

Travel Medicine

by Andrew J Pollard and David R Murdoch

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Guides to

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Travel Medicine

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CHAPTER 1

Pre-travel health assessment

Over recent decades, the number of people travelling internationally has grown dramatically. There has also been an increase in the speed of global travel and the accessibility of remote areas to tourists. These factors all serve to expose a large number of people to health hazards they might not otherwise encounter.

Giving advice to travellers prior to departure is largely an exercise in risk assessment. Not only is it necessary to know the potential health hazards of the chosen destination, it is important to consider the type of activities that will be undertaken while on holiday, the type of accommodation, the duration of travel and the regional seasonal differences in the distribution of certain diseases within a country. For example, the health risks for a person making a 4-day business trip to Bangkok are likely to be very different from a 20-year-old backpacker trekking in northern Thailand. The latter will be at greater risk for several infectious diseases, and will consequently receive different recommendations about vaccinations and antimalarial chemoprophylaxis. Both need similar advice, however, about the prevention of travellers' diarrhoea.

Important considerations for the physician undertaking pre-travel health assessments include:

- allowing sufficient time
- personalizing advice
- understanding the epidemiology of health hazards
- identifying high-risk groups
- encouraging individual responsibility
- discussing health insurance
- keeping up to date.

Allowing sufficient time

In general, travellers should be encouraged to seek advice at least 6 weeks before departure. This will allow sufficient time for vaccines, the administration of which may need to be spaced chronologically to enable optimal immunity to develop. Travellers with chronic medical conditions or

other special considerations should seek advice as early as possible. Health professionals must provide ample time for the pre-travel consultation, and for the initial clinic visit in particular.

Personalizing advice

Pre-travel advice needs to be tailored for the individual. Specific considerations are given in Table 1.1.

Understanding the epidemiology of health hazards

It is essential for health professionals to be familiar with both the health hazards in specific travel destinations, particularly developing countries, and the level of risk involved (Figure 1.1). Some diseases that have traditionally attracted considerable attention, such as cholera, may be encountered only rarely by travellers. For many years, a cholera vaccine with poor protective efficacy was administered widely to travellers, though in reality there was only a very small chance of exposure. Conversely, motor-vehicle accidents are a relatively common cause of injury and the single most common cause of death among travellers, yet are rarely discussed. Much of the travel medicine literature has focused on the developing world, and the fact that

TABLE 1.1

Special considerations during the pre-travel assessment

- Traveller's age
- Previous vaccination history
- Medical history, including
 - drug allergies
 - current medications
 - past history of hepatitis
- Pregnancy
- Type of activities likely to be undertaken while travelling
- Type of travel
 - type of accommodation
 - modes of transportation

CHAPTER 4

Motion sickness and jet lag**Motion sickness**

Motion sickness is a frequently debilitating condition occasionally associated with passive transportation by sea, air and road. Characteristic symptoms and signs are nausea, vomiting, cold sweats, pallor and yawning. Given the right circumstances, virtually everyone can be affected, though it is severe in about 5% of people. The cause is incompletely understood; disturbed labyrinthine function is involved, which is probably the result of conflicting inputs to the brain from visual and labyrinthine sensors.

Risk factors. Women typically suffer from motion sickness more than men, and this is worse during menstruation and pregnancy. Maximum susceptibility occurs between 12 and 21 years of age, and there is also an association with migraine. Certain foods and odours, and the sound of others vomiting can accelerate the onset of symptoms.

Although changes in speed and direction can cause motion sickness, up and down movement is the most powerful inducer. Furthermore, a cycle frequency of approximately 1 per 16 seconds is the greatest stimulus, while frequencies more than one cycle per second produce little motion sickness.

Adaptation to motion sickness. A characteristic feature of motion sickness is the ability to habituate to the causative environmental stimuli. This adaptation is motion specific and may not necessarily transfer to different modes of transportation. For example, passengers adapted to travel on a large ship frequently get seasick when transferred to a small boat. Adaptation is lost after the stimulus has been discontinued for a few days.

Prevention. Several measures can be taken to help prevent or minimize motion sickness. These include:

- restricting visual activity by gazing at the horizon, minimizing fixation on close moving objects and avoiding reading; if possible, closing eyes and lying flat can be useful
- minimizing body movements

- good ventilation
- avoiding potentially noxious stimuli, large meals and alcohol
- participating in distracting activities.

While travelling by car, the best position is in the front seat, with eyes fixed on the horizon and fresh air ventilation. Motion sickness when actually driving is unusual. During air travel, the best position is between the wings. Similarly, on-board ships, a central position in a mid-deck is recommended.

Applying acupuncture to the wrist with commercially available wristbands has no proven efficacy.

Drug prophylaxis. Many drugs have been used in an attempt to prevent motion sickness. Antihistamines and phenothiazines are the most popular (Table 4.1). Both may produce anticholinergic side-effects, particularly drowsiness, which can be problematic.

Jet lag

Jet lag, or circadian dyschronism, occurs following rapid flight across several time zones. It is particularly common after time-zone changes of more than

TABLE 4.1

Drugs most frequently used for motion sickness prophylaxis

| Medication | Dose | Duration of protective effect |
|-----------------------------|------------------|--|
| Cinnarizine and domperidone | 20 mg 15 mg | 4 hours Second dose after 4 hours |
| Cyclizine | 50 mg | > 4 hours |
| Dimenhydrinate and caffeine | 50 mg 50 mg | 4 hours |
| Ginger root | 250 mg | 4 hours Second dose after 4 hours |
| Medozine and caffeine | 12.5 mg 10 mg | 12 hours |
| Cinnarizine | 25 mg | > 6 hours Second dose the following morning |
| Scopolamine | 0.5 mg patch | 72 hours |

From Schmid R *et al.*, 1994