# Fast Track Vaccinations for Young Globetrotters

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ASPEN, COLO. — Routine vaccinations can be accelerated to protect very young travelers against infectious diseases in developing countries, Sarah K. Parker, M.D., advised at a conference on pediatric infectious diseases sponsored by Children's Hospital, Denver.

"They can be really protected by about 13½ months of age," said Dr. Parker of Children's Hospital and a faculty member in pediatric infectious diseases at the University of Colorado Health Sciences Center, Denver.

Dr. Parker also recommended that physicians do a pretravel assessment to identify additional vaccination requirements by endemic conditions in destination countries. The assessment would include consideration of chemoprophylaxis and counseling parents on ways to prevent infectious disease while traveling abroad.

"Infection only causes about 1% of traveler deaths. However, it is a large fraction of what causes illness while traveling," she said. About 50%-70% of travelers become ill. About 40% of illnesses are diarrhea, which can be more severe and more prolonged in children.

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Routine vaccinations can start at 6 weeks of age, she said, outlining an accelerated schedule. Babies can receive four doses of inactivated polio vaccine; three doses of DTaP vaccine, *Haemophilus influenzae* type b vaccine, and seven-valent pneumococcal polysaccharide vaccine; and two doses of hepatitis B virus vaccine by 14 weeks.

MMR can be given at 6 months, she said, but does not count. If given at 12 months, it can be followed by a booster at 13 months. The accelerated schedule also permits hepatitis A virus vaccine off-label at 12 months.

A family traveling to Africa's "meningitis belt" should use the polysaccharide conjugate vaccine for children older than 11 years, the polysaccharide meningococcal vaccine for children 2-11 years, and consider its use off label in younger children at high risk, she said. The polysaccharide vaccine has been studied at 3 months with a 12-month booster with a rise in titers against meningococcus A, the predominant strain in Africa.

Varicella zoster virus (VZV) and influenza vaccines cannot be accelerated, however.

If one is protecting against hepatitis A with hepatitis A immunoglobulin, Dr. Parker noted that hepatitis A IgG interferes with MMR and VZV. Therefore, MMR and/or VZV vaccines should be given 2 weeks earlier, she said, adding that hepatitis A vaccine and IgG can be given together. Hepatitis A IgG must be repeated every 5 months while the child is in an endemic area.

Dr. Parker urged primary care physicians to consider prevalence of disease in destination nations when reviewing itineraries. Influenza should not be overlooked, she said. It is endemic year-round close to the equator and from March to October in the southern hemisphere. She suggested stockpiling flu vaccine released in October for use through June 30.

Meningococcal vaccine is required for pilgrims making the hajj, Dr. Parker noted. She said it also should be considered, even if off label, for children heading to Africa's "meningitis belt" and other potential risk areas.

Causing 22 million cases a year, *Salmonella typhi* is a concern throughout the developing world, she said. She advised vaccinating anyone older than 2 years of age who is heading to an endemic area.

Two vaccines are options if typhoid is a risk, Dr. Parker said. The injectable capsular polysaccharide vaccine is approved for children over 2 years and can be given 2 weeks prior to travel. Oral live, attenuated Ty21 a virus vaccine is approved for children older than 6 years but cannot be given if the child is immunodeficient.

Yellow fever vaccine is indicated for travel to endemic areas and required by some countries unless contraindicated. It should not be given to infants younger than 4 months old and is contraindicated in infants 5-9 months of age. Because encephalitis can be a side effect, "you don't want to give it to someone who doesn't need it," she advised.

Japanese encephalitis is a risk in parts of Asia. Mortality is high, however, with deaths in 5%-30% of those who develop symptoms, according to Dr. Parker.

If mosquito exposure is likely during an extended stay in an endemic area during the endemic season, she recommended vaccination with an inactivated virus. It is approved for persons over 1 year of age. Because severe allergic reactions can occur up to 10 days afterward, she said this vaccine should be given at least 2 weeks in advance of travel.

No drug can prevent malarial infection, Dr. Parker said, but some agents can prevent disease. For pediatric considerations in prophylaxis, she referred physicians to a journal article (Semin. Pediatr. Infect. Dis. 2004;15:137-49).

Whether or not prophylaxis is used, families should try to prevent mosquito bites by making careful use of *N,N*-diethyl-m-toluamide (DEET), wearing permethrin-treated clothing, and covering exposed skin.

Dogs and sweets pose special risks when traveling with young children who love both. Along with the usual dietary precautions, Dr. Parker warned that frozen desserts may not be pasteurized. Parents should be told to seek care early if a child gets diarrhea. Much of the world has dog rabies, she added, so teaching children not to pet animals is important, albeit difficult. She recommended vaccinating children against rabies before travel to highly endemic areas. But she warned that a vaccinated child would have to be revaccinated if bitten.

"Vaccination is not enough. It just buys time," Dr. Parker said, noting that postexposure prophylaxis is not available in some countries. ■

## Some Travel Health Web Sites

**CDC Traveler's Health Web Site**
www.cdc.gov/travel/destinat.htm

**CDC Yellow Book**
http://www.cdc.gov/travel/yb/index.htm

**World Health Organization Vaccine Preventable Diseases Monitoring System**
(Vaccine schedules listed by country)
www.who.int/immunization_monitoring/en/globalsummary/scheduleselect.cfm

**WHO Global Health Atlas**
(Communicable disease, including rabies)
www.who.int/globalatlas

**Pan American Health Organization**
www.paho.org

**International Association for Medical Assistance to Travelers (IAMAT)**
www.iamat.org

**U.S. State Department**
http://travel.state.gov/travel/travel_1744.html

Source: Dr. Parker

## Visits to Families Abroad Pose Risks

Foreign-born families taking young children to meet relatives in their home countries face significantly greater health risks, compared with other travelers, according to Dr. Parker.

The youngsters are often very young; mothers may travel while pregnant; and, sometimes, family members are ill even before they leave on trips timed to family occasions, she said.

These families also stay longer, use less safe local transportation, and have difficulty refusing unsafe food or water in the homes of friends and relatives, Dr. Parker observed. As a result, visitors of friends and relatives are 10 times as likely to get malaria or typhoid as tourists.

Yet, foreign-born parents often do not seek medical advice before these journeys, according to Dr. Parker. Even if they have concerns, many don't seek pretravel advice because of the expense.

Some do not believe their families have to worry about organisms in the communities where they grew up. These travelers often see themselves and their children as "already immune," which in large part is a myth, especially for their children, she said.

Even if they see a physician, travelers going back home are less likely to follow medical advice than are ecotourists, adventurers, missionaries, or relief workers traveling to developing countries.