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## Pre-Travel Health Care for Travelers to Developing Countries

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Each year, 50 to 80 million world citizens travel abroad to developing nations with the concomitant risk of exposure to unfamiliar and emerging diseases.<sup>1,2</sup> The pre-travel health consultation thus offers the double benefit of providing preventive and counseling services that mitigate individual travel-related health risks while also reducing the opportunity for dissemination of infectious diseases across the globe. However, less than half of U.S. travelers to the developing world obtain pre-travel health advice and among those who do obtain pre-travel health care, 20%-75% receive inadequate or inappropriate vaccinations, and 20%-60% receive incorrect malarial chemoprophylaxis.<sup>3,4</sup>

Despite these challenges, the primary care physician can effectively accomplish the pre-travel health consultation for most low-risk, short-term travelers. The consultation is designed to mini-

mize health risks related to travel, give travelers the ability to handle most minor medical problems, and allow them to recognize when they need to seek medical care. Because consultation can be time-consuming and may require the exchange of a large amount of information, physicians should be organized in their approach.

### Travel Epidemiology

More than two-thirds of international travelers experience some type of health problem while traveling.<sup>5</sup> These vary in significance from relatively minor to life-threatening, and include both infectious and noninfectious conditions. *Figure 1* shows monthly incidence rates for a variety of well-recognized travel risks. Among infectious conditions that occur in travelers to the developing world, diarrhea is the most common illness, and hepatitis A is the most common vaccine-preventable illness.<sup>1,2</sup> Malaria is the most common tropical infection; *P. falciparum* infections can be fatal in nonimmune individuals.<sup>1</sup>

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## Editors' Note

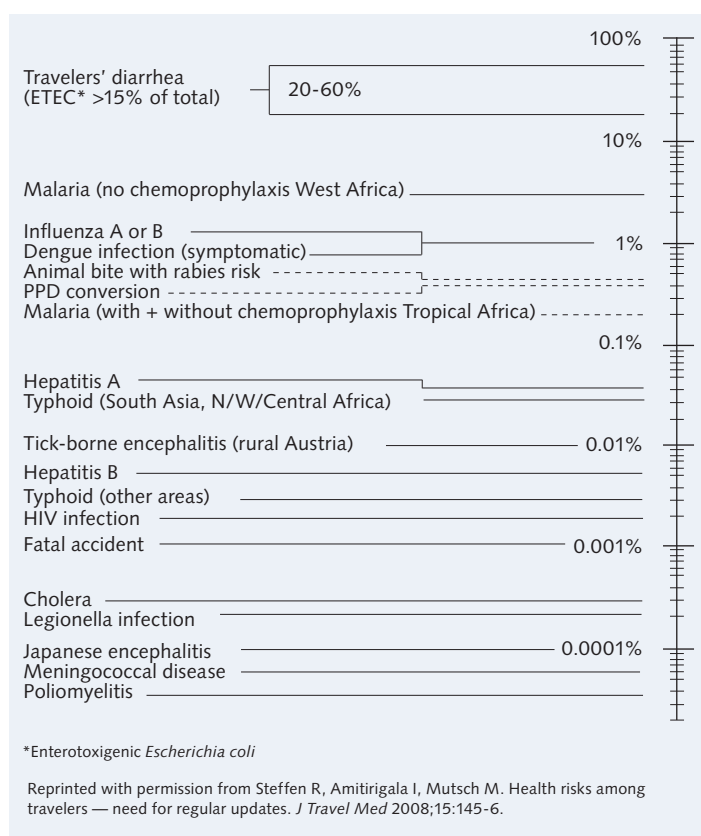
We are very pleased to begin our second year of publishing *Rx for Prevention*. As stated in our premier issue, the goal of this publication is to provide essential prevention-related information to primary care physicians in Los Angeles County. In our first year, we touched upon a variety of clinical issues, ranging from strategies to prevent chronic disease and communicable disease (vaccinations, pertussis, influenza, and rabies) to the risks of distracted driving and the implications of informal caregiving. Four issues have provided more in-depth information (with CME credit available) on the issues of tobacco addiction, alcohol abuse, falls among the elderly, and cervical cancer.

Our hope is that these topics have been of interest to you and that the tools we have provided have been helpful and relevant to your practice. Please let us know whether we have succeeded in our goal by taking a few minutes to complete the enclosed readership survey. Your feedback is very important to us and will be used as we plan content for future issues. *Thank you for your participation!*

Sincerely,

~Dr. Jeffrey Gunzenhauser and Dr. Steven Teutsch, Editors in Chief



**Figure 1. Incidence rate per month of health problems during a stay in developing countries — 2008**

Although infectious conditions are well-known as risks by both travelers and physicians, the leading cause of death is trauma, most commonly traffic-related injuries, followed by homicide and drowning.<sup>6</sup>

### Travel Medicine Rapid Assessment

A travel medicine rapid assessment checklist (page 3) is a convenient way for primary care physicians to rapidly identify those at high risk and to identify the vaccination and counseling needs of pre-travel patients. This approach, when paired with the free, online CDC “Yellow Book” (CDC Health Information for International Travel 2010), will competently address significant health concerns and determine the need for referral to a travel medicine specialist. Online CDC resources include country-specific recommendations regarding yellow fever vaccine, malaria risk, and other health information. Web links on the form connect directly to this information.

The approach consists of four steps:

- 1) Assess health/analyze itinerary.
- 2) Select appropriate vaccines and chemoprophylaxis (see Obtaining Travel Vaccines section).
- 3) Counsel and educate regarding prevention and self-treatment.

- 4) Provide destination-specific health information. This last step, to provide the patient with written health advice, including a recommendation to consider obtaining traveler's medical/evacuation insurance (see Resources), is especially important.

### International Health Regulations, Yellow Fever, and the International Certificate of Vaccination or Prophylaxis

The International Health Regulations (2005) is an international law that aims to prevent, protect against, control and respond to the international spread of disease while attempting to avoid unnecessary interference with international traffic and trade (<http://www.who.int/ihr/en/>).

Yellow fever, a virus transmitted by mosquitoes in parts of Sub-Saharan Africa and South/Central America, is the only disease specifically designated under the International Health Regulations for which proof of vaccination or prophylaxis may be required for travelers as a condition of entry to a country. Proof of vaccination must be documented on an International Certificate of Vaccination or Prophylaxis (ICVP). The ICVP (CDC 731) may be purchased from the U.S. Government Printing Office (<http://bookstore.gpo.gov> – search CDC 731). Travelers with a specific contraindication to yellow fever vaccine should obtain a waiver from a physician before traveling to a country requiring vaccination.

Yellow fever vaccine requirements and recommendations by country can be found at the website listed on the checklist (page 3). Further, the CDC offers a listing of authorized Yellow Fever Vaccination Clinics by state or ZIP code at <http://wwwnc.cdc.gov/travel/yellow-fever-vaccination-clinics-search.aspx>.

### Disproportionate Health Problems Among Travelers Visiting Friends and Relatives

Approximately 40% of all U.S. residents travel abroad to visit friends and relatives (VFRs); most of these are foreign-born individuals and their children. They experience a disproportionate burden of travel-associated illness, disease, and death due to misperceptions concerning their health risks, reduced access to and uptake of pre-travel health care measures, and engagement in higher-risk travel activities.<sup>8-9</sup>

### Conclusion

Travelers to the developing world experience a unique set of health risks that can be mitigated through the pre-travel health consultation. The primary care physician is well-suited to provide pre-travel health advice for most low-risk, short-term travelers. The travel medicine rapid assessment checklist included with this article provides a framework for conducting the pre-travel clinical encounter and advises when referral to a travel medicine specialist should be considered.

Please see the following references for more detailed information on pre-travel health care. A future issue of *Rx for Prevention* will include an article on the clinical approach to malaria chemoprophylaxis.

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# Travel Medicine Rapid Assessment Checklist

## STEP 1. ASSESS HEALTH/ANALYZE ITINERARY

Destination(s) \_\_\_\_\_ Departure date: \_\_\_\_\_ Return date: \_\_\_\_\_

### High-Risk Travelers

- ☐ Pregnant
- ☐ Young children
- ☐ Immunocompromised
- ☐ Chronic disease or disability
- ☐ Humanitarian/Health care worker
- ☐ Other:

### High-Risk Travel Exposures

- ☐ High altitude / Extreme climates
- ☐ Local infectious disease outbreaks
- ☐ Region of conflict
- ☐ Medical tourism
- ☐ Sexual tourism
- ☐ Other:

NOTE: If any of the above are checked, consider referral to a travel or tropical medicine specialist.

## STEP 2. SELECT APPROPRIATE VACCINES AND CHEMOPROPHYLAXIS

### Review of Routine Childhood and Adult Immunizations

Vaccine	MMR	Tdap	Polio	Hep A	Hep B			
Up to date	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Travel Vaccines (Check all that apply)

- ☐ **Hep A** - Recommended for all travelers to endemic areas. Although 2 shots are recommended for lasting protection, 1 shot at least 2 weeks prior to departure can offer significant protection.
- ☐ **Typhoid** - Recommended for travelers to high-risk areas for greater than 1 month
- ☐ **Meningococcal** - For travelers to Saudi Arabia and sub-Saharan Africa
- ☐ **Yellow Fever** - Requirements by country available at <http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-2/yellow-fever-vaccine-requirements-and-recommendations.aspx>
- ☐ **Rabies** - Pre-exposure prophylaxis recommended for high-risk travelers (contact with animals, especially dogs and bats)
- ☐ **Japanese encephalitis** - For travelers to endemic rural areas of eastern Asia, incl. the Indian subcontinent, for greater than 1 month

#### Special Vaccine Considerations

- ☐ **Cholera**
- ☐ **Tickborne encephalitis** (not available in the U.S.)
- ☐ **BCG** (tuberculosis)

- ☐ **Malaria Chemoprophylaxis:** Malaria risk information and prophylaxis recommendations, by country, are available at <http://wwwnc.cdc.gov/travel/yellowbook/2010/chapter-2/malaria-risk-information-and-prophylaxis.aspx>

Other: ☐ Diarrhea self-treatment ☐ Motion sickness ☐ Altitude sickness ☐ Other: \_\_\_\_\_

## STEP 3. COUNSEL AND EDUCATE REGARDING PREVENTION AND SELF-TREATMENT

- ☐ **Insectborne Disease**
  - Insect repellent
  - Proper clothing
  - Bed nets
  - Minimize outdoor exposure at peak times of vector activity
- ☐ **Foodborne and Waterborne Disease**
  - Safe if piping hot, bottled, or peelable
  - Cook food thoroughly
  - Drink bottled, boiled, iodinated, micro-filtered water
  - Avoid unboiled/unpeeled foods, ice, brushing teeth with tap water, swimming in unchlorinated fresh H<sub>2</sub>O
  - Diarrhea: Oral rehydration solution and bismuth
- ☐ **Bites**
  - Avoid contact with animals
  - Wear appropriate clothing when walking in brush (closed-toe shoes, long pants)
  - Shake out shoes each morning
  - IF BITTEN, perform basic wound care/cleaning, minimize movement of affected area, and SEEK MEDICAL CARE
  - DO NOT suck, squeeze, or cut a snake or scorpion bite
- ☐ **Solar Injury**
  - Wear proper clothing
  - Use sunscreen with high SPF
  - Avoid sun at peak hours
- ☐ **STD and Pregnancy Prevention**
  - Education regarding high-risk regions
  - Use condoms/oral contraception
  - Minimize number of sex partners
  - Avoid alcohol and drugs
- ☐ **Transportation-related Illness**
  - Deep vein thrombosis avoidance during prolonged travel: hydration, stretching, walking during flight
- ☐ **Political Hazards**
  - Avoid large crowds
  - Travel in pairs or groups
  - Become familiar with local laws
- ☐ **Injury**
  - Maintain situational awareness
  - Use seat belts
  - Avoid driving at night
  - Obtain med evacuation insurance

## STEP 4. PROVIDE DESTINATION-SPECIFIC HEALTH INFORMATION

Available at <http://wwwnc.cdc.gov/travel/destinations/list.aspx>

## Obtaining Travel Vaccines


To find a clinic that provides travel vaccines, refer to the CDC's Travel Clinic web page at <http://wwwnc.cdc.gov/travel/content/travel-clinics.aspx>.

## Resources

### The Pre-Travel Health Consultation

- “CDC Health Information for International Travel 2010” CDC Yellow Book  
<http://wwwnc.cdc.gov/travel/content/yellowbook/home-2010.aspx>
- World Health Organization: “International Travel and Health”; <http://www.who.int/ith/en/>
- “The Pretravel Consultation” by Bazemore AW, Huntington M. *American Family Physician*, September 15, 2009;80(6):583-90.  
<http://www.aafp.org/afp/2009/0915/p583.html>

### Resources for Patients and Physicians

- CDC Traveler's Health  
<http://www.cdc.gov/travel/>  
A resource for travelers wishing to obtain information on destination-specific health risks, diseases, and vaccination recommendations, as well as educational material on insect protection and safe food/water practices.
- U.S. Department of State: Travel  
<http://www.travel.state.gov/>  
A regularly updated resource for rapidly changing conditions/risks, travel warnings, and travel alerts. 

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## No Shots, No School New School Vaccination Requirement Takes Effect

For the 2011-12 school year, all students entering 7th through 12th grades in public and private schools will need proof of a Tdap booster shot before starting school. This requirement takes effect July 1, 2011. As many as a half-million adolescents in Los Angeles County between 11 and 18 years of age may be due for a Tdap vaccination.

- ☐ Start vaccinating your adolescent patients now to avoid being overwhelmed with vaccine visits this fall.
- ☐ Stock up on Tdap and other adolescent vaccines to meet expected demand. Ensure storage capacity for all vaccine doses that you plan to order.
- ☐ Identify and recall patients who are due/overdue for a Tdap dose.
  - The school entry requirement is met if a child received one dose of Tdap vaccine on or after the 7th birthday.
  - A dose of Td does not satisfy the requirement.

- The California Immunization Registry (CAIR) can be used to check vaccination status, track inventory, and conduct reminder/recall.

Learn more at [www.immunizelink.org](http://www.immunizelink.org) or by calling (213) 351-7411. You may also be able to use health plan, IPA, and EHR data to identify patients due for Tdap vaccinations.

- ☐ Clearly document all Tdap doses given as Tdap (not Td or Td/Tdap) in the medical record, immunization record, electronic health record, and registry.
- ☐ Educate parents about the risks of choosing to exempt their child from this requirement for non-medical reasons. Access patient educational materials and videos at [www.eziz.org](http://www.eziz.org) and [www.publichealth.lacounty.gov/ip](http://www.publichealth.lacounty.gov/ip).

Access additional information and resources related to the school mandate at [www.shotsforschool.org](http://www.shotsforschool.org).