

Approach to Immunization for the Traveling Child



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KEYWORDS

• International • Travel • Vaccines • Children • Yellow fever • Typhoid

KEY POINTS

- Children traveling to limited-resource countries are at risk of acquiring a vaccine-preventable disease, such as hepatitis A, measles, typhoid fever, and yellow fever.
- Children visiting friends and relatives are at the highest risk of acquiring a travel-related infection, such as typhoid fever.
- Assessment of routine childhood and adolescent vaccines, including influenza vaccine, should take place at the pretravel visit.
- The need for yellow fever vaccine should be assessed and provided to children 9 months or older who are traveling to an endemic country, even if not required for entry into the country.
- Japanese encephalitis and rabies vaccines are recommended for children traveling to high-risk areas.

INTRODUCTION

More than 1.1 billion persons traveled internationally in 2014. Approximately 4% were pediatric-age travelers. All regions of the world noted an increase in travel. Many countries with limited resources are endemic to typhoid fever, yellow fever, hepatitis A, and malaria. Measles transmission has been observed in high numbers in many countries, including in Europe. Travelers to countries in Southeast Asia are at a particular high risk of acquiring Japanese encephalitis virus (JEV) infection and rabies. Although the risk of illness related to international travel in children is not known, it is thought to be similar to their parents. Young children may be at even higher risk owing to receipt of fewer vaccines due to age, greater risk for dehydration when ill, and less robust immune response in some instances. Although there are no commercially available vaccines in

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the United States to protect against traveler's diarrhea and malaria, vaccines against many travel-acquired infections are available. In the United States, children are routinely vaccinated against hepatitis A and measles. However, although not routinely administered in the United States, vaccines against yellow fever, typhoid, rabies, and JE are recommended when traveling to endemic regions. Thus, an assessment of routine immunizations, as well as necessary travel immunizations, is imperative weeks or even months before international travel if possible. Consideration of accelerating the routine immunization schedule for the individual patient before international travel is important, as it allows for earlier development of necessary immunity and serves to complete the series in patients who may be away for extended periods of time to countries in which access to these vaccines may be limited.

IMMUNIZATION PRACTICES

For each administered vaccine, a Vaccine Information Statement (VIS) must be provided. They can be obtained from the Centers for Disease Control and Prevention (CDC) Web site (www.cdc.gov/vaccines/pubs/vis). Administered vaccines must be recorded in the traveler's clinic visit form, including injection site, dose, lot numbers, and expiration dates. It should also be documented that potential vaccine side effects were discussed and that a VIS was provided.

Vaccines against typhoid fever, JEV, and yellow fever require special purchasing and are not routinely available in the offices of primary care physicians. Clinicians are required to have prior authorization from the state health department to administer yellow fever vaccine; an official stamp is needed. For most vaccines, storage requirements are similar to those of other vaccines. Practitioners must be familiar with administration routes and potential side effects. The primary care practitioner could administer some recommended vaccines, such as tetanus-diphtheria boosters, meningococcal vaccines for an adolescent, and hepatitis A for a 1-year-old. These are frequently covered by the traveler's primary insurance and would not require out-of-pocket payment (other than a copayment).

The routine immunization schedule is initiated at birth with hepatitis B vaccine. The routine vaccine series, including diphtheria, tetanus toxoid, and acellular pertussis (DTaP); *Haemophilus influenzae* type b; pneumococcal conjugate vaccine-13 valent (PCV13); hepatitis B; inactivated polio vaccine (IPV); and rotavirus is typically started at 2 months of age. The minimum age for immunization is 6 weeks for most of these vaccines. Recommendations for the use of routine vaccines against measles, mumps, pertussis, hepatitis B, diphtheria, and tetanus are discussed in great detail elsewhere (www.cdc.gov/vaccines/schedules/index.html). **Table 1** contains the minimum age required for initiation of vaccination.

ROUTINE IMMUNIZATIONS OF IMPORTANCE FOR TRAVELERS

Measles

Measles, mumps, and rubella vaccine (MMR) is an important part of the childhood immunization schedule, which is typically provided at 12 to 15 months and then a second dose at 4 to 5 years of age. However, the vaccine should be given to children 6 through 11 months of age who are traveling internationally. This vaccine dose does not count in the 2-dose series, and thus 2 vaccines after the age of 12 months and at least 28 days apart must be given after return to the United States. For children who are older than 12 months and have received their first dose of MMR, a second dose should be given before international travel, provided it has been 28 days since the previous dose. This dose can be counted for school entry.

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