

The Pretravel Consultation

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The increase in travel and travel medicine knowledge over the past 30 years makes pretravel counseling an essential part of comprehensive family medicine. Effective counseling begins with assessment of individual and itinerary-based risks, using a growing body of evidence-based decision-support tools and resources. Counseling recommendations should be tailored to the patient's risk tolerance and experience. An essential component of the pretravel consultation includes reviewing routine and destination-specific immunizations. In addition to implementing behavioral adaptations, travelers can guard against vector-borne disease by using *N,N*-diethyl-*m*-toluamide (DEET, 30%), a safe and effective insect repellent. Patients should also receive malarial chemoprophylaxis when traveling to areas of risk. Proper precautions can reduce the risk of food- and waterborne disease. Travelers should take appropriate precautions when traveling to high altitudes. Strategies for minimizing the risk of deep venous thrombosis during air travel include keeping mobile and wearing compression stockings. Accident avoidance and coping strategies for health problems that occur while abroad are also important components of the pretravel consultation. (*Am Fam Physician*. 2009;80(6):583-590. Copyright © 2009 American Academy of Family Physicians.)



ILLUSTRATION BY BERT OPPENHEIM

Travel medicine is often relegated to the purview of infectious diseases. However, its emphasis is prevention—not only of tropical disease, but also of common disease—and it takes into consideration preexisting chronic conditions, behavioral risk factors, nonbiologic health threats, and the individual traveler's risk tolerance. Multidisciplinary in its scope, travel medicine lends itself well to the family physician's broad training, counseling skills, and focus on prevention and continuity. In the United States, surveys of travel physicians show that 38 percent trained in family medicine or general internal medicine; in Canada, 54 percent trained in family medicine.¹

Risk Stratification and Shared Decision Making

A successful pretravel consultation involves risk identification, stratification, and counseling to make the patient aware of and comfortable with travel risks (*Table 1*).¹⁻¹¹ Physicians should remind travelers that risk is present at home and abroad, and that the risk of exotic or unusual conditions is low for

many destinations and can be minimized for others (*Figure 1*).¹² Effective pretravel consultation begins with a process of assessing and conveying the epidemiologic likelihood of disease and injury connected with the trip (*Table 2*), which depends on traveler- and itinerary-specific factors. A two-week trip through Western Europe has a far different risk profile than a two-year Peace Corps tour in West Africa.^{2,12} Point-of-care references are essential for primary care physicians to be able to provide the most appropriate advice for a specific destination (*Table 3*). Similarly, traveler factors such as age, chronic disease, immunocompromise, and pregnancy potentially influence the epidemiologic risk associated with specific destinations, and consultation with a travel medicine subspecialist may be indicated for optimal care of patients at higher risk. *Figure 2* presents an algorithm for identifying travelers who may require specialized advice.

Travel epidemiology should be balanced with shared decision making, which requires assessing and incorporating the patient's health belief model and level of risk tolerance

Table 1. The Pretravel Consultation: Hazard Avoidance Advice

<i>Hazard</i>	<i>Examples</i>	<i>Precautions</i>
Insect-borne disease	Malaria, Japanese encephalitis, filariasis, trypanosomiasis, leishmaniasis, dengue, yellow fever	Insect repellents with 30% DEET or 20% picaridin are effective for the prevention of many vector-borne diseases (e.g., malaria) ¹ Wear proper clothing (i.e., loose-fitting, covering as much skin as possible) when traveling to high-risk areas Consider permethrin-impregnated bednets when traveling to high-risk areas Minimize outdoor exposure during times of peak vector activity in high-risk areas Appropriate chemoprophylaxis is effective for preventing malaria ¹⁻⁶ (see Table 5)
Foodborne disease	Acute diarrheal disease, hepatitis A, various parasitic diseases	Cook all food thoroughly; avoid foods that cannot be boiled or peeled Consider self-directed therapy for traveler's diarrhea (first-line treatment: ciprofloxacin [Cipro], 500 mg twice daily for one to three days; azithromycin [Zithromax], 500 mg daily for one to three days in southeast Asia; rifaximin [Xifaxan], 200 mg three times daily for three days is an alternative)* Antimotility agents such as loperamide (Imodium) may be used in the absence of fever or bloody diarrhea Although discouraged for most travelers, chemoprophylaxis for traveler's diarrhea can be considered for select travelers with brief itineraries (e.g., bismuth subsalicylate [Pepto-Bismol], 524 mg four times daily; ciprofloxacin, 500 mg daily; rifaximin, 200 mg twice daily) ^{7,8}
Waterborne disease	Acute diarrheal disease (including cholera), gastrointestinal parasites, typhoid fever, schistosomiasis	Drink only bottled, boiled, iodinated, microfiltered, or carbonated beverages Avoid ice in beverages, and do not brush teeth with tap water ⁹ Antibiotic chemoprophylaxis as described above for foodborne disease Consider offering self-directed therapy for traveler's diarrhea as described above for foodborne disease* Avoid swimming in unchlorinated freshwater ⁹
Solar injury	Sunburn, skin neoplasia	Wear proper clothing (including broad-brimmed hat) Use sunscreen (SPF of at least 30) Avoid sun during peak hours, especially at higher altitudes and lower latitudes
Altitude sickness	Acute mountain sickness, high-altitude pulmonary edema, high-altitude cerebral edema	Ascend slowly (1,000 ft per day above 8,000 ft), with time to acclimatize ¹⁰ Rapid descent is advisable if significant illness develops ¹⁰ Consider prophylactic acetazolamide (formerly Diamox; 125 to 250 mg twice daily) ¹¹
Transportation-related illness	DVT, motion sickness, barotrauma, jet lag, ionizing radiation	Avoidance of ionizing radiation is particularly important in pregnant and frequent travelers Staying hydrated, moving around the cabin, and wearing compression stockings may decrease risk of DVT during air travel Wait 24 to 48 hours to fly after scuba diving with decompression stops Scopolamine (1.5-mg patch every three days) or dimenhydrinate (Dramamine; 50 mg every six hours) diminishes motion sickness Pseudoephedrine (60 mg every six hours) may decrease risk of barotrauma Staying hydrated and avoiding caffeine during air travel may decrease jet lag; consuming caffeinated beverages in the mornings after arrival may aid in alertness, and melatonin may promote sleep; exposure to bright light during the day and dim lights during the evenings may speed acclimatization
Accidental injury	Motor vehicle crashes, falls, electrocution, drowning	Practice situational awareness Use seat belts (if available) and other personal protective measures Avoid driving at night Obtain medical evacuation insurance
Political hazards	Harassment, arrest, abduction, assault	Avoid large crowds and demonstrations Travel in pairs or small groups Be familiar with local laws Be aware that persons with dual citizenship may be subject to local requirements, including conscription

DEET = N,N-diethyl-m-toluamide; DVT = deep venous thrombosis; SPF = skin protection factor.

*—Traveler's diarrhea is common when food and water precautions are not strictly practiced. Fluoroquinolones are the first choice for treatment, although *Campylobacter* resistance is developing in some regions, particularly southeastern and southern Asia. Dosages and/or agents differ for children and pregnant women.

Information from references 1 through 11.

SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendation	Evidence rating	References
Insect repellents with 30% DEET or 20% picaridin are effective for the prevention of many vector-borne diseases (e.g., malaria).	B	1
Appropriate chemoprophylaxis is effective at preventing malaria in travelers.	A	1-6
Persons traveling to high-altitude areas should be advised to ascend slowly (1,000 ft per day above 8,000 ft) and allow time to acclimatize. Rapid descent should be advised if significant illness develops.	C	10
Prophylactic acetazolamide (formerly Diamox), at a dosage of 125 to 500 mg twice daily, can be considered for persons traveling to high-altitude areas.	C	11
Chemoprophylaxis for traveler's diarrhea can be considered for select travelers with brief itineraries.	C	7, 8

DEET = N,N-diethyl-m-toluamide.

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to <http://www.aafp.org/afpsort.xml>.

into decisions about disease prophylaxis. Furthermore, such assessment helps to determine the direction of the physician's limited counseling time; for example, additional time may be needed for counseling on topics such as local risk of sexually transmitted disease exposure, food safety, and crime avoidance.

Topics for Discussion

MORBIDITY AND MORTALITY

Reported morbidity among travelers varies widely, but as many as 75 percent of short-term travelers to developing nations report experiencing some health impairment.¹² Minor ailments are quite prevalent, with traveler's diarrhea by far the most common. Patients should be counseled that average mortality rates for travelers to developing nations may actually be lower than those of nontravelers^{12,13}; that trauma, not infectious disease, is the leading cause of death in younger travelers; and that cardiovascular disease is the greatest threat in older travelers.^{7,13} Among infectious sources, the most common cause of death is falciparum malaria, which is easily prevented with appropriate precautions and awareness.

IMMUNIZATIONS

Immunization is the most common reason cited by patients for seeking pretravel medical consultations. Appropriate immunization greatly enhances a traveler's likelihood of remaining healthy (Table 4). In addition to ensuring that all routine immunizations are up-to-date, special immunizations may be advisable based on individual risk tolerance,

Morbidity in Travelers to Developing Countries, 2008

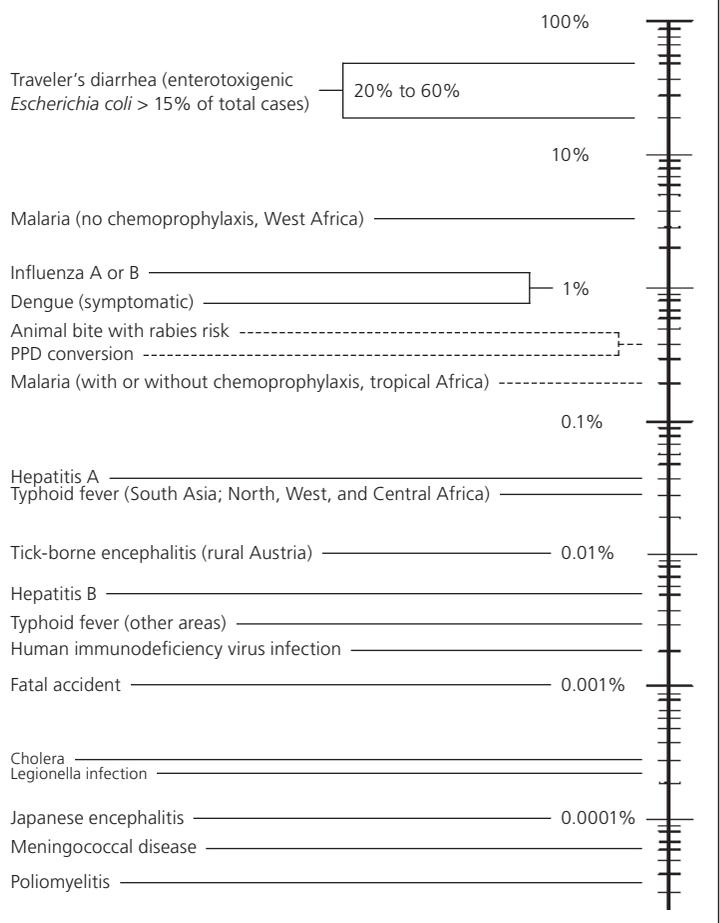


Figure 1. Incidence rate per month of health problems in persons traveling to developing countries in 2008. (PPD=purified protein derivative.)

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Table 2. The Pretravel Consultation: Risk Stratification

<i>Risk factor</i>	<i>Examples</i>	<i>Risk factor</i>	<i>Examples</i>
Traveler-dependent		Itinerary-dependent	
Demographics	Extremes of age (i.e., children and older persons) Persons with dual citizenship Women of childbearing age	Accommodations	Business hotels with sealed windows and water filtration systems versus "rustic" inns (changes nighttime vector exposure and water hazards; utilities may be unavailable)
Medical history	Chronic illness (certain destinations or activities may be ill-advised, such as high altitude in patients with chronic obstructive pulmonary disease, asthma, or heart conditions) Impaired cognition Immune status (live vaccines are contraindicated in patients with immunodeficiency) Medication use and allergies Pregnancy	Destination	Exposures vary by country and region, and duration in each; epidemiology does not respect national boundaries
Personal characteristics	Health belief model Experience as traveler Risk tolerance Expatriates returning home (these patients seek less travel advice and are more likely to become ill) High-risk behaviors (may merit additional counseling [e.g., regarding sexually transmitted disease risks or evacuation insurance])	Duration	Longer trips (may increase exposures; may require different vaccines, antimalarials, and preparations for travelers with chronic disease)
Special needs	Accessibility and assistance needs	Microenvironment	Altitude (8,000 ft or higher merits altitude sickness counseling) Season (more mosquito exposure possible in rainy season) Extreme climates (may increase ultraviolet light and cold exposure) Rural versus urban (changes exposures to insects, food, and water) Jungle, desert, tundra, agricultural lands
Vaccination and reaction history	Egg allergies (potential contraindication for measles, mumps, and rubella; yellow fever; influenza; and rabies vaccines) Psoriasis (biologic therapy is a potential contraindication to live vaccines and chloroquine [Aralen]) Seizure (avoid mefloquine [formerly Lariam]); possible contraindication for yellow fever and other vaccines, and for scuba diving)	Mode of travel	Air (flights longer than eight hours may increase risk of deep venous thrombosis) Cruise ship (recent outbreaks of viral gastroenteritis) Mode of local ground transportation
		Purpose and activities	Risk tolerance and risk-taking may vary Adventure sports versus sightseeing Family visit Business versus tourism Humanitarian work Animal exposures Occupational exposures (e.g., health care professionals, wildlife biologists, agronomists, military personnel or contractors)

geographic destination, behavioral or occupational risk factors, seasonal disease variations, and current outbreaks. Information and current recommendations for travel vaccination are available from the Centers for Disease Control and Prevention (<http://www.cdc.gov/travel>).

Use of decision support is essential to safe and appropriate vaccine administration in travelers. Some vaccines may be contraindicated for certain travelers. Depending on the destination, immunizations may be advisable that are not available in the typical family physician's office or that require special certification, such as yellow fever vaccine. To meet the pretravel vaccine needs of their patients, physicians should locate and offer a list of local clinics that are certified to deliver these vaccines; consider which suppliers can deliver these vaccines quickly; and contemplate the cost implications for the office and patient, who may choose to return for a nurse visit to receive the vaccine.

INSECT AVOIDANCE

Vector-borne disease is a significant source of traveler morbidity. Although reasonably effective malaria prophylaxis regimens are available, other diseases can be prevented only by insect avoidance. *N,N*-diethyl-*m*-toluamide (DEET, 30%) is the most effective and safest insect repellent available, and should be recommended to all travelers.¹ Other agents, such as picaridin, have also been shown to offer some protection.¹⁴

Proper clothing, insecticide-impregnated bednets in high-risk areas, and behavioral measures decrease the risk of acquiring vector-borne illness and should be encouraged. Insect precautions, awareness of seasonal importance in the prevalence of insect vectors and disease, antimalarial chemoprophylaxis, and vaccination against vector-borne illnesses (where available) should be advised to persons traveling to high-risk areas.¹⁻⁶ This information is best rendered with the aid of decision-support tools

Table 3. Decision-Support Tools and Resources for Physicians Who Counsel Travelers

Resource	Web site	Cost basis	Comments
Travel counseling			
Centers for Disease Control and Prevention	http://www.cdc.gov/travel	Free	Starting point for understanding travel health risk; tends to be generalized by region and conservative in advice
Exodus Software	http://www.exodus.ie	Subscription	Travel medicine software
Gideon	http://www.gideononline.com	Subscription	Online application to assist with diagnosing infectious diseases and staying abreast of epidemiologic trends, treatment, and microbiology
International SOS	http://www.internationalsos.com	Subscription	Travel insurance, security reports, and overseas clinics
Travax EnCompass	http://www.travax.com	Subscription	More specific, itinerary-based support, detailed and customizable traveler handouts, and advice on travel medicine
Tropimed	http://www.tropimed.com	Subscription	Up-to-date information on travel medicine, available on CD-ROM or via the Internet
Geopolitical information			
Global Incident Map	http://www.globalincidentmap.com	Subscription	Online graphic display of terrorist-related incidents worldwide, with links to news media outlets detailing the events
U.S. State Department	http://www.travel.state.gov	Free	Resource for registering travel itineraries, locating consular information, and keeping abreast of itinerary-specific travel advisories
Other			
American Committee on Clinical Tropical Medicine and Travelers' Health	http://www.astmh.org/source/clinicaldirectory	Free	List of physicians who offer clinical consultative services in tropical medicine, medical parasitology, and traveler's health
Global Gazetteer	http://www.fallingrain.com/world	Free	Altitudinal information on all world cities
Insure My Trip	http://www.insuremytrip.com	Free	Web-based resource for travelers to compare rates and benefits of various travel insurance plans
The International Society of Travel Medicine	http://www.istm.org	Free	Travel clinic directory and other resources

that offer maps of vector and disease exposure. However, evidence for the effect of such counseling on adherence and ultimate disease risk is variable.^{3,4}

FOOD AND WATER PRECAUTIONS

A leading cause of morbidity among travelers is gastrointestinal disturbance from food- and waterborne diseases. Traveler's diarrhea is the most common disease among travelers, increasing in frequency when food and water precautions are not strictly practiced. Fluoroquinolones are the first choice for treatment, although *Campylobacter* resistance is developing in some regions. Dosages and agents differ for children and pregnant women. Because recommendations to lower the risk of these diseases are quite restrictive and the evidence supporting the effectiveness of counseling is lacking, shared decision making about acceptable risk is critical. More adventuresome travelers may be willing to risk disease to fully participate in the local cultural experiences, whereas a business traveler may wish to be as cautious as possible.

ENVIRONMENTAL PRECAUTIONS

Water ingestion is not the only swimming-related risk; immersion also presents risks. Various diseases, such as

schistosomiasis and *Naegleria* infection, may be acquired by swimming in unchlorinated freshwater. Although salt-water is generally safer than tropical freshwater, persons

The Pretravel Consultation

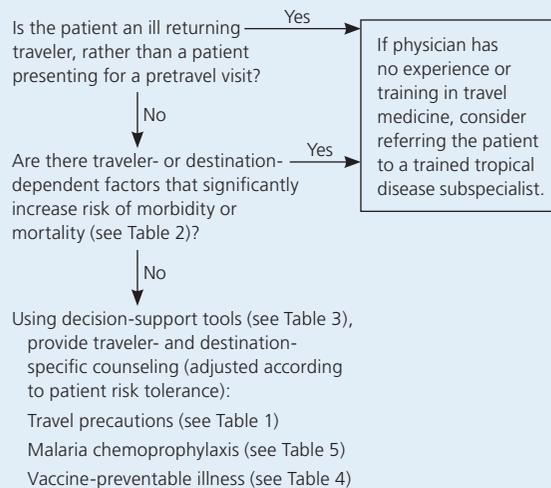


Figure 2. Algorithm for pretravel consultation.

Table 4. Travel Immunizations

<i>Vaccination</i>	<i>Indication</i>	<i>Administration</i>
Cholera*	Consider for long-term travel to endemic areas or areas with active outbreaks	—
<i>Haemophilus influenzae</i> type b	All travelers younger than five years and previously unvaccinated asplenic travelers	Accelerated dosing schedule available for infants Single dose in asplenic persons older than five years
Hepatitis A	All travelers to endemic areas	Two doses, six to 24 months apart
Hepatitis B	Travelers with prolonged trips, frequent shorter trips to high-risk areas, or expected exposure to needles or new sexual contacts; travelers at high risk of needing medical care; and health care professionals	Three doses (months 0, 1, and 6 to 12)
Influenza	All travelers should receive annual influenza vaccination per usual schedule	Annual booster required
Japanese encephalitis	Travelers for more than one month to endemic rural areas of eastern Asia, including the Indian subcontinent, during transmission season	Three doses (days 0, 7, and 14 to 30) Booster required every three years†
Meningococcal conjugate vaccine	Travelers to Saudi Arabia and sub-Saharan Africa, especially those with asplenia	Single injection Booster required every three years (Menomune) or every eight to 10 years (Menactra)
MMR	All travelers older than six months; children six to 12 months traveling to developing countries may benefit from an early MMR or monovalent measles vaccine	Accelerated vaccination schedule available for infants Booster required more than four weeks after first dose
Pneumococcal vaccine (PCV [Pneumovax] or PPSV [Pneumo-vax], depending on age)	Persons younger than five years or older than 65 years, those with chronic disease, and asplenic travelers	Single injection Five-year booster required in some populations
Polio	All travelers to endemic areas	Single dose
Rabies	Preexposure prophylaxis is recommended for high-risk travelers (e.g., animal handlers, trekkers, cyclists, veterinarians, spelunkers, field biologists, children, missionaries)	Three injections (days 0, 7, and 21 to 28) for preexposure prophylaxis‡ Booster required every two to three years, depending on risk of exposure
Td (including combined tetanus, diphtheria, and pertussis vaccines)	All travelers	All persons older than seven years who have not received the full Td series should receive three doses of Td vaccine Children younger than seven years should receive two doses four to eight weeks apart, and a third dose six to 12 months after the second Booster required every 10 years, beginning at age 11 to 12 years (if it had been at least five years since the last dose)
Tick-borne encephalitis (vaccine not available in the United States)	High-risk travelers to endemic areas of Europe	Three IM injections (day 0, four to 12 weeks, and nine to 12 months) Booster required every three to 10 years
Tuberculosis (bacillus Calmette-Guérin vaccine)	Consider for children younger than six months and high-risk health care professionals	One dose, intradermally
Typhoid fever	Recommended for travelers to high-risk areas who will be staying for more than one month	One IM injection in children older than two years or four oral doses in persons older than six years (days 1, 3, 5, and 7) Booster required every two years for parenteral doses and every five years for oral doses (repeating all four doses)§
Yellow fever	Travelers to sub-Saharan Africa and tropical South America; children six to nine months of age should not be vaccinated unless traveling to an area with an outbreak	Single injection Booster required every 10 years

IM = intramuscular; MMR = measles, mumps, and rubella; PCV = pneumococcal conjugate vaccine; PPSV = pneumococcal polysaccharide vaccine; Td = tetanus and diphtheria.

*—Although several oral cholera vaccines are available internationally, none has been approved in the United States.

†—Because of the risk of delayed anaphylaxis, Japanese encephalitis vaccine should be given more than 10 days before departure.

‡—Preexposure rabies vaccination does not eliminate the need for postexposure management. Dosages for specific rabies vaccines are as follows: human diploid cell vaccine, 1 mL IM or 0.1 mL intradermally; purified chick embryo cell and adsorbed vaccines, 1 mL IM.

§—Proguanil, mefloquine (formerly Lariam), and antibiotics should not be taken for one week before and after administration of oral typhoid fever vaccine.

Table 5. Malaria Chemoprophylaxis

Drug	Dosing	Comments
Atovaquone/ proguanil (Malarone)	Begin one or two days before travel and continue for one week after return Adults: 250 mg atovaquone/100 mg proguanil daily Children: < 24 lb (11 kg): not recommended 24 to 44 lb (11 to 20 kg): one children's tablet (62.5 mg atovaquone/25 mg proguanil) daily 45 to 66 lb (21 to 30 kg): two children's tablets daily 67 to 88 lb (31 to 40 kg): three children's tablets daily > 88 lb (40 kg): one adult tablet daily	Contraindicated in patients with creatinine clearance < 30 mL per minute; best option for short trips, but cost is a limiting factor; best option for patients with a history of seizure
Chloroquine (Aralen)	Begin one or two days before travel and continue for four weeks after return Adults: 500 mg salt (equal to 300 mg base) weekly Children: 8.3 mg salt (equal to 5 mg base) per kg per week, up to adult dosage	Limited use (Central America and Middle East only) because of widespread resistance; safe in pregnant and lactating women; contraindicated in patients with severe hepatic insufficiency; psoriasis is a relative contraindication; therapeutic window is fairly narrow; accurate dosing in young children is critical and may require pharmacy compounding
Doxycycline	Begin one or two days before travel and continue for four weeks after return Adults: 100 mg daily Children (older than eight years): 2 mg per kg per day, up to adult dosage	Contraindicated in pregnant and lactating women, and in children eight years and younger; photosensitizing; may cause esophagitis; cheapest but least convenient option
Mefloquine (formerly Lariam)	Begin one or two days before travel and continue for four weeks after return Adults: 250 mg weekly Children: 11 to 33 lb (5 to 15 kg): 5 mg per kg weekly (will require pharmacy compounding into liquid form for accurate dosing) 33 to 42 lb (15 to 19 kg): one fourth tablet weekly 43 to 66 lb (20 to 30 kg): one half tablet weekly 67 to 99 lb (31 to 45 kg): three fourths tablet weekly > 99 lb (45 kg): adult dosage	Considered safe in second and third trimesters of pregnancy; contraindicated in patients with epilepsy, serious psychiatric illness, or cardiac conduction disturbance (including beta blocker use); reserve for trips longer than three weeks in carefully screened patients without a history of psychiatric illness or seizure
Primaquine	Adults: 52.6 mg salt (equal to 30 mg base) daily for 14 days after departure from an endemic area in persons with prolonged exposure to <i>Plasmodium vivax</i> and <i>Plasmodium ovale</i> Children: 0.88 mg salt (equal to 0.5 mg base) per kg per day, up to adult dosage, for 14 days	Contraindicated in pregnant women and in patients with glucose-6-phosphate dehydrogenase deficiency; may be used for primary prophylaxis (off-label) at double the daily dosage, continued for one week after leaving endemic area

swimming in saltwater should consider currents, pollutants, and hazardous marine life. Decision-support tools can help physicians identify regions where travelers should carefully consider swimming.

Temperature extremes and sun exposure are other environmental hazards encountered in traveling. Whether by hypothermia and frostbite, or heat exhaustion and dehydration, being unprepared for the local climate can risk the health of a traveler. Local weather is influenced by a variety of factors, not merely distance from the equator, and many travelers arrive at their destination ill-prepared

for the climate encountered. Ensuring that travelers are aware of what weather to expect at their destination can keep them healthy, as can reminders of the importance of hydration during acclimation to tropical heat. The risk of sunburn and its sequelae increases with travel to higher altitudes and lower latitudes. Counseling travelers to wear sun-protective clothing and use sunscreen with a sun protection factor of at least 30 is sage advice.

It is important to acquaint travelers to altitudes above 8,000 ft with the symptoms and risks of altitude-related illnesses, as well as measures to avoid these illnesses.

Pretravel Consultation

Assessing risk tolerance and discussing plans for acclimation, particularly among adventure travelers drawn to high altitude, may help these travelers avoid potential hazards. Some preexisting medical conditions, particularly cardiopulmonary and cerebral diseases, may exacerbate or be exacerbated by altitude-related illness. Determining the altitude of the patient's destination and counseling about ways to minimize risks above 8,000 ft (e.g., acetazolamide [formerly Diamox] prophylaxis, appropriate time for acclimation) should be part of the pretravel visit for anyone traveling to mountainous regions.

Comprehensive pretravel consultation includes assessment of fitness for air travel and advice on avoiding associated hazards, particularly for pregnant women; scuba divers; and persons with history of hemoglobinopathies, hypercoagulability, recent surgery, or cardiopulmonary disease. Key areas to cover include avoidance of deep venous thrombosis with prolonged flights, infectious disease and cabin air quality, and minimizing jet lag.

OTHER CONSIDERATIONS

The primary cause of death in travelers is accidents, usually motor vehicle crashes and falls. Physicians should remind travelers that safety regulations and practices are not as prevalent in many nations as they are in the United States, and should advise them to become familiar with the hazards associated with local transportation and activities. Staying abreast of warnings from the U.S. State Department (<http://www.travel.state.gov>) before and even during travel may be important in high-risk destinations. Travelers also should be counseled about the high cost of medical evacuation in the event of emergency, and they should be directed to sources of evacuation insurance as indicated by the risk assessment and tolerance.

Travelers may be at risk of exposure to sexually transmitted diseases. They should be reminded of the hazards of casual sex and of the increased prevalence of human immunodeficiency virus and hepatitis B in many developing nations, and that proper condom use can decrease, but not eliminate, this risk.

Travelers should be reminded that the risk of crime abroad varies based on destination and traveler behavior. In addition to familiarity with local patterns and prevalence of crime, safety-enhancing behaviors such as minimizing the appearance of wealth, traveling in pairs or groups, conducting business with established vendors, and locking hotel rooms can decrease risk. Awareness of the local customs, attitudes, laws, and geopolitical conditions can also reduce risk.

The resources listed in *Table 3*, as well as guidebooks and online travel review sites, are important sources of

information to inform physicians and travelers about events and customs that affect risk. Travelers may register their itineraries and travel dates with the U.S. State Department, and they may wish to carry embassy or consulate and local health care resource information with them in the event of unforeseen emergencies, such as natural disasters or political disturbances.

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