Top Ten Questions Regarding International Travel with Children

Samuel R. Dominguez, MD, PhD, Suchitra Rao, MBBS, and Mimi Glodé, MD

1. Is there a travel clinic with pediatric expertise where I can refer my patients for a pre-travel consultation?

Children’s Hospital Colorado is pleased to announce the recent opening of a Family Travel Clinic. This clinic is a joint venture with the adult infectious disease group at the University of Colorado Hospital (UCH). UCH has a long history of providing travel services for adults. The Family Travel Clinic is able to see children and adults for pre-travel consultation. At one visit, adults will be seen by members of the University adult infectious disease group, and all children will be seen by a pediatric infectious disease specialist (Drs. Dominguez and Glodé) from Children’s Hospital Colorado. The clinic is located at the University of Colorado’s Anschutz Outpatient Pavilion, across the street from the Children’s Hospital Colorado. Children can be seen on Wednesday afternoons. Please call (720) 848-0191 to make an appointment. Please provide your patients with a copy of their vaccination record to bring to their appointment.

2. Traveling with children: General considerations.

- Trauma related to motor vehicle accidents is the number one cause of morbidity and mortality in travelers to the developing world. Car seats, seat belts, and caution are advised for all travelers.

- Babies and young children often experience ear pain during the takeoff and landing portions of air travel. Methods to alleviate this pain include nursing, bottle feeding, sucking a pacifier, chewing, swallowing, eating, or drinking.

- 60% of children experience motion sickness during travel, with children less than 5 years of age developing gait abnormalities as the predominant symptom. Strategies to avoid motion sickness include avoidance of a meal (in particular foods that are high in calories, salt, and protein) at least 3 hours prior to travel, sitting in the middle of the back seat (or front seat if age appropriate), avoiding reading or other visual stimuli, fresh air, eye closure and limiting excessive head movement.

- Acute mountain sickness can occur in children just as commonly as in adults, but is often harder to recognize. Symptoms include difficulty sleeping, dizziness, fatigue, headache, decreased appetite, nausea or vomiting, tachycardia, and shortness of breath. For mild symptoms, treatment includes rest and hydration, acetaminophen, or ibuprofen. Acetazolamide (Diamox®) can be considered for moderate symptoms or for those with a history of altitude sickness. Return to lower altitudes is required for severe or persistent symptoms.

- Due to the higher incidence sexually transmitted and blood borne diseases (i.e. HIV, hepatitis B and C) in some parts of the world, adolescents should be counseled regarding sexually transmitted diseases, condom use, and abstinence. Additionally, travelers should avoid the use of needles, tattoos, pedicures, dental care, and blood transfusions while traveling.

- Depending on the destination, travelers should consider obtaining evacuation insurance in case of an emergency.

3. What vaccines do I need to consider prior to international travel?

- Regardless of the destination, children should be up to date on all recommended routine vaccines (DTaP, MMR, Hib, IPV, HepA, HepB, PCV, rotavirus, varicella, and influenza) prior to travel. For young children, many routine vaccines can be given on an accelerated schedule according to ACIP guidelines. In particular due to the rise in measles cases throughout parts of Europe and Africa, MMR should be given to infants as young as 6 months of age. However, MMR vaccines given prior to 12 months of age do not count towards an adequate two-dose series. Similarly, the conjugated quadrivalent (MCV4) meningococcal vaccine (Menactra®) can be given to children as young as 9 months of age and is recommended for all travelers to the meningitis belt in sub-Saharan Africa.

- Typhoid fever vaccination is recommended for those traveling to areas of high risk including South Asia, Africa, South America, and Latin America. There are currently two vaccines available for use in children, a capsular polysaccharide (ViCPS) and a live attenuated (Ty21a) vaccine. ViCPS is given intramuscularly 2 weeks prior to travel, can be given to children 2 years of age and older, and is effective for 2 years. Ty21a is an oral vaccine given as 4 doses every other day, needs to be completed one week prior to travel, can be given to children 2 years of age and older, and is effective for 2 years.
• Yellow fever is transmitted by mosquitoes and occurs in areas of sub-Saharan Africa and equatorial South America. The live attenuated yellow fever vaccine can be given to children 9 months of age and older and a booster dose is required every 10 years. The vaccine needs to be given 10 days prior to travel. Yellow fever vaccination is required by many countries for entry and/or reentry after travel to an endemic area. Proof of vaccination needs to be documented in an International Certificate of Vaccination (yellow booklet) by a certified travel clinic.

• Vaccination against Japanese Encephalitis (JE) is recommended for travelers to certain parts of Asia where JE is endemic. The only currently available JE vaccine is licensed for persons 17 years of age and older.

4. How do I advise my patients to protect themselves from all those disease-carrying insects?

Numerous diseases for which there are no vaccines, prophylactic medications or treatment can be transmitted from insect vectors. Accordingly, travelers should be advised to take precautions to limit exposure to insects. These should include wearing light weight long sleeve pants and shirts whenever possible, staying indoors from dusk until dawn, avoiding perfumes, scented soaps, and shampoos, and using mosquito nets. Repellents containing 25-50% DEET confer about 5-8 hours of protection and are recommended and safe in children over the age of 2 months. DEET should not be applied to children’s hands, mouth, or near the eyes and should be washed off upon returning indoors. Clothing and mosquito nets can also be sprayed or imbedded with permethrin.

5. What do I need to know about malaria prophylaxis?

Malaria prophylaxis is recommended for all travelers, including young children, who are traveling to areas where malaria is endemic. The choice of prophylaxis is dependent on several factors including travel destination, age of the patient, ease of administration, side effect profile, and cost of the medications. Table 1 provides a summary of available choices. No anti-malaria is 100% effective so travelers should also be advised to adhere to good mosquito precautions as well.

6. What about traveler’s diarrhea?

Diarrhea is one of the most common illnesses in travelers to the developing world. Children are at higher risk and often have a more severe and prolonged illness than adults. Prevention is the best measure to fight traveler’s diarrhea and travelers should be advised to seek restaurants with a good safety reputation; avoid drinking tap water; avoid ice cubes and fruit juices; to eat hot and thoroughly cooked foods; only eat fruits and vegetables that can be peeled; avoid street vendors and buffets; and observe good hand hygiene after toileting and prior to eating. Travelers should consider bringing alcohol-based hand sanitizers with them. Treatment should include adequate hydration and a short course of antibiotics if signs and symptoms are suggestive of a bacterial gastroenteritis (fever and/or blood in the stool). In children, the drug of choice is azithromycin (10 mg/kg orally once a day for 3 days). In general, bismuth subsalicylate (Pepto-Bismol®) should not be given to children under 18 years of age due to the risk of Reye’s syndrome, and loperamide (Imodium®) is generally not recommend in young children due to the risk of adverse events.

7. Do I need to worry about influenza?

Influenza typically circulates throughout the Northern Hemisphere from October to May and throughout the Southern Hemisphere from April to September. Influenza is endemic in the tropics year round. Influenza vaccination should be encouraged for all children to areas of the world where influenza is currently circulating and travelers should consider taking a treatment course of oseltamivir with them in case they become ill while traveling. Travelers to regions of the world with reported cases of avian influenza should be cautioned to avoid poultry farms and sick birds.

8. Aren’t those foreign animals cute?

Due to the higher incidence of rabies and lack of animal control programs, children of all ages need to be cautioned against approaching and petting animals in foreign countries. Because of their shorter stature and greater curiosity children are at increased risk for animal bites. All travelers should avoid stray animals, avoid contact with bats and other wildlife, and not carry or eat food while nonhuman primates are near. If a child is bitten by an animal or has contact with a bat during international travel, thorough cleansing of the site for 5 minutes is recommended in addition to prompt medical attention and institution of rabies post exposure prophylaxis as soon as possible.

9. What happens when my patients develops a fever after returning from international travel?

All international travelers should be counseled to seek medical attention if they develop an unexplained fever upon returning home from travel. Additionally, travelers should be counseled to inform medical care providers about their travel history if they are seeking medical attention for an illness up to a year after returning from travel. Fever in a traveler returning from an area with malaria should be considered a medical emergency. The most commonly diagnosed illnesses in the returning traveler include respiratory viral illnesses, bacterial gastroenteritis, urinary tract infections, malaria, typhoid fever, dengue fever, and rickettsial diseases. Consultation with an infectious disease specialist is often indicated for these patients.
10. What are the best websites for travel related information?

http://www.cdc.gov/travel/ [Centers for Disease Control and Prevention]
http://www.iatm.org [The International Association for Medical Assistance to Travelers]

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<tr>
<th>Medication</th>
<th>Timing</th>
<th>Major Side Effects</th>
<th>Age</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Chloroquine</td>
<td>Weekly&lt;br&gt;Begin 1 week prior to travel and continue for 4 weeks after travel</td>
<td>May exacerbate psoriasis&lt;br&gt;Limited use due to high levels of resistance</td>
<td>All</td>
<td>$</td>
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<tr>
<td>Doxycycline</td>
<td>Daily&lt;br&gt;Begin 1 day prior to travel and continue for 4 weeks after travel</td>
<td>Sun sensitivity&lt;br&gt;GI upset&lt;br&gt;Contraindicated during pregnancy</td>
<td>≥ 8 years</td>
<td>$</td>
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<tr>
<td>Mefloquine (Lariam®)</td>
<td>Weekly&lt;br&gt;Begin 1 week prior to travel and continue for 4 weeks after travel</td>
<td>Abnormal dreams&lt;br&gt;Contraindicated in patients with psychiatric disorders, seizure disorders, and cardiac arrhythmias</td>
<td>All</td>
<td>$$$</td>
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<tr>
<td>Atovaquone/ proguanil (Malarone®)</td>
<td>Daily&lt;br&gt;Begin 1 day prior to travel and continue for 7 days after travel</td>
<td>Contraindicated during pregnancy&lt;br&gt;Generally well tolerated</td>
<td>&gt; 5 kg</td>
<td>$$$$$</td>
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