The Traveling Patient

Urgent message: The accessibility of urgent care makes it a prime venue for patients preparing for international travel *and* patients who may have become ill due to exposure to infectious agents while traveling overseas.

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Whether a patient visits an urgent care center for an infection or a primary care physician for follow-up, every healthcare provider should inquire about anticipated overseas travel. In addition, if a patient is being evaluated for a potentially infectious agent, inquiries about prior international travel should not be overlooked.

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Over 30 million U.S. residents visited overseas destinations in 2008, with approximately 68% traveling to the Caribbean, Central South America, Asia, Africa, and the Middle East.[1] Travelers will visit another country for a vacation, to visit friends and relatives, to teach, study, conduct business, or for religious or humanitarian reasons. Many (if not most) travelers do not seek medical advice before doing so.[2,3]

Most travelers prepare extensively for non-medical issues before embarking on foreign travel, but do not check recommendations from the Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) regarding health risks until the last minute, if at all.

In addition, the majority of insurance companies do not pay for vaccinations and medications recommended or required for foreign travel, placing the financial burden on the patient.

It is our responsibility as clinicians to ensure that patients are educated about the risks of traveling abroad, and to advise them accordingly.

Preparing an international traveler amounts to more than administering immunizations. The moment a patient inquires about vaccinations necessary to travel to a given country is an opportune time to provide a pre-travel consultation, administer immunizations, and prescribe appropriate medications based on their travel plans or to refer to a travel health specialist.

If you are unable to provide the pre-travel consultation and services the same day, schedule an appointment as soon as possible to avoid the patient being lost to follow-up.

Pre-travel Consultation

There are multiple components to the pre-travel consultation, including evaluating the patient's health, determining travel itinerary plans, and educating the patient.

Educating a patient about potential risks associated with travel and how to self-treat some travel-related diseases also prevents the importation of diseases; there is documentation of this having occurred with measles, hepatitis A, polio, and pertussis in the United States.[4,5]

Health Assessment

Perform a detailed assessment of a patient's medical history and current medications. Certain patients with medical conditions such as diabetics, cardiovascular disease, pregnancy, seizures, and psychiatric conditions such as depression or anxiety and immunocompromised patients will require more attention, as they could be affected more by travel and may need to take special precautions.[6]

Reviewing a patient's current medication list, including over-the-counter meds, is an important component in your assessment. Know the contraindications for antimalaria medications and vaccines before assuming a patient should receive them. Instruct patients to take along extra medication, in case they are delayed in returning home or spontaneously decide to stay longer.

Travel Plans

Learning a patient's destination and the purpose of travel is crucial in the pre-travel consultation. Often, patients do not recognize the importance of their itinerary, so instruct them to bring it—along with any immunization records they may have—to their appointment.

Ask them to detail the specific countries and exact destinations they will visit, how long they plan to be there, and the reason for their trip (e.g., missionary, business, pleasure, visiting friends and relatives [VFR], etc.).

Climate and time of year affect the risk of certain illnesses such as influenza and meningococcal disease in some countries. Will they stay in a luxury hotel, resort, hostel, missionary campsite, etc.? What are their plans while in country—VFR, sightseeing, adventurous/outdoor activities, etc.?

The answers to these questions will guide you in how to counsel patients regarding their risk. For example, a traveler who is going to be backpacking throughout Asia for three months would need detailed counseling regarding food- and water-borne illnesses, vector-borne illnesses (such as malaria, Japanese encephalitis, dengue fever), injury prevention, and other concerns.

A patient traveling on a Caribbean cruise would have limited risk for vector-borne illness, but you would want to ensure motion sickness information is included in your consultation.

Discussing jetlag, sunburn prevention, deep vein thrombosis, and other topics are also important components of the consultation.

Patients who visit destinations with altitudes anywhere from 6,000 to 10,000 feet should always be educated on altitude sickness—risks, precautions, and, possibly, use of medications such as acetazolamide (Diamox) for prevention, assuming there are no contraindications.

Routine Immunizations

Review and provide routine immunizations such as tetanus/diphtheria/acellular pertussis (Tdap) (or tetanus/diphtheria [Td] in individuals over 64 years of age), MMR, influenza, H1N1, pneumococcal, shingles, and any other deficient immunizations. Ensure your patients are up to date on their routine immunizations by providing the most current recommendations from the CDC's Advisory Committee on Immunization Practices (ACIP).

For example, any individual between 11 and 64 years of age should receive a single dose of Tdap vaccine if they are due for a Td booster.[7,8]

What do you do about an individual traveling to a pertussis risk area, but who had a Td booster less than 10 years ago? A five-year interval from the last Td dose is encouraged when Tdap is used as a booster dose; however, a shorter interval may be used if pertussis immunity is needed.[8]

Always ask patients if they have recently received any live vaccinations prior to administering another live vaccine. Live vaccines such as those for MMR, varicella, shingles, yellow fever, or the intranasal vaccine for influenza or H1N1 should be given on the same day; if this is not feasible, wait at least 28 days between doses.[9]

Required Immunizations

Yellow fever vaccine is *required* for entry into certain countries and *recommended* for others. (*Requirements* are established by countries to prevent the importation and transmission of yellow fever virus within their borders. In contrast, *recommendations* are public health measures established by CDC and WHO to protect individual travelers from acquiring yellow fever disease.) A physician

Table 1. Yellow Fever Risk Countries*

Africa			Central and South America
Angola	Ethiopia	Sierra Leone	Argentina†
Benin	Gabon	São Tomé and Principe	Bolivia†
Burkina Faso	The Gambia	Senegal	Brazil†
Burundi	Ghana	Somalia	Colombia
Cameroon	Guinea	Sudan†	Ecuador†
Central African Republic	Guinea-Bissau	Tanzania	French Guiana
Chad†	Kenya	Togo	Guyana
Congo, Republic of the Côte d'Ivoire	Liberia	Uganda	Panama†
Democratic Republic of the Congo	Mali†		Paraguay
Equatorial Guinea	Mauritania†		Peru†
	Niger†		Suriname
	Nigeria		Trinidad and Tobago†
	Rwanda		Venezuela†

*Countries/areas where "a risk of yellow fever transmission is present," as defined by the World Health Organization, are countries or areas where "yellow fever has been reported currently or in the past, plus vectors and animal reservoirs currently exist" (see *www.who.int/ith/countries/2008_country_list.pdf* (PDF)).
†These countries are not holoendemic (i.e., only a portion of the country has risk of yellow fever transmission).
Source: *Traveler's Health—Yellow Book*. Chapter 2: The Pre-travel consultation; travel-related vaccine-preventable diseases. **A**vailable at: *wwwnc.cdc.gov/travel/yellowbook/2010/chapter-2/yellow-fever.aspx*.

must apply for and be accepted as an official yellow fever provider through the state public health department, via a process overseen by the CDC. Upon registration with the state health department, the provider is issued a yellow fever vaccination stamp bearing a unique number, which is used to validate the patient's International Certificate of Vaccination or Prophylaxis (ICVP) as proof of yellow fever vaccination.

Some state health departments require additional monthly documentation from yellow fever clinics and providers to maintain their status. The CDC website (*wwwnc.cdc.gov/ travel/yellowbook/2010/chapter-2/yellow-fever-vaccine-requirements-and-recommendations.aspx*) provides a list of countries requiring or recommending yellow fever vaccine. (Yellow fever risk countries are listed in **Table 1**). The CDC website (*wwwnc.cdc.gov/travel/yellow-fever-vaccination-clinics-search.aspx*) also provides a list of certified yellow fever providers and clinics in the United States.

Rare, but often fatal, adverse events have been associated with yellow fever vaccine administration, though these have been reported only after primary vaccination. Several risk factors have been identified, including age ≥ 60 years, as well as a history of thymus disease. Consequently, it is essential that a medical provider be familiar with the contraindications and precautions for yellow fever vaccine before deciding to vaccinate a patient.

Patients with contraindications should not receive yellow fever vaccine. In general, those with precautions should also not receive the vaccine, but may if travel to an endemic area is unavoidable and the benefits of the vaccination are judged to outweigh the risks. In the case of a patient with a contraindication or precaution to yellow fever vaccine, consideration should be given to granting a waiver of yellow fever vaccination in the form of a physician's exemption letter and appropriate documentation on their ICVP.[4] Such patients also must be advised of the increased risk of yellow fever disease associated with non-vaccination and measures of how to avoid mosquito bites.

In cases in which a patient with a contraindication or precaution is planning travel to an area with high risk for transmission of yellow fever virus, the provider should consider counseling the patient to postpone travel until such time that vaccination in safe, or, in the case of a permanent contraindication or precaution, altering their itinerary to travel to a country which is non-endemic for yellow fever. Further information about yellow fever vaccine, contraindications, and precautions may be obtained from the CDC Travelers' Health website at *wwwnc.cdc.gov/travel/*.

Since the 1987 outbreak of *Neisseria meningitides* infections in Hajj pilgrims, Saudi Arabia requires the meningococcal vaccine for pilgrims traveling to Mecca for the hajj or umrah.[10] There are two types of tetravalent A, C, Y, W-135 meningococcal vaccines—MCV4 and MPSV4. It is important to know the distinctions between the two vaccines, as their administration differs and there are specific age criteria. In addition, vaccine errors have been reported to be more common among "look-alike/sound-alike" vaccine groups.[11]

Recommended Immunizations

Recommended vaccines include those against hepatitis A, hepatitis B, polio, typhoid, meningococcal, yellow fever, rabies, and Japanese encephalitis. Cholera and tick-borne encephalitis vaccines are no longer available in the United States. The pre-travel consultation and patients risk will determine which vaccines are needed.

Hepatitis A is common in developing countries and is a major risk for non-immune travelers. Dosing schedule is one dose initially (preferably as soon possible) followed by the second dose six months later. Although the immune

Table 2. Polio Risk Countries*

Region/country	AFP cases (2006)	Non-polio AFP rate† (2006)	WPV Confirmed Cases	
			January – May 2006	January – May 2007
African	12,477	4.0	377	105
Angola	203	2.4	0	0
Cameroon	193	2.3	0	0
Chad	126	2.7	0	0
Democratic Republic of the Congo	1,622	4.8	1	12
Ethiopia	815	2.1	2	0
Kenya	281	1.9	0	0
Namibia	311	11.6	0	0
Niger	316	4.0	3	3
Nigeria‡	5,179	6.5	371	90
Eastern Mediterranean	8,739	3.9	36	18
Afghanistan‡	989	6.2	8	2
Pakistan‡	4,416	5.8	3	8
Somalia	185	4.0	24	8
Yemen	274	2.7	1	0
Southeast Asian	36,643	6.1	39	60
Bangladesh	1,619	2.9	3	0
India‡	32,175	7.3	33	55
Indonesia	1,526	2.4	2	0
Myanmar	410	2.1	0	5
Nepal	263	3.5	1	0
American	2,150	1.3	–	–
European	1,555	1.1	–	–
Western Pacific	7,012	1.5	–	–
Worldwide	68,576	3.7	452	183

AFP, acute flaccid paralysis; WPV, wild poliovirus
*Data reported by World Health Organization region and country. Only countries with WPV in 2006 or 2007 are included.
†Per 100,000 persons aged <15 years.
‡Countries where polio is endemic.
Adapted from: Progress toward interruption of wild poliovirus transmission—worldwide, January 2006–May 2007. *MMWR Weekly*. 2007;56(27):682-685. Available at: *www.cdc.gov/mmwr/preview/mmwrhtml/mm5627a3.htm*.

response to aluminum-adsorbed hepatitis A vaccine has a >95% seroconversion after one single dose, it is less in elderly or immunocompromised patients.[12,13] Schedule a follow-up appointment prior to the patient leaving the appointment and advise the importance of two doses.

Hepatitis B vaccine should be recommended to patients who anticipate sexual contact in another country or traveling to hepatitis B risk developing countries for medical procedures, dental work, acupuncture, IV drug use, or anyone who may need medical attention. The combination hepatitis A and hepatitis B vaccine (hepatitis A vaccine inactivated and hepatitis B vaccine recombinant [Twinrix]) can be administered on a either routine or accelerated schedule. Visit *www.cdc.gov//vaccines/recs/schedules* for details on vaccines with accelerated schedules.

Typhoid vaccines (either oral Ty21a vaccine or intramuscular typhoid Vi polysaccharide vaccine [Typhim Vi]) should be considered for travelers visiting risk areas. Departure date, patient's age, antibiotic use, and other factors will determine which vaccine is most appropriate for a traveler.

Polio vaccination is advised for any individual traveling to a polio endemic or epidemic areas (**Table 2**). Despite polio vaccine efforts, India, Nigeria, Pakistan, and Afghanistan remain the highest polio risk areas with importation into neighboring countries.

Vaccine Adverse Events Reporting System (VAERS)

In the United States, the CDC and Federal Drug Administration (FDA) sponsor a surveillance program to collect data about adverse events after administration of vaccines. All healthcare providers should know the Vaccine Adverse Events Reporting System (VAERS) Table of Reportable Events Following Vaccination and have copies of the VAERS reporting form and brochures (available at *www.vaers.hhs.gov/resources*).

The provider should report even if unsure whether specific side effects or adverse events are related to any vaccine.

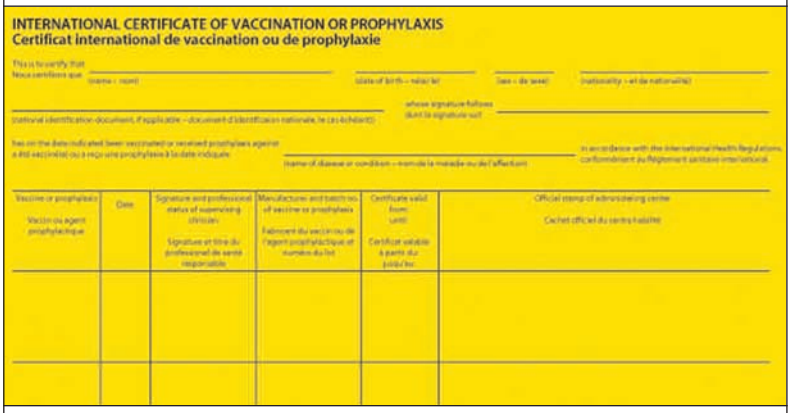
Serologic Testing

If a traveler is originally from an underdeveloped country, or if they do not know their vaccine history, serologic testing for hepatitis A, hepatitis B, measles, and varicella can be performed (assuming adequate time to obtain test and vaccinate if results are negative). If there is not enough time, or if the patient declines blood testing, consider the patient nonimmune and recommend appropriate vaccinations.

International Certificate of Vaccination or Prophylaxis

Every traveler should receive an International Certificate of Vaccination or Prophylaxis (ICVP) (*http://bookstore.gpo.gov/collections/vaccination.jsp*; see **Figure 1** as an example), which includes an official certificate page on which to document

Figure 1. International Certificate of Vaccination or Prophylaxis



INTERNATIONAL CERTIFICATE OF VACCINATION OR PROPHYLAXIS
Certificat international de vaccination ou de prophylaxie

Source: Centers for Disease Control and Prevention. Available at: *wwwnc.cdc.gov/travel/images/371.ashx.*

and validate (with signature and yellow fever vaccination stamp) yellow fever vaccination. Regardless if yellow fever vaccine is given to the patient, other vaccinations and malaria prophylaxis should also be accurately documented on this record on the "Other Vaccinations" section. Patients should be advised to carry this with their passport at all times. Patients may want to keep a copy of their vaccinations and yellow fever certificate in their luggage in case their passport is lost or stolen.

Vector-borne Illnesses

Yellow fever, Japanese encephalitis, dengue fever, malaria, and chikungunya fever are some of the illnesses transmitted by mosquito bites in certain countries.

All patients should be advised to use insect precautions, including adequate insect repellent (30% N,N-diethyl-meta-toluamide [DEET] or 20% picaridin). This also includes treating their outer clothing with permethrin spray. In fact, patients may want to treat their clothes a few days prior to departure to ensure that their clothes dry (some humid areas may pose a problem).

Also advise patients to use permethrin-impregnated bed netting and an insect screen over open windows. Travelers should also be aware of bed bugs, scabies, and other unwanted pests.

Yellow fever and *Japanese encephalitis* vaccines are the only vaccines available in the United States protecting against vector-borne illnesses.

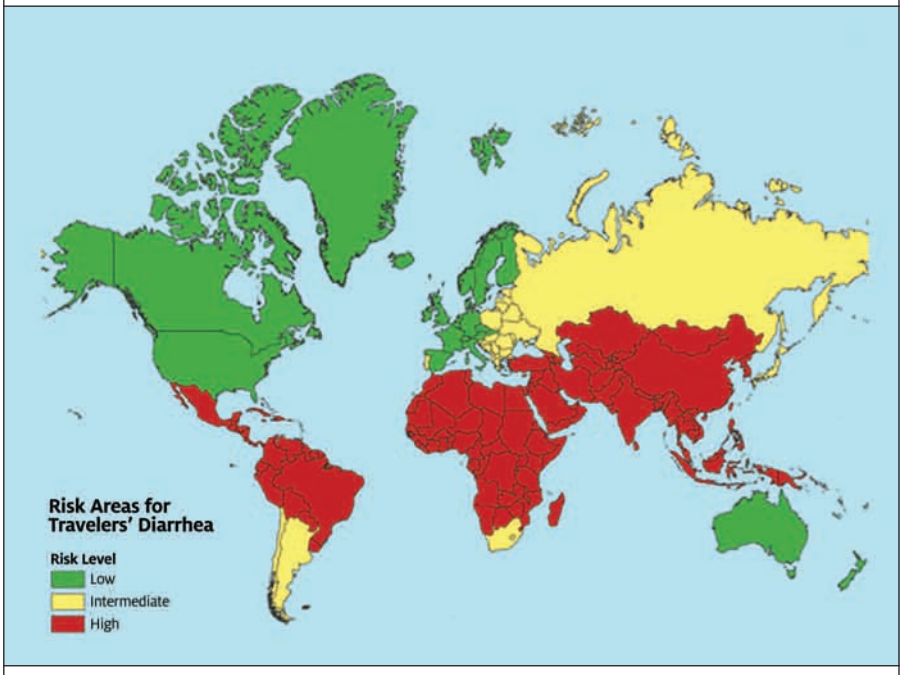
Malaria exists in many areas of the world—and resistance to medication is increasing. Malaria parasites are resistant to chloroquine and/or mefloquine in certain countries. Ensure you know which medications are appropriate for a traveler, based not only on country but also contraindications or potential noncompliance.

Because no vaccines or prophylactic medicines are available for *dengue fever* or *chikungunya*, it is essential to practice good insect precautions.

Rabies

Every traveler visiting a rabies-endemic area should receive counseling about rabies risks. Advise patients—especially children—to avoid touch-

Figure 2. Areas of risk for traveler's diarrhea.



Source: Connor BA. *Traveler's Health—Yellow Book*. Chapter 2: The Pre-travel consultation; self-treatable diseases. Traveler's diarrhea. Available at: *wwwnc.cdc.gov/travel/yellowbook/search.aspx*.

ing or petting dogs, monkeys, cats, and other animals.

Patients should be aware that *any* animal bite or scratch requires immediate attention, and that they should have a plan while in country and follow up immediately upon return to their home country. Rabies-endemic countries have shown significant deficiencies in rabies post-exposure prophylaxis (PEP) for travelers who acquire high-risk animal-associated injuries, including patients not receiving adequate PEP or experiencing a substantial delay before receiving the rabies vaccination.[14]

Although the overall risk to rabies exposure is low to international travelers, rabies transmission and death have been reported, including a fatal case in a U.S. traveler bitten by a dog in Nepal. This patient did not follow through on recommendations to receive PEP.[15,16]

Patients who have been bitten by a dog are likely aware they are at risk; however, licks on broken skin or contamination of the mucous membranes with saliva and scratches are often unknown to travelers.[17] If a traveler is likely to come into contact with a rabid animal and PEP medical treatment is limited or unavailable, including immunoglobulin and vaccinations, the traveler should receive the rabies pre-exposure immunization.[18,19]

It should also be clear to patients that they still need to seek medical care for animal-associated injuries, even if they have received the rabies pre-exposure immunization.

Food and Water Safety

The leading cause of traveler's diarrhea (TD) in developing countries are enterotoxigenic *Escherichia coli* (ETEC) and enteroaggregative *E coli* (EAEC).[20,21] In addition, nearly one-third of cases of patients diagnosed with pathogen-negative TD were confirmed as ETEC and diffusely adherent *E coli* by direct PCR.[22]

Some patients may believe that because they are staying in a nice hotel or resort, they can eat anything. However, food handlers working in popular tourist hotels have been reported to be important carriers of EAEC that could cause TD, with a high proportion of the EAEC multidrug resistant (MDR).[23]

Other bacterial pathogens that cause traveler's diarrhea include *Campylobacter jejuni, Shigella sp.,* and *Salmonella sp*. Depending on the destination (**Figure 2**), it is estimated that 30% to 70% of travelers will develop traveler's diarrhea.

So what do you advise travelers?

- Drink (and brush teeth) with boiled, bottled, or treated water while on travel.
- Avoid ice unless the water has been treated.
- Eat well-cooked foods and avoid raw seafood or undercooked meat/poultry.
- Peel fruits and vegetables; however, raw vegetables such as salads should be avoided.
- Avoid street vendors.
- Avoid dairy products, especially unpasteurized dairy products which may have a risk for brucellosis.
- Wash hands with soap and water before and after eating, before and after using the bathroom, and as frequently as possible while on travel. If soap and water are unavailable, use an alcohol-based hand sanitizer.

Even before leaving the U.S., patients should be encouraged to wash their hands immediately after passing through airport security, as numerous individuals touch the security bins used for carry on items. Patients should also use a bleach/antibacterial wipe on their tray, light/air vent

knobs, and surrounding seated area on the plane.

Prophylaxis and self-treatment
Patients often ask for antibiotics to prevent traveler's diarrhea and request an antibiotic or bismuth subsalicylate (BSS) for the duration of the trip. Antibiotics are not routinely prescribed to prevent traveler's diarrhea due to the risk of bacterial resistance and adverse events. BSS, the active ingredient in Pepto-Bismol, and loperamide have been reported to provide symptomatic relief, though they may not shorten the duration of traveler's diarrhea.[24] It is generally not advisable to use BSS daily due to an increased risk of tinnitus, black stools, and blackened tongue. Patients should be advised there are other effective self-treatments for traveler's diarrhea (**Table 3**) once it has occurred.[24]

Table 3. Effective Treatments for Traveler's Diarrhea[24,25]

Use	Agent	Dosage
Prophylaxis	Bismuth subsalicylate (BSS)	Not recommended
	Antibiotics*	Based on patient medical conditions
Symptomatic treatment	Bismuth subsalicylate (BSS)**	Chew two tablets (or 2 oz. of liquid) four times a day
	Loperamide	4 mg po, then 2 mg after each loose stool; not to exceed 16 mg daily
Antibiotic treatment	Fluoroquinolones†	
	Ciprofloxacin	750 mg po daily x 1-3 days **or** 500 mg po bid x 3 days
	Levofloxacin	500 mg po daily for 1-3 days
	Norfloxacin	400 mg po daily for 1-3 days
	Azithromycin‡	250 mg po bid x 3 days
	Rifaximin§	200 mg po tid x 3 days

* Prophylaxis antibiotics should not be recommended for majority of travelers; however, they may be warranted in patients with certain medical conditions, such as immunosuppression.
**BSS should be avoided in patients with renal insufficiency, gout, aspirin allergy, and those on certain medications (e.g., methotrexate, anticoagulants, and aspirin/salicylate, to name a few). Use extreme caution in children due to potential excessive salicylate absorption and Reye's syndrome associated with BSS use and viral infections.
†Fluoroquinolones should be completed for three days if there is an incomplete response to a single dose. Although not approved for children, fluoroquinolones may be safe in children (weight based) for traveler's diarrhea given the short-course therapy.
‡Azithromycin 10/mg/kg/day for three days for children over 6 months of age; 1,000 mg once in adults, though beneficial, may have more side effects such as nausea.
§Rifaximin is approved for treatment of non-invasive *E coli*. Consider giving patients a back-up antibiotic for invasive diarrhea, as patients may not know the difference between non-invasive and invasive diarrhea.

Patients will not know when to take the antibiotic, so it is important to provide detailed information. Diarrhea consisting of loose, non-bloody stools for <48 hours can be treated with hydration and loperamide. If diarrhea persists, is bloody, or includes a fever, patients should start the antibiotic. Remind patients to increase fluid intake and consider oral electrolyte replacement during a bout of traveler's diarrhea. If symptoms do not improve or worsen, patient should seek medical attention.

Water Activities

Marine hazards should be part of the pre-travel consultation if a patient is planning on snorkeling or scuba diving or visiting any water environment or ocean. Depending on the destination and plans, patients should be cautioned regarding risk of parasitic infections from schistosomiasis and leptospirosis after swimming or wading in fresh water, lakes, streams, or ponds.

Although schistosomiasis is one of the most prevalent parasitic infections in the world, there is an increased risk among travelers who visit Africa compared with other endemic countries.[26, 27] For example, U.S. Peace Corps volunteers have been reported to be most susceptible to schistosomiasis infection from recreational activities in Lake Victoria, Tanzania.[28]

Travelers may not anticipate contact with these types of water environments; however, educating about the potential risk and recommending vigorous toweling immediately after exposure may help prevent schistosomiasis infection.[28,29]

Sexually Transmitted Diseases

The value of discussing the risk of sexually transmitted diseases (STDs) with travelers should not be overlooked in the mass of other important components of the pre-travel consultation. It has been reported that short-term travelers engage in casual sex abroad between 5% and 51%, with higher rates reported among long-term travelers.[30]

It is also estimated that only 24% to 75% of travelers use condoms when having casual sex abroad,[31,32] and that 40% of travelers who had casual sex were not protected against hepatitis B.[33]

Although traveling without a steady partner and expecting a new sexual contact have been identified as two of the most important predictors of having casual sex in individuals under age 50, 49% of men and 75% of

women who had a new sexual contact did not plan or expect it to occur.[33]

Sexually transmitted infections (STIs) ranging from urethritis to severe infections such as HIV have been reported in travelers returning from the tropics.[34,35] Patients should be counseled and given literature regarding STIs. Additional recommendations should include bringing condoms along during travel, and to get the hepatitis B series.

Anaphylaxis

Hymenoptera bites, high-risk food, exercise, and jelly fish bites are some of the most common causes of anaphylaxis. Although the beach is a potentially high-risk place, lifeguards may not know that epinephrine is the first choice treatment. In fact, 60% of lifeguards working on the beaches of the island of Crete, Greece reported steroids should be used for emergency anaphylaxis treatment; none were aware that epinephrine is the first-choice treatment.[36]

Patients who report severe allergies to bee stings and other precipitants should receive counseling and always carry an epi pen while on travel.

Dental Care

It is relatively common for travelers to have dental problems while abroad.[37,38] For example, the most frequent dental emergencies seen on a cruise include defective restoration, pulpal disease, and defective prosthesis and caries.[37] Patients should be encouraged to not only obtain a complete physical examination, but also a dental examination prior to travel whenever feasible. The importance of a dental exam increases in proportion to the length of time the patient expects to be abroad.

Travel-related Injury and Death

Travelers often receive extensive pre-travel advice regarding infectious diseases, consuming safe food and water, and insect precautions; however, the consultation often contains little or no mention of injury and death.[39]

From 2004 to 2006, 2,361 deaths of U.S. citizens abroad were due to injury, with vehicle crashes and homicides reported as the most common cause.[40] Drowning and other accidents such as pedestrian were also ranked high.

Other than a U.S. drivers license, there is no permit or specific license required to drive in most foreign countries. Travelers should be cautioned regarding driving in a foreign country, as they may be unfamiliar with foreign roadways and driving laws, increasing their risk of an accident.

Table 4. Summary of Travel Health Services

If you are providing travel health services, ensure you do the following to keep your patients safe:

1. Review a patient's chart to ensure routine vaccinations such as influenza, tetanus/diphtheria/pertussis and pneumococcal are up to date. Encourage a complete physical and dental examination prior to travel.
2. Even if a country does not have specific requirements to enter the country, don't forget recommended vaccinations such as Hepatitis A.
3. Determine specific areas within the country of travel. Some rural areas can expose patients to malaria such as in Mexico and China.
4. Ensure you know which countries are resistant to malaria medications such as chloroquine (Aralen) and mefloquine (Larium). Some countries are also resistant to ciprofloxacin used for traveler's diarrhea.
5. Use caution when prescribing malaria medication without reviewing their current medical chart. A patient who has a history of anxiety and depression (even if remote) should never be prescribed mefloquine. If you are uncertain about malaria options and contraindications, refer them to a travel health specialist.
6. Counsel patients extensively on avoiding traveler's diarrhea. If a patient returns with diarrhea, a workup is indicated and early treatment is helpful to decrease IBS occurrences.
7. Certain patients such as pregnant women, diabetics, patients taking Coumadin, or immunocompromised individuals require additional attention and counseling.
8. Malaria can lie dormant for many months. If your patient travels to malaria risk area and returns home ill with fever, malaria should be in your differential diagnosis until ruled out.
9. Remember to ask every patient presenting with a possible infectious disease if they have traveled outside of the United States. Active tuberculosis and other infectious agents are being imported from foreign countries.
10. Worker's compensation claims are likely underreported in business travelers who travel abroad. If a patient returns home ill from foreign travel, do not forget to ask if the travel was business related.

International Travel Health and Air Evacuation Insurance

International travelers have similar or even greater risks of becoming ill compared with the risk they have at home.[41] Many travelers assume their U.S. health insurance plan will cover them in another country; however, they should be advised to check their policies before traveling. Every traveler should receive counseling regarding international travel health and air evacuation insurance, especially if they waive recommended immunizations or have any medical conditions.

Referring to Travel Health Specialists

Consider referring a patient to a travel health specialist if they are leaving within two to three weeks, plan to visit multiple countries, have complex itineraries, or plan to visit remote areas. Patients who are pregnant or have certain medical conditions (e.g. immunocompromised, diabetic), those who are on anticoagulation medication, and select others will require additional time.

If you are uncertain about malaria options and contraindications, refer for specific guidance. Patients who

visit friends and relatives in developing countries may have previously been exposed to typhoid and malaria, and may not feel vaccinations or medications are important because they believe they are immune.[42] This may also necessitate additional counseling time.

A patient should also be referred to a travel health specialist if a healthcare provider is unable to remain current on travel recommendations, as these can change frequently.

Like urgent care centers, not all travel health providers or clinics are alike, as there is no medical board overseeing travel medicine specialists. Determine a travel health clinic's capabilities before referring a patient.

The International Society of Travel Medicine (ISTM; website: *www.istm.org*) provides a directory of travel clinics, and acknowledges those who have received the ISTM Certificate of Knowledge Examination. The American Society of Tropical Medicine and Hygiene (ASTMH; website: *www.astmh.org*) also provides a list of travel clinics and acknowledges those who have passed the ASTMH Certificate of Knowledge in Clinical Tropical Medicine and Traveler's Health.

The CDC (*www.cdc.gov/travelershealth/*) provides a list of certified yellow fever provider clinics. ■

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