

TRAVEL VACCINATION: WHEN, WHY, HOW? WHAT IS THE ROLE OF FAMILY PHYSICIANS?

A/Prof Annelies Wilder-Smith

ABSTRACT

Travel medicine has become increasingly complex due to dynamic changes in global infectious disease epidemiology, changing patterns of drug resistance, and a rise in the number of travellers with chronic health conditions. Travel medicine is therefore rapidly developing into its own subspecialty. Family physicians are the most frequent point of encounter for most patients, and advice on travel related diseases may be opportune during consultations for other reasons. However, to avoid mistakes and negligence, family physicians need to keep abreast on the rapid developments. This article is divided into two parts. Part 1 deals with recommended vaccines for travel. Part 2 summarises travel health resources for the family physician.

SFP 2007; 33(3): 39 - 43

INTRODUCTION

The growth of international travel of recent years has been unprecedented and presents new challenges to health care providers worldwide. In parallel, health information for international travel is an evolving "industry". Locating reliable current information is time consuming and often exceeds the capacities for physicians who have no experience in travel related medical problems. Travel medicine has become increasingly complex due to dynamic changes in global infectious disease epidemiology, changing patterns of drug resistance, and a rise in the number of travellers with chronic health conditions. Travel medicine is therefore rapidly developing into its own subspecialty. Travel medicine covers a multidisciplinary spectrum ranging from contraceptives, wilderness and emergency medicine, vaccinology, epidemiology and tropical medicine to high altitude disease, and far more.

Is there a role for general practitioners in travel medicine? Yes, there certainly is. Family physicians are the most frequent point of encounter for most patients, and advice on travel related diseases may be opportune during consultations for other reasons. However, to avoid mistakes and negligence, family physicians need to keep abreast on the rapid developments. Table 1 summarises situations where family physicians would best refer travellers to a travel medicine practitioner who has specialised in travel medicine.

This article is divided into two parts. Part 1 deals with recommended vaccines for travel. Part 2 summarises travel health resources for the family physician.

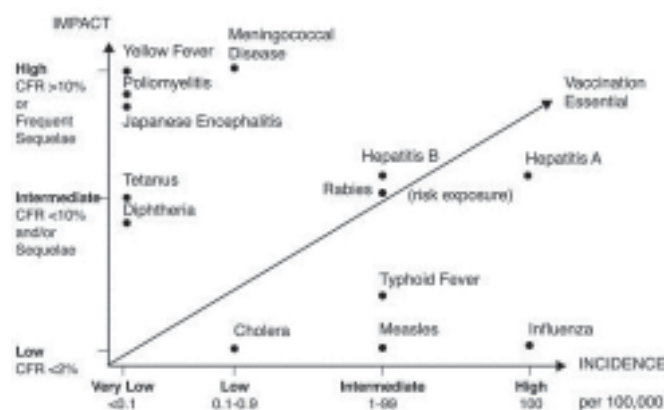
PART 1: RECOMMENDED VACCINES

Routine and required vaccinations are summarised at www.who.int/ith. For recommended travel vaccines, it is useful to consider incidence rates and impact (Figure 1) (with permission from Prof Robert Steffen), as well as specific risk factors (summarised in Table 2).

Table 1. Reasons for referral to a travel medicine specialist

- P Pregnancy
- P Travellers who are immunocompromised
- P Travellers with serious medical conditions
- P Adventure and extreme travel
- P Travel more than four weeks to developing countries or to travels associated with extreme conditions (e.g. high altitude)
- P Age below two and the elderly

Figure 1. Impact and Incidence of Vaccine-preventable Diseases in Travellers to Developing Countries. CFR = case-fatality rate.



What is new in the WHO publication 'International Travel and Health 2007' compared to previous years? First of all, there is a new yellow fever vaccine certificate that has replaced the old one on 15 June 2007. This change was associated with the revised International Health Regulations that entered into force on 15 June 2007. The main second change is with regards to rabies vaccines. The primary series remains three shots given on days 1, 7 and 21 (or 28). There is no booster vaccination recommended anymore, unless the traveller is at high continuous risk of exposure to rabid animals. WHO now also endorses intradermal regimens in addition to intramuscular regimens. Detailed information can be found at www.who.int/ith (Chapter 6).

Table 2. Proposed Risk Criteria for Determining the Use of Recommended Travel Vaccines*

Vaccine	Duration of Trip [†]	Environmental Factor	Host Factor
Influenza	—	Many long flights, cruises	> 50/65 yr, preexisting disease, small children (?)
Typhoid	> few weeks	South Asia, north and west Africa, substandard eating places, or off-tourist itinerary	Gastric anacidity
	> 1 mo	All to developing countries	
Rabies	> 1 mo	High endemicity	High exposure: e.g. cyclists, work with animals; children
	> 3 mo	High endemicity	Any exposure
Meningococcal disease	> 1 d	Epidemics, meningitis belt	Asplenic
	> 1 wk	Dry season, meningitis belt	
Japanese encephalitis	> 2-4 wk	Rural areas (rice fields), during season	—
Tuberculosis	> 1 mo [‡]	Close contact with local population	Infants and children
Cholera	—	Work in refugee camp	Gastric anacidity

PART 2: TRAVEL HEALTH RESOURCES

A body of knowledge in travel medicine is required for safe, state-of-the-art health care provision to international travellers. It is also expected to serve as a vehicle for establishing the content validity of a credentialing process, and the ISTM has meanwhile introduced an examination. Information about the Certificate of Knowledge examination is available at www.istm.org. Major content areas include the global epidemiology of health risks to the traveller, vaccinology, malaria prevention, and pre-travel counselling designed to maintain the health of the travelling public.

Conferences, courses and updates on travel medicine are regularly offered by the ISTM and several national travel medicine societies. The next conference in this region is in February 2008 in Melbourne: www.apictm.com.

General information

General information (i.e. on geography, climate, demographics, economic and political situation, altitude, and in particular on local medical resources) is often difficult to collect from one source. Atlases and encyclopedias may need to be consulted for detailed information. The Lonely Planet (www.lonelyplanet.com) also provides good country specific information. Current US Department of State

(DOS) Consular Information Sheets can be obtained for destination countries. The World Tourism Organisation has a website www.world-tourism.org. The most difficult task is to source for information on local medical resources. The 'World Travel Health Guide' (Publisher: Columbus Press Limited, London) attempts to deal with most of these issues in a very comprehensive manner. Another source is the International Association for Medical Assistance to Travellers (IAMAT) (www.sentex.net/~iamat). On the ISTM website (www.istm.org) a directory on travel clinics around the world can be found; and this can be used for referral of travellers (in particular to complete vaccine series or for consultation of new medical problems). This website also has valuable links to The World Factbook, Region and Country Maps, the Overseas Security Advisory Council and various travel warning sources.

Electronic information

Rapid changes, new emerging pathogens and new regulations necessitate rapid dissemination of information. Electronic media therefore have become a paramount source of travel health information. The list of websites on travel health is rapidly expanding.

Panel 1:

International and National Authorities with regular updates

WHO "Green" Book. International Travel and Health.
Geneva: World Health Organization. (www.who.int/ith)

Health Information for International Travel (CDC Yellow Book)
Published by Department of Health and Human Services, Centers for Disease Control and Prevention, US.
(www.cdc.gov/travel/yb/index.htm)

Canadian Immunization Guide. National Advisory Committee on Immunization. Ottawa, Ontario, Canada.
Published by the authority of the Minister of Health and the Canadian Medical Association.
(www.hc-sc.gc.ca/pphb-dgspsp/publicat/cigci/index.html)

Textbooks and Manuals on Travel Medicine

Manual of Travel Medicine and Health; 2007
By Steffen R, DuPont H L and Wilder-Smith A
Published by BC Decker Inc., Ontario

Principles and practice of travel medicine.
By Zuckermann JN. Chichester: J. Wiley

Travel Medicine
By Jay S. Keystone, Phyllis E. Kozarsky, David O. Freedman, Hans D. Nothdurft, and Bradley A. Connor
2004 Mosby Elsevier ISBN:0323025218

Leggat PA, Goldsmid JM.
Primer of Travel Medicine. Brisbane: ACTM Publications
(actm@tropmed.org)

Travel & Routine Immunizations
By Richard F Thompson
Published by Shoreland, Inc., Milwaukee, USA.

International Travel Health Guide
By Stuart R Rose
Published by Travel Medicine Inc., Northampton.

The Travel & Tropical Medicine Manual
By Jong EC, Mc Mullen R
Published by W B Saunders Company, Philadelphia.

Panel 2:

Travel health website resources

- 1) www.cdc.gov
Comprehensive website by the Centers for Disease Control and Prevention, The traveller health section provides excellent up to date outbreak and immunisation advice as well as specific sections for travel-related diseases, travelling with children etc.
"Health Topics A-Z", an alphabetical listing of a large number of diseases.
Comprehensive information on vaccines schedules and indications, and malaria appropriate malaria prophylaxis.
- 2) www.who.int
Good global data on disease prevalence and trends. Excellent disease fact sheets (click on the "Health Topics")
- 3) www.tripprep.com
Site by Shoreland Inc. packed information on travel-related diseases in its "Traveller Information" section while serving up detailed, country by country commentary of health risks in its "Destination Information". Registration required.
- 4) www.tmvc.com.au
Produced by TMVC in Australia. Good links available.
- 5) www.fitfortravel.com
Comprehensive medical travel information on different countries, vaccine recommendations and malaria risk.
- 6) www.paho.org
For travellers visiting countries in the Western Hemisphere, the Pan American Health Organisation (PAHO) has country-specific information about many health issues.
- 7) www.odci.gov/cia/publications/pubs.html (select "World Factbook")
A good resource for country information by the US Central Intelligence Agency's website
- 8) www.dfait-maeci.gc.ca/travelreport/menu_e.htm
By Health Canada, in English and French
- 9) www.tropimed.com (fee for subscribers): in English, French and German. Broad in scope; country-specific travel health advice

Panel 3:

Websites on Vaccines

- 1) www.vaccines.com
Up to date information on vaccines and immunology. Complete with FAQs. Easy to understand. Suitable for both public and health professionals
- 2) www.worldwidevaccines.com
by GlaxoSmithkline. Registration required.
- 3) www.merckvaccines.com
by Merck drug company (MSD). Registration required.
- 4) European Vaccine Manufacturers
www.evm-vaccines.org/about/htm
- 5) www.cdc.gov/nip/vacsafe
- 6) Global Alliance for Vaccines and Immunizations
www.vaccinealliance.org/home/index.php
- 7) American Committee for Immunization Practices
www.cdc.gov/nip/ACIP/default.html

Panel 4:

Websites for outbreak surveillance and epidemiology

- 1) www.promedmail.org
The Program for Monitoring Emerging Diseases (ProMED) website is updated daily with reports of disease outbreaks, sometimes not validated. Available via e-mail. Free subscription.
- 2) www.who.int/en/
WHO outbreak News
WHO weekly epidemiological record – WER
WHO Flunet - monitors influenza activity in the world
- 3) www.cdc.gov/travel/outbreaks.htm
- 4) www.ceses.org/eurosurv
Eurosurveillance: epidemiological data and reports

LEARNING POINTS

- o There is a plethora of information on travel health resources.
 - o Recommendations for travel vaccines need to be evidenced based, taking into consideration the epidemiology of the vaccine preventable disease, efficacy and safety of the vaccine.
 - o Since 15 July 2007, there is a new yellow fever vaccine certificate which one can order from WHO.
 - o WHO has revised its recommendations for rabies pre and post exposure prophylaxis, at www.who.int/ith.
-