



## THEME

Travel medicine



### Tony Gherardin

MBBS, MPH, FRACGP, is National Medical Adviser, Travel Doctor-TMVC Group, Melbourne, Victoria. [tony.gherardin@hfi.com.au](mailto:tony.gherardin@hfi.com.au)

# The pre-travel consultation

## An overview

### BACKGROUND

Australians are great travellers and the need for travel health advice can be a common presentation in general practice. General practitioners should be an important source of accurate and up-to-date information and provide appropriate travel medicine services.

### OBJECTIVE

This article aims to highlight the prerequisites and underlying principles for good travel medicine practice, define the method of risk analysis at the travel medicine consultation, and discuss the main components of service provision.

### DISCUSSION

Good travel medicine service implies being able to provide accurate, up-to-date advice about health risks for travellers and appropriate provision of selected vaccines, medications, medical kits and travel health products. The travel medicine consultation is the opportunity to make a risk assessment for individual travellers based on detailed analysis of the medical history, the itinerary and other information, in order to tailor advice and treatment. General practitioners should work within their abilities and refer complex cases to travel medicine specialists.

**Australians love to travel, and each year about 4.5 million international departures occur, more than half to countries where vaccine preventable diseases are prevalent.<sup>1</sup>**

Limited market research suggests that a minority of people seek health advice before travel, and a wide range of sources such as friends, travel agents, medical practitioners, pharmacists, and the internet are used for this advice. Travel medicine has emerged over the past 25 years in response to the massive increase in international travel and advancement in knowledge of travel illness epidemiology and vaccinations. It is an interdisciplinary speciality concerned with the wellbeing of international travellers, particularly prevention of infectious diseases, personal safety and management of environmental risks, and encompasses all phases of any trip, before, during and after travel. Specialist travel medicine practices have emerged as referral points for general practitioners.<sup>2</sup>

### Principles of travel medicine practice

Travel medicine can be viewed as 'risk management'. There are several underlying principles that guide the process of effectively reducing risks:

- identify general and specific risks for the individual or group
- provide specific advice about hazards, which may lead to appropriate behavioural change
- recommend specific risk reduction interventions with a perspective of priority (eg. vaccines, medications, repellents)
- provide preventive interventions safely and efficiently
- provide the mechanisms for safer management of illness while travelling, and on return.

Risks for any person or group must account for the specific itinerary and so should be based on the principle of 'this person, this trip, this time'. To do this effectively, travel medicine practitioners need knowledge and experience in some key areas:

- epidemiology of travellers' illnesses
- epidemiology and geography of communicable diseases
- noncommunicable travel risks
- vaccines, travel medications, their indications and adverse events
- post-travel illness presentation and management
- geography, particularly of mainstream tourist destinations
- ability to communicate complex issues in simple prioritised ways
- an understanding of when to refer.

## The travel consultation

The consultation is the cornerstone of the clinical decision making process and is the opportunity to define the risk profile.<sup>3</sup> Practitioners must allocate appropriate time; the longer and more complex the itinerary, the more time will be required. It should be made as a specific consultation, not an add-on to something else. Ideally a travel consultation is done 6–8 weeks before travel to allow for vaccine courses or trial of chemoprophylaxis. Good documentation is essential.

The consultation is the opportunity to consider relevant current or past history, identify travellers with special needs, and allows a detailed assessment of the itinerary (*Table 1*). It provides an opportunity to review the immune status, and therefore make recommendations on relevant vaccines. It allows the consideration of appropriate chemoprophylaxis, and the prescription of medications and a medical kit.

For expatriates and long term travellers there is much to address, and multiple visits are often required.

The consultation is also the place to discuss costs, and help a budget conscious traveller prioritise their requirements. Many travellers are surprised at the cost of vaccines and medications, which for long and complex itineraries may cumulatively exceed the cost of the airfare!

## Identifying high risk individuals

Certain individuals may be at higher risk of acquiring travel illness, be at risk of more severe disease, or have contraindications to certain vaccines or medications.

- Pregnant women
- Children
- Patients with chronic medical conditions (eg. diabetes, heart disease, respiratory disease)
- Immune suppressed patients, including those with HIV infections
- Those taking stomach acid suppression medication
- Elderly travellers
- Expatriates and long term travellers
- Travellers visiting friends and relatives.

**Table 1. Issues in the risk assessment**

<b>Traveller</b>
• Medical conditions (past or present)
• Medications
• Allergies
• Vaccine history
• Previous travel
<b>Itinerary</b>
• Reason for travel
• Style of travel
• Duration of stay
• Exact destinations
• Season
• Accommodation
• Activities
• Exposures
• Budget

Travellers visiting friends and relatives (VFRs) are often members of migrant families who return to countries of lower development and represent 26% of all Australian travellers. It has been shown that these people are at higher risk of acquiring travel illness, get more severe disease, and yet are less likely to have sought travel health advice.<sup>4</sup> They may also be naturally immune to hepatitis A, which can be checked by serology, and thus not require that vaccine. General practitioners should be alert to VFRs and be opportunistic about providing travel health advice and vaccination.

Travellers with routine medications should have good documentation covering medical history, relevant results, and drug doses using generic names.

## Providing health education

While there are issues relevant to all travellers, not all travellers are at risk of all problems, and the risk assessment should guide the particular areas for education and advice, by indicating what is relevant to the individual. Advice should be directed at the individual in language that they understand to maximise the chance of behavioural change. Verbal messages should be short and simple, and written detail should be provided for later reinforcement.

Common issues to be discussed for all travellers are:

- eating and drinking safely
- insect avoidance
- traveller's diarrhoea management
- dog bite management, and
- the need for travel insurance.

Travel insurance is particularly important as medical repatriation in uninsured travellers can lead to financial ruin.

Other topics may be chosen for the individual. Specific topics might include:

- safe sex practice and the need for hepatitis B vaccination
- deep vein thrombosis (DVT) prevention
- altitude illness and the importance of descent for symptomatic individuals
- motion sickness
- using a medical kit
- accessing local medical services, or
- a range of infectious diseases (*Table 2*).

### Selecting appropriate vaccination

Recommendation of vaccines should follow simple principles, should be based on travel illness epidemiology, and be acceptable to the traveller's needs and budget.

- Update any routine vaccinations relevant to Australia
- Recommend any vaccines relevant to usual daily lifestyle and work
- Consider travel vaccines, and make recommendations based on specific risk.<sup>5</sup>

For all vaccines, practitioners must consider indications, contraindications, side effects, interactions, dosage regimens and route, and attempt to deliver the least number of injections at the least cost, in an acceptable schedule. Combination vaccines are useful, and most vaccines can be administered concurrently if required. All vaccines must be documented carefully, and the traveller should have a full record of all vaccines in an International Certificate of Vaccination. Vaccinating children with multiple vaccines presents different challenges, and can be difficult for the inexperienced practitioner, as well as stressful for the family.

**Table 2. Potential issues in travel advice/education**

#### Noncommunicable risks

- Aircraft travel issues: reduced oxygen pressure, humidity
- DVT risks
- Motion sickness
- Jet lag
- Altitude illness
- Heat/cold/sun exposure
- Water safety/accidents/injuries
- Animals and insects
- Carrying medicines
- Accessing medical care

#### Communicable risks – no vaccines

- Dengue fever
- HIV/other STIs
- Schistosomiasis
- Amoebiasis/giardiasis
- Avian influenza/SARS

#### Communicable risks – vaccine preventable

- Hepatitis A and B
- Typhoid
- Yellow fever
- Cholera
- Diphtheria/tetanus/pertussis
- Measles/mumps/rubella
- Influenza
- Japanese encephalitis
- Rabies
- Meningitis
- Polio
- Tick borne encephalitis
- Tuberculosis

### Preventive medications

The decision to advise the use of antimalarials is dependent on the level of risk, but all travellers in malaria prone areas must have advice about mosquito avoidance and basic malaria facts.<sup>6</sup> The various medications all have advantages and disadvantages. Consideration of the level of risk, the respective contraindications, likely side effects, compliance issues and cost will influence the final choice. A trial of medications may be required and should be done well in advance of departure to assess tolerability. Providing medications for self treatment of suspected malaria is an option that may be suitable to some travellers, but requires intensive education.

Although not routine, prophylaxis is sometimes considered for traveller's diarrhoea for those in isolated environments or where illness is not reasonable (eg. political leaders, elite athletes). In certain situations such as these, travel specialists may recommend antibiotics. Probiotics and natural preventives for traveller's diarrhoea are popular but unproven. Acetazolamide can be used as prophylaxis against altitude sickness and should be considered for those travelling above 3000 m.

### Medical kits and health products

Traveller's medical kits are part of good preparation. They contain prescription and nonprescription medications and first aid items to treat common travellers' ailments early and avoid complications or need for accessing treatment while travelling. Typically they deal with gastrointestinal and respiratory infections. They are travel specific, prescribed for the individual, should be fully documented, and be accompanied by detailed instructions and authorisation to ensure unimpeded travel. Most travel medicine centres provide a range of kits appropriate to different types and

**Table 3. Medical kit contents****All travellers**

Items to treat cuts, scratches, burns, strains, splinters

Paracetamol

Repellent

Consider condoms

**Additional for western countries**

Antinauseant

Broad spectrum antibiotic for respiratory infections

Antacids

Pseudoephedrine/antihistamine

Minor sedative

Laxative

**Additional for less developed countries (gastro kit)**

Rehydration solution

Loperamide

Tinidazole

Norfloxacin (or azithromycin for children)

**Additional for comprehensive kit**

Sterile needles and syringes

Alcohol swabs

Antihistamines

Antifungal and antibiotic cream

duration of travel. Many travellers like to build their own, and GPs should be able to give advice about relevant content (*Table 3*).

Insect repellent is relevant to most travellers, a 20–40% diethyltoluamide (DEET) containing repellent is most effective. Sunblock in recommended and handwash gels or towels are useful. Adventure travellers may need water filters or purification tablets. Mosquito nets may be relevant to backpackers and permethrin for soaking nets and clothes may be required. Compression socks and stockings are useful for DVT risk reduction. These items are available at camping stores, adventure retailers and travel medicine centres.

**Communications while away**

The internet has meant communications is relatively easy and cheap, and a consequence is that increasingly travellers have an expectation that they can communicate with their health provider if advice is needed while travelling. Practitioners need to be aware they may be asked by email to provide advice to their patients, and should consider the nature of the advice they give. Specialist travel medicine centres provide this service routinely using knowledge about local health systems.

**Post-travel illness**

Managing post-travel illness is an important part of travel medicine. Illness following travel is quite common, and much presents in general practice. Recognition of life threatening syndromes is paramount, and any fever post-travel must be investigated including blood films for malaria. Common presentations include fever, diarrhoea, respiratory illness and rash (see other articles in this issue for further details). Referral to an infectious disease physician or travel medicine centre may be appropriate.

**Practising travel medicine**

Effective travel medicine takes time, effort and commitment.<sup>78</sup> Simply looking at and administering a list of vaccines 'recommended' for a particular country is not appropriate, and travellers deserve and demand better. Various commercial databases are now available, including those within common prescribing programs such as MASTA database within Medical Director, and these may enhance a GP's practice. It will remain important however, that the GP has a comprehensive view of travel medicine practice. Medicolegal issues arising in the area of travel medicine are usually from poor pre-travel advice and mismanagement of post-travel illness. General practitioners must work within their level of competence and should refer difficult and complex cases to specialist practitioners. General practitioners interested in practising travel medicine need to seek relevant resources, interact with practising specialists, and best of all, travel.

**Resources**

- World Health Organisation. International travel and health: [www.who.int/ith/en](http://www.who.int/ith/en)
- Centers for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)
- Yung A, Ruff T, Torresi J, Leder K, O'Brien D. The manual of travel medicine: a pre-travel guide for health care professionals. 2nd edn. Melbourne: IP Communications, 2004.

Conflict of interest: none declared.

**References**

1. Australian Bureau of Statistics. Available at [www.abs.gov.au](http://www.abs.gov.au).
2. Hill DR, Bia FJ. Coming of age in travel medicine and tropical diseases: a need for continued advocacy and mentorship. *Infect Dis Clin North Am* 2005;19:xv–xxi.
3. Spira A. Preparing the traveller. *Lancet* 2003;361:1368–81.
4. Angell SY, Behrens RH. Risk assessment and disease prevention in travellers visiting friends and relatives. *Infect Dis Clin North Am* 2005;19:49–65.
5. World Health Organisation. International travel and health: situation as on 1 January 2005.
6. Bia FJ, Hill DR, editors. *Travel and tropical medicine*. Philadelphia: Elsevier, 2005.
7. Hill DR, Ericsson CD, Pearson RD, et al. The practice of travel medicine: guidelines by the Infectious Diseases Society of America. *Clin Infect Dis* 2006;43:1499–539.
8. Spira A. Setting the standard. *J Trav Med* 2003;10:1–3.