or SBET) may be prescribed for some travelers who are unable to take the optimal drug for protection against Malaria or who are traveling to destinations remote from medical facilities where a definitive diagnosis of Malaria could be made. If you find it necessary to self-treat for symptoms suggesting a possible Malaria infection while traveling, get clear instructions from your healthcare provider before your trip. Remember that Emergency SelfTreatment is just the first step, and if you are not already under the care of a physician, you need to seek medical evaluation urgently for further diagnosis and treatment. See IAMAT's **How to Protect Yourself Against Malaria** whitepaper for details on Emergency SelfTreatment.

2016 WORLD MALARIA RISK MAP



MENTAL HEALTH

Travel is enjoyable, but it can be stressful. Even without a history of mental illness, travel stress, depression, mood changes, anxiety, substance use, and psychosis can unexpectedly disrupt a trip. Psychiatric emergencies are the leading cause for air evacuations among travelers, along with injuries and cardiovascular disease.

Travelers who have successfully managed and controlled mental illnesses can travel safely. However, mental illness is an under-recognized public health concern and travelers often have difficulty accessing adequate care abroad. It is also important to be aware that in some countries, mental illness is criminalized and that a public disturbance due to illicit substance use or unmanaged mental illness can lead to arrest.

Before You Leave

- Talk to your healthcare provider to discuss if the type of travel you are planning is appropriate for you. Get advice on how to stay healthy and how to stay in touch with your healthcare provider and family and friends during your trip (via video calls, instant messaging, texting, email).
- Find a mental health professional at your destination who speaks your language. Contact them to ensure continuity of care.
- Book the most direct route possible to your destination. Avoid stopovers and long hours in transit.
- Travel with a trusted friend, family member, or professional travel companion. If you are traveling alone, set up regular check-in times to reach a family member or friend.
- Register with your consular affairs department in case of an emergency abroad.
- If you are taking medications for your condition, ask your healthcare provider how to adjust your dosage across different time zones. Take your medication routinely and consistently. Do not reduce or stop taking medication without prior approval from your doctor.

- Consider keeping multiple supplies of your medications in case of loss or theft. Keep one supply in your carry-on and the other one in your checked luggage. Do not put liquid medication in the cargo hold due to uncontrolled temperatures.
- Also, ensure that your medications do not interact with prescribed drugs used for travel. For example, some antibiotics and antimalarial pills cannot be taken with psychotropic medications.

During Your Trip

- Give yourself plenty of time to arrive and go through safety checks. Access medical facilities at airports, train stations, and bus depots if needed. You may want to inform transportation personnel about your condition to make your trip more comfortable and less stressful.
- Establish a routine that sets the tone for your trip. Familiarize yourself with your surroundings and if you can, integrate some activities that you are used to doing back home or bring you a sense of comfort.
- Bring a calming item (book, music, mobile device), memento, or journal that provides comfort during stressful situations.
- Know your mental and physical limits. Regularly reassess your original plans and change them to minimize stress levels.
- Know when to stop a challenging situation from escalating. Find non-confrontational solutions.
- Practice relaxing breathing exercises and integrate physical activity such as walking and stretching to relieve stress. Get the appropriate amount of sleep, eat a healthy diet, and stay hydrated.

When You Return

- Book an extra day or two off after you return to recover mentally and physically from your trip. This will help you adjust from jet lag and help you get back into your daily routine.

- Follow-up with your healthcare provider if you needed emergency care abroad or to address any concerns you may have related to post-travel readjustment.

MOTION SICKNESS

Motion sickness with symptoms of dizziness, nausea and vomiting occurs in some individuals during marine travel, but also while flying through air turbulence or driving on twisting or bumpy roads.

Prevention

- Try to focus your eyesight on the horizon or a fixed scenic view.
- Wristbands (Sea-Bands®). Consists of wristbands with a button applying pressure to a selected acupuncture point on each wrist.
- MECLIZINE (Bonine®), 25 mg. Take 1-2 tablets every 24 hours. Take the first dose one hour before travel. Common side effects include sedation, dry mouth, headache, constipation, and excessive sweating.
- ONDANSETRON (Zofran®), 4 mg or 8 mg. Take 1-2 tablets every eight hours for prevention or treatment of nausea. Common side effects include headache, constipation, fatigue, diarrhea, itching.
- SCOPOLAMINE patches (Scopace®) (Rx). Place one patch on skin behind your ear for up to 72 hours to prevent motion sickness. It is most effective if it's applied before travel.

► Note

Common side effects of SCOPOLAMINE include a dry mouth and mild blurring of vision. You can take the patch off at any time when the medication is no longer needed. Be sure to wash your hands thoroughly after handling the patch (if you touch your eyes, your pupils may become dilated). Older travelers may be more susceptible to disorientation while taking this medication. Test your tolerance before travel.



PAIN AND FEVER

Headaches and muscle aches

Stressful travel connections, altitude changes, increased exercise, decreased sleep, altered caffeine intake and unfamiliar foods may all contribute to headaches and muscle aches.

Prevention

- Prepare physically: For trips involving moderate to strenuous physical activity, begin physical fitness training six months or more before departure.
- Get plenty of sleep in the days prior to departure.
- Pay attention to your caffeine intake: If you drink more than 1-2 cups of coffee or other caffeinated beverages per day, you can decrease the risk of 'caffeine withdrawal' headaches by tapering your caffeine consumption in the weeks before the trip to the expected levels of consumption during travel.

Treatment

- IBUPROFEN (Advil®), 200 mg (this is an NSAID, a non-steroidal anti-inflammatory drug). Take according to package directions.

▶ Caution

Do not take this medication if you are allergic to aspirin.

- ACETAMINOPHEN (Tylenol®), 325 mg - 500 mg: Take according to package directions for severe headache or muscle pain.
- Consider mild altitude sickness as a cause of headache at altitudes of 8,000 ft / 2,440 m or more above sea level. Treatment with ACETAZOLAMIDE (Diamox®), 125 mg (one-half of 250 mg tablet) (Rx) or DEXAMETHASONE (Decadron®), 4mg (Rx) may relieve headache and other symptoms. See *Altitude illness*.

Fever

The many possible causes of fever in travelers are beyond the scope of this Guide. However, if you develop a fever of greater than 102°F / 38.9°C during or following travel in areas of Malaria transmission, an attack of Malaria should be the first consideration. Malaria is a serious life-threatening illness that can be successfully treated if diagnosed early. See [*Malaria*](#).

Fever can also be a sign of a serious infection, such as pneumonia, a urinary tract infection or severe gastrointestinal infection. Seek medical care if you experience persistent fever.

RESPIRATORY CONDITIONS

Colds and influenza

Respiratory infections, such as sore throats and upper respiratory infections (URIs) are common during travel. This is the result of exposure to so many individuals (some of whom may be infectious) during travel in closed spaces, such as airplanes, trains, cars, and buses. Another contributing factor is the relatively low humidity of airplane cabins which dries out the respiratory airways and decreases the natural resistance to infection. In addition, travelers are at risk for influenza exposure. Typically, influenza is transmitted from November to April in the northern hemisphere, April to October in the southern hemisphere, and year-round in the tropics.

Prevention

- Wash or sanitize your hands frequently and thoroughly. Respiratory infections are spread by contaminated fingers touching the nose and mouth, as well as by breathing contaminated airborne droplets.
- Flu shot: Get vaccinated against the current strains of viral influenza before your trip.

- Influenza antiviral medications: The drugs OSELTAMIVIR (Tamiflu®) (Rx) and ZANAMIVIR (Relenza®) (Rx) are neuraminidase inhibitors with activity against influenza A and B viruses. These drugs can be prescribed for prevention of influenza in individuals at high risk for complications including young children, people 65 years or older, pregnant women, individuals with chronic underlying medical conditions (heart or lung disease, diabetes), and individuals without a spleen or diminished spleen function.
- Consider wearing a face mask if you have respiratory symptoms or when traveling in enclosed spaces with individuals who are coughing.

Treatment

- Throat lozenges and cough syrup may help to relieve throat irritation and suppress coughs.
- It is important to stay well hydrated during a respiratory infection. Drinking warm fluids may help to relieve congestion.
- Using a prescribed albuterol metered dose inhaler (Proventil® HFA, Ventolin® HFA) may decrease wheezing, coughing and shortness of breath caused by bronchospasm associated with a respiratory infection, allergic reaction to inhaled dust and molds, or severe air pollution. Take 1-2 puffs every 4-6 hours, or as directed by the prescribing healthcare provider.
- Consider getting a prescription for one of the following two antiviral drugs for self-treatment if you are at high risk of influenza and are in a remote area away from medical care:
 - Oral OSELTAMIVIR (Tamiflu®), 75 mg (Rx). Take 1 tablet twice a day for five days. Start within 48 hours of symptom onset.
 - Inhaled ZANAMIVIR (Relenza®), 5 mg powder (Rx). Inhale 2 puffs twice a day for five days. Start within 48 hours of symptom onset.

- For persistent or worsening respiratory infections, particularly with fever, an antibiotic may be needed. Common antibiotics used for respiratory infections include AMOXICILLIN-CLAVULANATE (Augmentin®), 875 mg (Rx) and AZITHROMYCIN (Zithromax®), 250 mg (Rx). See *Travel medicine kit*.

Seasonal allergies

Seasonal allergy symptoms include sneezing, an itchy and runny nose, and irritated eyes resulting from exposure to flowers, trees, grass, and other plants.

Prevention

- Know your triggers for seasonal allergies.
- Limit outdoor exposure during high allergy seasons.
- Close windows and doors at night when pollen counts are high.
- Consider staying in an environment with air conditioning and/or HEPA air filtration system.

Treatment

- Non-sedating antihistamines such as LORATIDINE (Claritin®) or CETIRIZINE (Zyrtec®) should be taken for the symptomatic treatment of seasonal allergies.
- If there are no medical contraindications, the non-sedating antihistamines combined with a decongestant, such as PSEUDOEPHEDRINE (Claritin-D® or Zyrtec-D®) provide additional decongestant relief for more severe seasonal allergies.
- OXYMETAZOLINE (Afrin®) or FLUTICASONE (Flonase®) nasal sprays can be used to relieve nasal allergy symptoms.
- DIPHENHYDRAMINE (Benadryl®) is an effective antihistamine with a rapid response that can be used for seasonal allergies and other allergies, however drowsiness is a common and significant side effect.

Sinus congestion and ear pressure

If sinus congestion or ear pressure is an active problem, use a decongestant during travel prior to descent to avoid pain and barotrauma from air trapped in the sinuses and/or the middle ear during landing.

Prevention

- During air travel, drink plenty of fluids and chew gum or swallow frequently during descent.
- Defer airplane travel, if possible, during an active respiratory infection accompanied by sinus or nasal congestion.
- Do not fly within 24 hours of SCUBA diving.

Treatment

- To relieve nasal congestion from a cold, sinusitis or allergies, use OXYMETAZOLINE (Afrin®) nasal spray, 0.05% solution, according to package directions. This nasal spray is also used for treatment of nosebleeds. See *Nosebleeds*.
- FLUTICASONE (Flonase®) nasal spray, 27.5 mcg/metered spray, may also relieve nasal congestion but takes up to several days of use to provide benefit.
- If you have no medical contraindications to PSEUDOEPHEDRINE, taking non-drowsy antihistamines combined with a decongestant such as LORATIDINE + PSEUDOEPHEDRINE (Claritin-D®) or CETRIZINE + PSEUDOEPHERINE (Zyrtec-D®) prior to air travel may help relieve symptoms. Use according to package directions. Seek medical care if you have severe sinus or middle ear pain accompanied by fever.

Nosebleeds

Travelers may be more prone to nosebleeds during prolonged air travel because of the low humidity in airplane cabins or during travel in hot, dry climates.

Prevention

- Avoid forcefully blowing your nose.
- Drink plenty of fluids to prevent dehydration.
- If you are prone to nosebleeds, avoid medications such as ACETYLSALICYLIC ACID (Aspirin®) and IBUPROFEN (Advil®) if possible.

Treatment

- Sit upright and apply external pressure to both sides of the nasal bridge.
- OXYMETAZOLINE (Afrin®) nasal spray, 0.05% solution, is useful to control nosebleeds that cannot be stopped by external nasal pressure alone. Follow label directions.

SEXUALLY TRANSMITTED INFECTIONS

Sexually Transmitted Infections (STIs) are a risk to travelers who have sex with new partners or sex workers. STIs are caused by bacteria, viruses or parasites and are transmitted via unprotected sex (vaginal, anal, or oral) and skin-to-skin genital contact.

Bacterial infections include Bacterial Vaginosis, Chlamydia, Gonorrhea, and Syphilis. Viruses cause Genital Herpes, Hepatitis B, Human Papillomavirus (HPV) and Human Immunodeficiency Virus (HIV). Parasites are responsible for Trichomoniasis and pubic lice.

STIs occur worldwide, but some infections like Chancroid, Lymphogranuloma venereum (LGV), and Granuloma inguinale are more common in less industrialized countries.

Prevention

- Abstain from sexual activities with strangers and sex workers.
- Always use condoms during sexual intercourse with new partners.

- If you drink alcoholic beverages in social situations, be sure to drink only in moderation so good judgement is not impaired.
- Be cautious of medications that have mind-altering side effects or that may increase the effect of alcohol.
- Do not drink a beverage that you have left unattended, as it may have been tampered with in your absence.

Treatment

- During travel, seek immediate medical attention if you develop abnormal skin lesions, discharge, or pain in the genital area and/or urinary tract system.
- Consult a healthcare provider when you return home for an assessment of possible infections resulting from any suspected high-risk exposures that may have occurred during travel.

SKIN CONDITIONS

Insect bites and stings

The risk of insect bites and stings increases when more time is spent outdoors and in rural or tropical settings where environmental conditions favor insect proliferation. Bed bugs are also a concern for travelers. Accommodations all over the world, regardless if they are first rate hotels, hostels, tea houses, or bed and breakfasts, are at risk of bed bug infestations.

Prevention

- Avoid wearing perfume, cologne and scented cosmetics.
- Wash face and hands carefully with soap and water or a pre-moistened non-scented towelette after handling food and eating. Food residues attract insects.
- Store all food supplies in airtight containers. Uncovered food attracts insects.

Mosquitoes, ticks, sandflies:

- Wear protective clothing that covers arms and legs when outdoors. Avoid wearing bright colors such as those associated with flowers, but also avoid dark colors.
- Use an insect repellent containing 20-30% DEET (Sawyer®, 3M Ultrathon®, Off Deep Woods®). Apply according to directions. DEET is effective against mosquitoes, ticks, sand-flies, fleas, and blackflies (but not against tsetse flies) and is available in lotion, spray, towelette and liquid formulations. 20% PICARIDIN (Sawyer®) is another product that provides similar protection.
- Apply sunscreen first and wait 20 minutes before applying the repellent. Dual sunscreen and repellent products are less effective.
- If traveling where Malaria risk occurs, sleep under an insecticide-treated bed net.
- Use a PERMETHRIN-containing insecticide on clothing and gear. PERMETHRIN comes in a spray or solution, and is a synthetic analogue of pyrethrum, a natural insecticide present in the chrysanthemum plant. It is very effective against mosquitoes, ticks, flies, and bedbugs. Apply to external clothing, mosquito nets, tent flaps, and floor boards.

▶ Best advice

Use PERMETHRIN on your outer clothing only and repellent on exposed skin for optimal protection. Note that this product is not commercially available in Canada.

Bed bugs:

- Inspect your room. Check for feces (small round dark spots that can smudge and stain surfaces), eggs (grain size, milky color), and shells (pale yellow skins that are shed by nymphs) in the following:
 - mattress and box spring seams, creases, and folds
 - headboard, cushions
 - side table drawers, chairs, furniture
 - picture frames, radios, TVs, phones, clocks
 - baseboards, window and door casings, cracks and crevices

- Don't unpack your clothes from your suitcase. Place your luggage in the bathtub or shower stall (bed bugs can't crawl on enamel). If there is no washroom adjacent to your room, place your luggage in a large plastic bag and keep it away from the bed and the floor.
- If the mattress shows no sign of bed bugs, consider using an insecticide-treated bed net to prevent bites from bed bugs living in other areas of the room. Bed bugs are nocturnal insects.
- If you suspect that you brought back bed bugs with you, contact a pest control company for a consultation. Solutions include washing and drying your clothes at the hottest settings and using extreme heat or freezing treatment for large items.

Treatment

- See *Allergic reactions*.

Sun exposure

Exposure of unprotected skin to UVA and UVB rays is associated with sunburn, phototoxic drug reactions, skin wrinkling, and an increased risk of skin cancer.

Prevention

- Wear a hat that shields your face and neck.
- Wear protective clothing: Cover as much of your exposed skin as is practical for a given climate. Remember, not all clothing acts as a total sunblock. Tightly woven materials tend to provide more protection than clothes made from loose weaves or gauzy materials.
- Use a sunscreen to protect exposed areas of skin. A Sun Protection Factor (SPF) rating of 30 or greater should be sufficient depending on your skin type. Apply sunscreen according to directions.
- Use lip balm with a Sun Protection Factor (SPF) 30 or greater.
- Wear sunglasses: Select lenses that filter 100% of the UV rays to protect your eyes from sun damage.

Treatment

- Take an analgesic like ACETAMINOPHEN (Tylenol®) or IBUPROFEN (Advil®) according to directions for pain relief and inflammation.
- Apply HYDROCORTISONE 1% CREAM (Cortaid®, Cortizone®) for topical relief of stinging and itching.
- Apply skin moisturizer containing healing agents for soothing relief of intact sunburned skin areas.

▶ Note

Watch for the development of secondary skin infection around areas where skin is blistering or peeling. If you are remote from medical care, use a topical antibiotic like MUPIROCIN (Bactroban®), 2% ointment (Rx) or an oral antibiotic like CEPHALEXIN (Keflex®), 250 mg - 500 mg (Rx) for treatment of a presumed local skin infection manifested by redness, tenderness, and weeping that develops in areas of skin breakdown. See Skin and soft tissue infections.

Fungal infections | Athlete's foot

Athlete's foot is a common foot fungal infection that usually begins between the toes causing itching, burning, and skin breakdown. Athlete's foot is exacerbated by long walks or hikes where your feet are trapped inside shoes for many hours each day. Fungal infections also often occur on the upper thighs and between the legs during travel to a tropical climate.

Prevention

- Keep feet as dry as possible by wearing appropriate foot gear and socks made of wool or synthetic materials (not cotton) that wick moisture away from the skin. Air dry your feet as much as possible.
- Sprinkle a small amount of antifungal foot powder such as TOLNAFTATE 1% (Tinactin®) topical powder into socks each day.

Treatment

- Continue using antifungal foot powder for two weeks after symptoms have disappeared.
- Use antifungal creams such as MICONAZOLE (Micatin®), CLORTRIMAZOLE (Lotrimin®) or TERAONAZOLE (Terazol®) according to package instructions.
See *Travel medicine kit*.

Skin and soft tissue infections

Skin infections are common in travelers due to insect bites and minor trauma resulting in abrasions and breaks in the skin. These infections can range from a small localized infection, like a pimple, to a larger, more painful infection, such as an abscess or cellulitis. Proper wound management, including skin cleansing with soap and water immediately after an injury and protection of the wound until full scab formation can minimize the need for antibiotics. If you are prone to serious skin infections, carry appropriate antibiotic treatment prescribed by your healthcare provider.

MRSA (methicillin-resistant *Staphylococcus aureus*) is a skin infection resistant to methicillin, penicillin and cephalosporin antibiotics that were once useful in treating such infections. MRSA has become increasingly problematic due to antibiotic resistance and increased virulence. Community-acquired MRSA infections are reported throughout the world.

Prevention

- Keep hands clean, especially before personal grooming activities, and shower promptly after using public athletic and spa facilities where shared equipment and benches may harbor *Staphylococcus aureus* bacteria.
- Prevent insect bites. See *Insect bites and stings*.

- Avoid scratching insect bites. Minimize itching by using oral antihistamines such as LORATADINE (Claritin®), CETIRIZINE (Zyrtec®) or DIPHENHYDRAMINE (Benadryl®).
- Never share personal items such as razors and towels.
- Avoid tattooing, shaving, and waxing done commercially during travel.
- If you have a chronic skin condition such as eczema or psoriasis, discuss strategies to optimize skin health with your healthcare provider prior to travel.
- Treat abrasions and breaks in the skin with appropriate first aid procedures. Consider carrying a skin cleansing agent such as CHLORHEXIDINE (Hibiclens®) to minimize bacterial wound contamination.
- Seek immediate medical attention if you notice any signs of a potential skin infection such as increasing redness, tenderness, swelling, or pus – even if the signs of infection are not near the original site of the injury.

Treatment

If you are traveling to a remote destination and/or are at high risk for complex skin infections, consider getting an oral antibiotic prescribed by your healthcare provider.

Antibiotic options for treatment of skin infections include:

- MUPIROICIN (Bactroban®) 2% ointment (Rx). Use for treatment of superficial skin infection with minimal redness and swelling without pain or pus.
- CEPHALEXIN (Keflex®), 250 mg - 500 mg (Rx). Use for treatment of skin infection with increasing redness and swelling with pain, localized pus drainage, and if no MRSA suspected.
- TRIMETHOPRIM 160 mg + SULFAMETHOXAZOLE 800 mg (Bactrim DS™) (Rx). Use for treatment of skin infection caused by MRSA.
- AMOXICILLIN 875 mg + CLAVULANATE 125 mg (Augmentin®) (Rx). Use for treatment of skin infection, especially soft tissue infection, associated with animal bite wounds.

- CIPROFLOXACIN (Cipro[®]), 500 mg (Rx). Use for treatment of skin and soft tissue infection if allergic to penicillin and related drugs (including AMOXICILLIN and CEPHALEXIN).

WATER DISINFECTION

Disinfecting drinking water of uncertain quality is an important way to decrease the risk of traveler's diarrhea and other illnesses transmitted through contaminated water.

- **Heat:** Boiling water is the most effective method for disinfecting water. It kills disease-causing pathogens; that's why coffee, tea, and other beverages made with boiled water are usually safe to drink.
- **Halogens:** Chemical disinfection includes treating water with chlorine dioxide, chlorine, or iodine (Aquamira[®], Potable Aqua[®]). This method is relatively cheap and can be adapted to different quantities of water, but using it requires some understanding of how to scale the dosage up or down. Note that halogens should only be used in short-term emergency situations.

▶ Caution

Do not use iodine if you are pregnant, have a thyroid condition, or an iodine allergy.

- **Filtration:** There are many models and types available, and some combine filtration with chemical treatment technology (Katadyn[®], Aquapure[®]). Select the water filter based on travel style and duration, and expected volume of drinking water that will be processed. Filters with an absolute pore size of 0.1 to 0.4 microns will remove parasite cysts and bacteria.

▶ Note

Many filters do not remove viruses and may clog with cloudy water. Treat water with heat, halogens, or ultraviolet light after filtration.

- **Ultraviolet Treatment:** A portable UV light device (SteriPEN®) purifies water by disrupting the DNA of microorganisms in water, reducing the pathogen count. This method is effective against all microorganisms and adds no taste to the treated water. However, to be disinfected, the water needs to be clear, contact time varies according to the volume of water to be disinfected, and the device is battery-operated.
- **Clarification:** Cloudy water is made clearer by removing particles suspended in it. Techniques like sedimentation (letting large particles settle to the bottom) and coagulation-flocculation (using a coagulant like alum to make particles clump together and separate from clear water) may be used. You may find that a pre-filtration step with a coarse filter made for this purpose is more convenient before undertaking the final disinfection process with chemicals, UV light, or final filtration.

WATER-RELATED ILLNESSES

Caution is advised regarding infectious disease hazards during swimming and other water activities in fresh bodies of water such as rivers, streams, lakes, ponds, swamps, and marshes. Schistosomiasis and Leptospirosis are two infections of particular risk to travelers who participate in water activities.

Schistosomiasis, also known as Bilharzia, is an infection caused by blood flukes penetrating intact skin. It is transmitted by snails living in fresh water such as lakes, rivers, streams and ponds. Schistosomiasis is endemic in some countries in Africa, the Middle East, South America, and Southeast Asia. Travelers acquire this infection during swimming, snorkeling, and rafting in contaminated fresh water. For more details, consult IAMAT's **World Schistosomiasis Risk Chart** and **Be Aware of Schistosomiasis** whitepaper.

Prevention

- Avoid fresh water activities in areas where Schistosomiasis is known to be a problem.
- After accidental contact with potentially contaminated water, remove wet clothing and towel dry the skin immediately.

Treatment

- Consult a tropical medicine or an infectious diseases specialist following water exposure in areas where Schistosomiasis is a risk for assessment and diagnostic testing. The incubation period is usually 6-8 weeks and early treatment with an anti-parasitic drug like PRAZIQUANTEL (Biltricide®) may prevent serious damage from chronic infection.

Leptospirosis is a bacterial infection causing fever, headache, jaundice (yellowing of the skin) and other more serious complications. It is acquired from exposure to water or soil contaminated with infected urine from animals such as dogs, rodents, and livestock. Although the infection occurs worldwide, the risk is especially common in humid tropical climates.

Prevention

- Avoid skin immersion and fresh water activities where Leptospirosis is known to be a problem.
- Wear foot protection when walking on wet muddy ground or in potentially contaminated bodies of water.

Treatment

- Take DOXYCYCLINE (Vibramycin®), 200 mg weekly starting 1-2 days before and continuing through the period of exposure for people at high risk of Leptospirosis. This regimen may help to prevent infections in travelers where contact with potentially contaminated water is anticipated (ie. adventure racers, field biologists, hikers, campers, relief workers in flood zones).
- Consult an infectious disease or tropical medicine specialist if symptoms develop following suspected exposure.

WOMEN'S HEALTH

Women need to carefully assess their individual health needs prior to international travel. It's important to plan for menstruation, self-treatment for commonly experienced infections, contraception, and prevention of sexually transmitted infections (STIs) due to limited access to familiar personal hygiene products and resources during the trip.

Sexually active women are at increased risk for STIs, sexual violence, unwanted pregnancy, and pelvic inflammatory disease. Women are encouraged to have a contraceptive plan prior to travel, get the human papilloma virus (HPV) vaccine if age-appropriate, and use condoms if not in a monogamous relationship.

Vaginitis

Major risk factors for yeast vaginitis can be recent use of antibiotics, history of immunosuppression or diabetes, and/or use of contraceptives such as oral contraceptive pills (OCP) or intrauterine devices (IUD).

Options for self-treatment include topical antifungal agents like MICONAZOLE (Monistat®), CLORTRIMAZOLE (Lotrimin®), and TERAACONAZOLE

(Terazol®). Common adverse reactions may include vulvovaginal burning, itching, swelling, pelvic pain, and cramping.

These topical agents can also be taken in combination with FLUCONAZOLE (Diflucan®), 150 mg tablet repeated in 72 hours if needed. Women travelers often prefer to carry this medication due to convenience of dosing and size. Common adverse reactions may include nausea, headache, rash, vomiting, abdominal pain, diarrhea, painful menstruation, and dizziness.

▶ Caution

Do not take FLUCONAZOLE if you have liver disease or arrhythmia.

Contraception

Women traveling for extended trips should consider using an intrauterine device (IUD) or contraceptive implants like etonogestrel implant (Nexplanon®) rather than oral contraceptive pills. Both the IUD (Paragard®, Mirena®, Jaydess®) and implantable devices are more effective than pills and eliminate the need for carrying extra supplies. In addition, the need to negotiate with your insurance plan and/or pharmacy to fill multiple pill packs before travel is eliminated. Sexually active women (and men) should also travel with a supply of high-quality latex condoms. In addition to being a safe, effective and inexpensive contraception option that may be used in conjunction with other methods, condoms provide barrier protection against sexually transmitted infections.

Emergency Contraception

In the event of contraceptive failure or rape, women should carry emergency contraception since it is not available in many parts of the world. Options include:

- LEVONOGESTREL (Plan B One-Step®), 1.5 mg (Rx):

Take 1 tablet as soon as possible after unprotected intercourse. This form of emergency contraception is most effective if taken within 72 hours or three days of intercourse. Repeat dose within three hours if vomiting occurs. It works by altering tubal transport of ova and sperm and prevents implantation. Common adverse reactions may include menstrual irregularities, nausea, abdominal pain, fatigue, headache, dizziness, breast tenderness, vomiting, and diarrhea.

▶ Caution

Do not take LEVONOGESTREL if you are pregnant or have undiagnosed vaginal bleeding.

- ULIPRISTAL (Ella®), 30 mg (Rx): Take 1 tablet as soon as possible after unprotected intercourse. This form of emergency contraception is most effective if taken within 120 hours or five days. Repeat dose in three hours if vomiting occurs. It works by binding to progesterone receptors and possibly delays ovulation preventing implantation. Common adverse reactions may include menstrual irregularities, headache, abdominal pain, vomiting, painful menstruation, fatigue, and dizziness.

▶ Caution

Do not take ULIPRISTAL if you are pregnant or have undiagnosed vaginal bleeding.

Menstrual cups

Women travelers that plan extended trips may consider the use of a menstrual cup for control of vaginal bleeding rather than bringing supplies of menstrual pads and/ or tampons. Menstrual cups are bell-shaped and made of latex, silicone, or are thermoplastic (TPE). Common cup names include DivaCup®, Fleurcup®, and Meluna®, and are available online and in some pharmacies. These cups are reusable and designed to last for up to 10 years. Some brands recommend replacement every year since it is a hygiene product. Menstrual cups are not intended to replace contraception.

Urinary Tract Infections

Women with a history of recurrent uncomplicated urinary tract infections (UTIs) – with no predisposing structural or functional abnormality of the genitourinary tract – should consider carrying antibiotics for self-treatment when typical symptoms of frequent and painful urination (in the absence of vaginal irritation or discharge) develop during travel. Such antibiotic regimens are typically 3-7 days in duration. Seek medical care if there is no improvement in symptoms within 48 hours or if you develop symptoms such as nausea, fever, chills, and flank pain that may suggest a more serious infection such as pyelonephritis. Commonly prescribed antibiotics include:

- NITROFURANTOIN (Macrobid®), 100 mg (Rx): Take 1 tablet, twice daily for seven days. Adverse reactions may include nausea, vomiting, anorexia, abdominal pain, diarrhea, dizziness, headache, and fatigue.

▶ Caution

Do not use NITROFURANTOIN if you have an allergy to this class of antibiotics or have a G6PD deficiency.

- TRIMETHOPRIM 160 mg + SULFAMETHOXAZOLE 800 mg (Bactrim DS™) (Rx): Take 1 tablet, twice daily for three days. Adverse reactions may include a rash, itching, nausea, vomiting, diarrhea, heartburn, headache, and fatigue. Rare side effects include Stevens-Johnson syndrome, agranulocytosis, thrombocytopenia, hepatotoxicity.

▶ Caution

Do not take these medications if you are allergic to sulfonamides.

- CIPROFLOXACIN (Cipro®), 250 mg (Rx): Take 1 tablet, twice daily for three days. Adverse reactions may include nausea, vomiting, abdominal pain, headache, dizziness, heartburn, and tendonitis.

▶ Caution

Do not take CIPROFLOXACIN if you are allergic to fluoroquinolones, have cardiac dysrhythmias, severe renal or liver impairment.

Resources

The resources listed are for your information and do not constitute endorsement by IAMAT.

Find a travel health clinic

- **USA - International Society of Travel Medicine:** www.istm.org
- **USA – American Society of Tropical Medicine and Hygiene:** www.astmh.org
- **Canada – Public Health Agency of Canada:** www.phac-aspc.gc.ca

Check with your local public health agency for authorized Yellow Fever vaccine centers.

Travel health advisories

- **World Health Organization:** www.who.int
- **Centers for Disease Control and Prevention:** www.cdc.gov
- **Public Health Agency of Canada:** www.phac-aspc.gc.ca

Accessibility travel

- **Society for Accessible Travel and Hospitality:** www.sath.org
- **Flying With Disability:** www.flying-with-disability.org
- **Disabled World:** www.disabled-world.com

Pregnant travelers

- **American Pregnancy Association:** www.americanpregnancy.org/pregnancyhealth/travel.html

Traveling with children

- **Kids Travel Doc:** www.kidstraveldoc.com/

Traveling with diabetes

- **American Diabetes Association:** www.diabetes.org
- **Canadian Diabetes Association:** www.diabetes.ca

Traveling with heart conditions

- **British Heart Foundation:**

www.bhf.org.uk/heart-health/living-with-a-heart-condition/holidays-and-travel#

- **American Heart Association:** www.heart.org

Traveling with HIV/AIDS

- **The Global Database on HIV Travel Restrictions:**

www.hivtravel.org

- **NAM aidsmap:** www.aidsmap.com

Traveling with kidney conditions

- **National Kidney Foundation:** www.kidney.org

- **Global Dialysis:** www.globaldialysis.com

Traveling with pulmonary conditions

- **European Lung Foundation:**

www.european-lung-foundation.org

- **American Lung Association:** www.lung.org

Traveling with medications

- **US Customs and Border Patrol:** www.cbp.gov/travel

- **Government of Canada, Travel Health:**

www.travel.gc.ca/travelling/health-safety/medication

- **Fight the Fakes:** www.fightthefakes.org

- **CDC Counterfeit Drugs:**

www.cdc.gov/Features/CounterfeitDrugs/index.html

- **International Narcotics Control Board:**

www.incb.org/incb/en/publications/Guidelines.html

Road safety

- **The Association of Safe International Road Safety:**

www.asirt.org

Wilderness first aid

- **Basic Illustrated Wilderness First Aid by William W. Forgey, MD.**

www.amazon.com/Basic-Illustrated-Wilderness-Essentials-Series/dp/0762747641

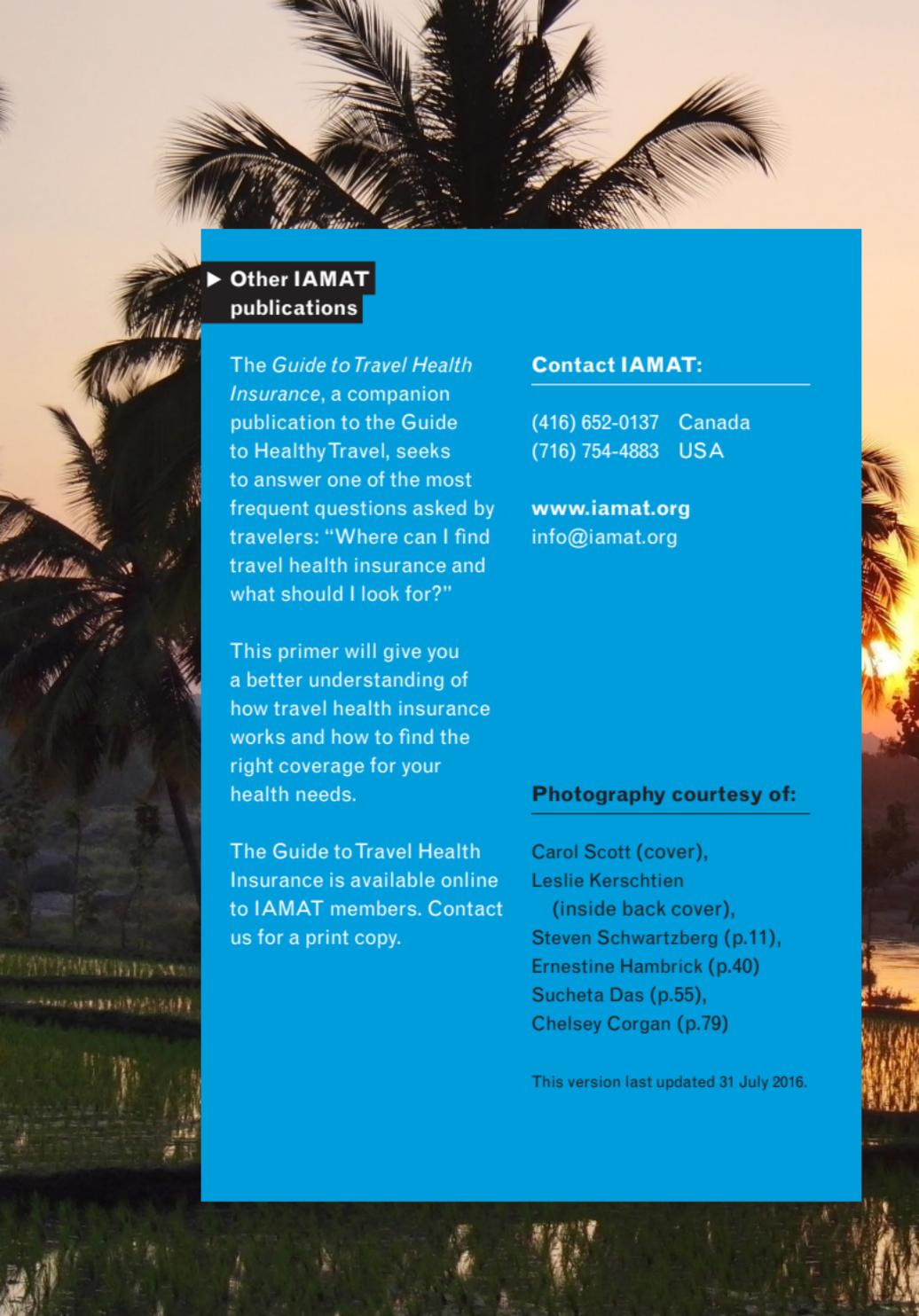
Medical gear and travel supplies

- **Chinook Medical Gear:** www.chinookmed.com
- **Magellan's:** www.magellans.com

Professional organizations

- **International Society of Travel Medicine:** www.istm.org
- **American Society of Tropical Medicine and Hygiene:** www.astmh.org
- **Wilderness Medical Society:** www.wms.org
- **International Society for Mountain Medicine:** www.ismmed.org
- **Institute for Altitude Medicine:** www.altitudemedicine.org





► **Other IAMAT publications**

The *Guide to Travel Health Insurance*, a companion publication to the Guide to HealthyTravel, seeks to answer one of the most frequent questions asked by travelers: "Where can I find travel health insurance and what should I look for?"

This primer will give you a better understanding of how travel health insurance works and how to find the right coverage for your health needs.

The Guide to Travel Health Insurance is available online to IAMAT members. Contact us for a print copy.

Contact IAMAT:

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