

## FACTSHEET: TRAVEL VACCINES – ENTERICALLY BORNE

### TRAVEL VACCINES – ENTERICALLY BORNE

This factsheet provides quick facts to help you advise parents about three common travel ailments that may be contracted by their children when travelling (hepatitis A, typhoid fever and travellers’ diarrhea). Although vaccines are available for these food and water borne illnesses, they are not publicly funded (NPF) in British Columbia.

The Public Health Agency of Canada (PHAC) is an excellent source of information on all travel related concerns:

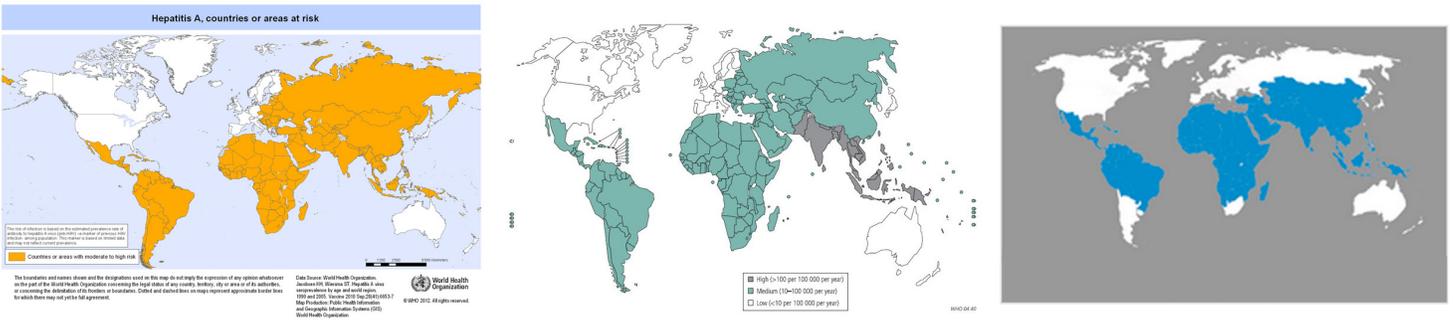
- Travel Health (<http://www.phac-aspc.gc.ca/tmp-pmv/index-eng.php>)
- Travel Clinics in your area (<http://www.phac-aspc.gc.ca/tmp-pmv/yf-fj/clinic-clinique/bc-cb-eng.php>)

### Diseases and Vaccines

Ninety-eight percent (98%) of travellers in a study of the incidence of travellers’ diarrhea made a food or water mistake (e.g., drinking beverages with ice cubes) within their first three days of vacation.<sup>1</sup>

The maps below show risk areas for food and water borne diseases.

Figure 1: Risk Areas for Hepatitis A<sup>2</sup>, Typhoid Fever<sup>3</sup> and Travelers’ Diarrhea<sup>4</sup>



### Diseases and Incidence

Enteric (gastrointestinal) diseases are transmitted through ingestion of contaminated food and water or through direct contact with people infected with the disease.<sup>5,6,7</sup>

#### » Hepatitis A

Hepatitis A (HA) virus is single serotype, ribonucleic acid (RNA) virus of the *Picornaviridae* family.<sup>5</sup>

- Hepatitis A is the most common-travel-related illness for which there is an effective vaccine.<sup>5</sup>
- Studies estimate that 44% to 55% of reported HA cases are linked to travel.<sup>8</sup>
- More than 5 million Canadians go to an HAV-endemic country each year.<sup>9</sup>
- Hepatitis A vaccine is recommended for pre-exposure immunization of persons one year of age and older at increased risk of infection or severe Hepatitis A.<sup>8</sup>
- One dose of monovalent HA vaccine is given for primary immunization with a booster dose given 6 to 36 months later, depending on the product.<sup>8</sup> Refer to product monographs for vaccine-specific recommendations.



» Typhoid Fever

Typhoid fever is caused by a bacterium, *Salmonella enterica* subspecies *enterica* serovar Typhi (*S. typhi*).<sup>6</sup>

- The incidence of typhoid fever is very low in high income countries. The estimated incidence of typhoid fever in returned travellers to high income countries ranges from 3 to 30 cases per 100,000.<sup>6</sup>
- Children with achlorhydria (where production of gastric acid in the stomach is absent or low) may have increased risk of travel-associated typhoid fever.<sup>6</sup>
- With increasing frequency of antibiotic resistance, typhoid fever can be significantly difficult to treat.<sup>10</sup>
- The vaccine which is moderately effective (50%) is recommended for all travellers to South Asia. Travel Health Specialists can advise on the need for the vaccine for travellers to low and intermediate risk areas. Those who are visiting friends and relatives are considered to be at greater risk. Additional sanitation-related activities are recommended.<sup>10</sup>

» Travelers’ Diarrhea<sup>11</sup>

Travelers’ diarrhea is caused by many different bacteria (including *E. coli*, *Salmonella*, *Shigella* and *Campylobacter*), parasites (including *Giardia*, *Cryptosporidium*, *Cyclospora* and others) and viruses (such as norovirus and rotavirus).

- Travellers’ diarrhea is the most common medical problem that affects travellers. Attack rates range from 30% to 70% of travelers, depending on the destination and season of travel.
- Diarrhea can be serious in infants and younger children because of the risk of dehydration.

Vaccines

Children travelling to countries with high endemic rates of infection where they may be exposed to potentially contaminated food and water should be vaccinated. Consult the BCCDC manual<sup>12</sup> for specific age-appropriate vaccines and dosage recommended in BC for Hepatitis A and Typhoid Fever.

ENTERICALLY BORNE DISEASE	VACCINES FOR CHILDREN
Hepatitis A	Avaxim Pediatric®/Avaxim® (over 12); Havrix Junior®/Havrix® (over 16); Vaqta® (pediatric dose); Twinrix® Junior*
Typhoid Fever	Typhim Vi®, Typherix®, Vivotif®
Dual Protection Hepatitis A & Typhoid Fever	Vivaxim® (16 and over)
Travellers’ Diarrhea	DUKORAL® (oral vaccine)

\* As Hepatitis B has been included in regular BC school vaccinations since 1992, most individuals born in BC 1980 through present day are immunized.<sup>12</sup> The value of Hep A-Hep B Twinrix® Junior as an enteric vaccine is limited to the Hep A component for this cohort.

Non-publicly funded (NPF) travel vaccines for children may be available in three locations: travel clinics, pharmacies or offices of physicians. Please refer parents to the BC Pediatric Society resource [NPF Vaccines: Access](#) for the steps to follow to obtain travel vaccines from their pharmacist for you to administer in your office.



### TAKE AWAY MESSAGE FOR PARENTS

- Risks exist whether staying in a luxury hotel or living or eating in poorer hygienic conditions, or even by ingesting contaminated water when brushing one's teeth. Vaccines can protect children when eating and drinking when travelling. Sanitation and other health-related precautions are also advised.
- Ideally, vaccinations should be done well in advance of departure date to ensure sufficient time to complete the regime.
- One person sick on a family vacation impacts the whole family.
- Families going home to Visit Families and Relatives (VFRs) are at particular risk if sanitation is poor in the community being visited.
- The Public Health Agency of Canada website ([www.phac-aspc.gc.ca/tmp-pmv/index-eng.php](http://www.phac-aspc.gc.ca/tmp-pmv/index-eng.php)) and Travel Clinics are excellent sources of information about enterically borne diseases and illnesses, other travel related diseases, and useful tips for travellers.
- For high risk patients or those with a complicated itinerary, consider referring them to Travel Health specialists.
- Travel vaccines are effective, safe and recommended by Health Canada as appropriate for the travel destination.

**“Immunization to protect travellers can be life-saving and is a cornerstone of travel health protection”<sup>13</sup>**



**One of the most important questions on a parent's mind about vaccines is:**

**“What is your recommendation as a health care provider?”**

**Visit the BC Pediatric Society website for Immunization Information for Physicians and for Families at [www.bcpeds.ca](http://www.bcpeds.ca)**



*Please note that the information in this document is provided for educational purposes only, is not intended to provide medical advice and should in no way replace clinical judgment of the healthcare professional.*



### REFERENCE LIST

1. Kozicki M, Steffen R, Schär M. 'Boil it, cook it, peel it or forget it': does this rule prevent travellers' diarrhoea? *Int J Epidemiol*. 1985 Mar;14(1):169-72. Retrieved March 16, 2015 from: <http://www.ncbi.nlm.nih.gov/pubmed/3988431>
2. World Health Organization. Hepatitis A countries or areas at risk. In: Public Health Agency of Canada. Immunization and Vaccines. Canadian Immunization Guide. Part 4 Active Vaccines. Hepatitis A. Disease Distribution. Retrieved November 17, 2014 from: [http://gamapsserver.who.int/mapLibrary/Files/Maps/Global\\_HepA\\_ITHRiskMap.png](http://gamapsserver.who.int/mapLibrary/Files/Maps/Global_HepA_ITHRiskMap.png)
3. Centers for Disease Control and Prevention. Global Health. Global Prevention. Other VPDs. Vaccinating Against Typhoid. Retrieved November 27, 2014 from: <http://www.cdc.gov/globalhealth/immunization/othervpds/typhoid.html>
4. World Health Organization. Countries at high risk for traveler's diarrhea. In: Selvasingam R. *Enterotoxigenic Escherichia coli* (ETEC) as the Cause of Traveler's Diarrhea. *American Journal of Medicine and Medical Sciences* 2014, 4(5):154-160. doi: 10.5923/j.ajmms.20140405.03. Retrieved May 6, 2015 from: <http://article.sapub.org/10.5923.j.ajmms.20140405.03.html>
5. Public Health Agency of Canada. Immunization and Vaccines. Canadian Immunization Guide. Part 4 Active Vaccines. Hepatitis A. Retrieved July 2014 from <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-hepa-eng.php>
6. Public Health Agency of Canada. Immunization and Vaccines. Canadian Immunization Guide. Part 4 Active Vaccines. Typhoid Fever. Retrieved July 2014 from <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-typh-eng.php>
7. Government of Canada. Travel. Travelling Abroad. Travel Health and Safety. Diseases. Traveller's Diarrhea. Retrieved November 14, 2014 from: <http://travel.gc.ca/travelling/health-safety/diseases/diarrhea>
8. Public Health Agency of Canada. Immunization and Vaccines. Canadian Immunization Guide. Part 4 Active Vaccines. Hepatitis A. Retrieved November 17, 2014 from: <http://www.phac-aspc.gc.ca/publicat/cig-gci/p04-hepa-eng.php>
9. Public Health Agency of Canada. Canadian Immunization Guide 7th edition. Ottawa; 2006, p. 181. Retrieved November 2014 from: <http://publications.gc.ca/collections/Collection/HP40-3-2006E.pdf>
10. Centers for Disease Control and Prevention. Yellow Book. Chapter 3 Infectious Diseases Related to Travel. Typhoid and Paratyphoid Fever. Retrieved November 27, 2014 from: <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-3-infectious-diseases-related-to-travel/typhoid-and-paratyphoid-fever>
11. Centers for Disease Control and Prevention. Yellow Book. Chapter 2 The Pre-Travel Consultation. Self-treatable Conditions. Traveller's Diarrhea. Retrieved November 14, 2014 from: <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-2-the-pre-travel-consultation/travelers-diarrhea>
12. BCCDC Manual 2013, Communicable Disease Control Immunization Program Section VII – Biological Products, <http://www.bccdc.ca/dis-cond/comm-manual/CDManualChap2.htm>
13. Public Health Agency of Canada. Immunization and Vaccines. Canadian Immunization Guide. Immunization of Travellers. Part 3 Vaccination of Special Populations. Retrieved November 2014 from: <http://www.phac-aspc.gc.ca/publicat/cig-gci/p03-10-eng.php>