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Time to Expand Definition of a Travel Vaccine

Recent outbreaks of measles in western Europe and of pertussis here in the United States suggest that we consider expanding our definition of a "travel vaccine."

We typically think of travel vaccines as those that aren't routinely given to children (or adults) but that are given only to our patients who travel to developing countries that lack our standards of medical care. But now that there are large measles outbreaks in places like France and Belgium and pertussis in California and elsewhere in the United States, I think we need to start routinely asking patients about travel plans and ensure that they are fully immunized with the measles-mumps-rubella (MMR) and diphtheria-tetanus-acellular pertussis (DTaP) or tetanus-diphtheria-acellular pertussis (Tdap) vaccines if they aren't already.

CHRISTOPHER J. HARRISON, M.D.

This includes accelerating MMR immunization for children younger than 1 year who will be traveling. It appears that not all health care providers are aware of this particular recommendation from the American Academy of Pediatrics' Red Book: While MMR is recommended for routine use in children at age 12 through 15 months with a booster at age 4-6 years, those aged 6 through 11 months who are traveling anywhere outside the United States are advised to receive one dose of MMR vaccine prior to their trip (Red Book;2009:444-55). For these 6- through 11-month-old children, this travel dose is not "valid," meaning it doesn't officially count toward requirements for school attendance, but it is still in their best interests.

The Advisory Committee of Immunization Practices (ACIP) recommends: "Because serologic response to the measles component of the vaccine varies among infants aged 6–11 months, infants vaccinated before age 12 months should be revaccinated on or after the first birthday with 1 dose of MMR vaccine followed by a second dose at least 28 days later" (MMWR 1998;47[RR-8]:1-57).

This recommendation applies to ANY travel outside the United States except Canada or Australia, not just developing countries. According to the World Health Organization, as of April 18 more than 6,500 measles cases were reported from 33 countries in Europe. France has now passed 5,000 cases of measles and looks to be heading for a record year. It appears that nearly all of the cases in France have been among children with no vaccine doses. They have had at least two deaths – one from encephalitis and one from pneumonia.

There are two other major pockets. One near Belgium that seems to be associated with a religious group of vaccine refusers, while we're not sure what's behind another outbreak near the Spanish border. Other countries that have seen upticks in measles cases include Germany, the former Yugoslav Republic of Macedonia, the Netherlands, Norway, Romania, the Russian Federation, Switzerland, and the United Kingdom.

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Measles cases have also been reported in the United States, including 29 during January-February 2011. Of those, 28 were import-associated (either imported or linked to an imported cases), of which 16 were actually imported. Of 13 imported cases among U.S. residents, 7 were children aged 6-23 months, all of whom had traveled internationally. Four of those children were hospitalized for measles-related complications: two with diarrhea and dehydration, one with persistent fever, and one with pneumonia. All four recovered (MMWR 2011;60:397-400).

The diagnosis had been delayed in three of the seven, presumably because measles had not been considered in the differential diagnosis of rash illness, even with a history of international travel. There's an obvious clinical lesson here.

None of those 7 had received MMR vaccine, and only 3 of 47 children aged 6-23 months with imported measles during 2001-2010 had received MMR vaccine. The reasons for nonvaccination of children often are unknown, but contributing to these might be a lack of perceived risk for severe measles. The frequency of imported measles among children aged 6-23 months also suggests that parents and clinicians might not be aware of recommendations to administer MMR vaccine to children as young as age 6 months when they are living or traveling abroad. Likewise, some aren't aware that they should give a second dose to any who have only one MMR dose more than 28 days prior. This "travel dose" can be given to a 13-month-old who had their first dose at 12 months of age. In fact, the parents of one of these 2011 measles patients had asked their pediatrician about vaccination for their child before traveling and were advised that it was unnecessary.

Travelers to the WHO European Region should be aware that measles is endemic in several countries of that region, which was the source of 39% of U.S. measles imports during 2005-2008, according to the Centers for Disease Control and Prevention.

Pertussis is the other vaccine-preventable disease that has been popping up lately and for which we need to consider vaccinating patients who may be traveling to affected areas, even within the United States. As of April 13, the California Department of Public Health reported ongoing pertussis activity, with 733 cases in 2011 for a rate of 6.5/100,000 population. There were 9,273 cases with onset in 2010, or 2.37/100,000, the highest incidence reported in the state since 1958.

Of the 755 hospitalized cases in 2010, more than half (55%) were infants younger than 3 months of age and nearly three-quarters (72%) were infants less than 6 months of age. Of the 10 deaths, 9 were infants.

So far in 2011, the highest rates of pertussis in California have been in the counties of Amador (86/100,000), Sonoma (32.5), and Santa Clara (23.5). Have a patient traveling to California who hasn't received a DTaP within 10 years and never received a Tdap booster? There is no longer a duration limit since the last Td dose. Just go ahead and give the Tdap.

And while we're on the subject, I wanted to mention that I chaired a committee for the Pediatric Infectious Diseases Society that has just published a position statement regarding personal belief exemption from immunization mandates. This document is aimed at helping pediatricians and family physicians who live in states that have laws allowing such exemptions, by providing a resource to support you medicolegally when facing parents who attempt to use misguided laws to avoid immunizing their children. It is available at www.pids.org/news/238-pid-position-statement-on-pbes.html. ■

DR. HARRISON *is a professor of pediatrics and pediatric infectious diseases at Children's Mercy Hospitals and Clinics, Kansas City, Mo. Dr. Harrison's hospital receives grant funding from GlaxoSmithKline for research trials of MMR with him as principal investigator. His hospital also receives National Institute of Health funding for evaluating vaccines with him as local principal investigator via the Vaccine and Treatment Evaluation Unit consortium. E-mail Dr. Harrison at pdnews@ elsevier.com.*