

# Advising the traveller

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## Abstract

More than 55 million visits are made from the UK to foreign countries each year. There has been an increase in travel to tropical destinations that have different health risks from those encountered closer to home. Seeking pre-travel advice should be an essential part of any trip for a traveller, but is often omitted. The key elements of pre-travel advice are health risk assessment and health promotion, which involves advice on prevention of malaria, travellers' diarrhoea, sexually transmitted infections and accidents, as well as appropriate vaccinations. High-risk groups of travellers, such as those visiting friends and relatives, need to be particularly targeted.

**Keywords** health promotion; health risk assessment; malaria prevention; pre-travel advice; travel medicine; travellers' diarrhoea; vaccinations; yellow fever

## Introduction

International travel continues to increase, with nearly 1 billion travellers worldwide now crossing international borders, and more than 55 million visits made from the UK each year. Although many travellers from the UK visit Europe, there has been an increase in travel to tropical destinations that carry particular health risks. Travel to such places brings exposure to a broad range of pathogens, many of which are rarely, if ever, encountered at home. The overall risk of morbidity varies between 20 and 70%.<sup>1</sup> While the majority of illnesses tend to be self-limiting, approximately 5% of travellers will require a doctor's attention and 1% will require hospitalization whilst abroad, and many travellers will require medical care on returning home. However, the most likely causes of mortality in travellers are accidental injury (e.g. road traffic accident or drowning) or a cardiovascular event, rather than an infectious disease, which accounts for only 1–2% of deaths.<sup>2,3</sup>

Many travel-related illnesses are preventable by taking sensible precautionary measures, and, for some diseases, by having the appropriate vaccinations and taking chemoprophylactic medications. In the UK, pre-travel advice is given in the primary care setting or at specialized travel clinics, and is usually nurse-led.

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## What's new?

- Continued decrease in incidence of *Plasmodium vivax* in travellers
- Recognition of hepatitis E in travellers
- Definition of yellow fever geographic risk areas and recommendations for vaccination
- Childhood schedule of vaccination for vero-cell derived Japanese encephalitis vaccine; need for booster vaccination after 12 months if remaining at risk
- Continued global progress in polio elimination (India eliminated polio in 2011)
- Global persistence of measles

## Access to pre-travel healthcare

A survey of European travellers visiting countries in the developing world found that only 50% had sought pre-travel health advice.<sup>4</sup> Of these, the majority had been to their general practice surgery, and about 30% consulted a specialist travel medicine clinic. The likelihood of seeking pre-travel advice varies in different groups of travellers, with migrants who return to their country of origin to visit friends and relatives (VFRs) being the least likely to seek advice or take precautionary measures. This group has a disproportionately increased risk of acquiring the more common tropical infections when compared to other travellers, and they should be targeted specifically for pre-travel advice.<sup>5,6</sup>

## The travel clinic consultation

The key features of a pre-travel consultation are health risk assessment, and health promotion with risk management (Table 1).

## Risk assessment

Risk of infection varies according to the area to be visited, endemicity of diseases, nature of travel (holiday, business, backpacker, VFR), type of accommodation, anticipated activities, and duration of trip. It will also vary according to the health status of the traveller: their medical conditions, current medications, allergies and immunization history.

The majority (80–95%) of travellers to the tropics undertake short-term visits (<1 month), with the other 5–20% spending long periods abroad, either travelling or working (e.g. backpackers, missionaries, volunteer workers, placements with the armed forces), or on repeated short-term visits (e.g. businessmen, airline crews). The risks and exposure these groups incur are different, and depend on both individual behaviour and environment, with the long-term group at greater risk of acquiring infections endemic in the local population they are visiting. There is also a risk difference between the sexes, with male travellers being at greater risk of most disease acquisition,<sup>7</sup> except for travellers' diarrhoea which occurs more frequently in females.

Risk varies according to the geographical area visited. Travellers to Africa have the highest rate of all-cause morbidity and account for the greatest number of cases of *Plasmodium*

## Key elements of travel medicine

### Health risk assessment

- Health status of traveller – medical conditions, medications and allergies, immunization history
- Health risk of travel – itinerary (rural, urban), accommodation, duration of trip, anticipated activities

### Health promotion and risk management

- Responsible personal behaviour and safety
- Vaccine-preventable illness
- Vector avoidance
- Malaria prevention and chemoprophylaxis
- Travellers' diarrhoea prevention and self-treatment
- Environmental illness – altitude, heat, swimming, jet lag, prevention of deep-vein thrombosis
- Travel insurance and access to medical care overseas
- Post-travel screening, care and triage of illness (e.g. fever, diarrhoea, rash, respiratory symptoms)

**Table 1**

*falciparum* malaria.<sup>8</sup> The highest risk of *Plasmodium vivax* and diarrhoeal illness is in travellers to South Asia, while cutaneous leishmaniasis is most common in visitors to Latin America. Risk within a country may also differ; for example, malaria risk in Nairobi is negligible compared with a significant risk on the Kenyan coast.

Information about the regional prevalence of specific diseases can be difficult to obtain, but some websites offer valuable information, particularly in relation to recent outbreaks or vaccine recommendations; examples include the World Health Organization, the National Travel Health Network and Centre (NaTH-NaC), and the Centers for Disease Control and Prevention (CDC) (see **Box 1** for website addresses).

However, it is important to remember that non-tropical infections account for many of the infections that present in returned travellers.<sup>5</sup>

### Health promotion and risk management

Many travel consultations focus on vaccinations, but these may be among the least cost-effective preventative measures in travellers, as vaccine-preventable diseases account for less than 5% of travel-associated morbidity – a figure similar to that for accidents and injuries. The main priorities should be given to health problems that are common, preventable/treatable, and serious or potentially fatal. These include malaria, travellers' diarrhoea, sexually transmitted infections, and road traffic accidents (RTAs). Health hazards that are rare (e.g. cholera, Japanese encephalitis, parasitic infections) should be put into perspective and discussed, based on the individual traveller risk profile. For each risk, the travel medicine practitioner must balance the need for prophylaxis against the realistic risk of infection and the likelihood of adherence to preventive measures by the traveller. Travellers should know that no intervention is fully protective.

### Malaria (Table 2)

Malaria is one of the most common and serious causes of fever in travellers, either while abroad or on return (see Malaria on pages

## Useful websites

- National Travel Health Network and Centre ([www.nathnac.org](http://www.nathnac.org))<sup>a</sup>
- Health Protection Scotland (<http://www.hps.scot.nhs.uk>)<sup>a</sup>
- UK Foreign and Commonwealth Office (<https://www.gov.uk/government/organisations/foreign-commonwealth-office>)
- 'Know Before You Go' site provides information on travel insurance and safety (<https://www.gov.uk/knowbeforeyougo>)
- WHO Travellers' Health section (<http://www.who.int/ith/en>)<sup>a</sup>
- US Centers for Disease Control and Prevention ([www.cdc.gov/travel/](http://www.cdc.gov/travel/))<sup>a</sup>
- International Society of Travel Medicine ([www.istm.org](http://www.istm.org))<sup>a</sup>
- Faculty of Travel Medicine, Royal Society of Physicians and Surgeons, Scotland (<http://www.rcpsg.ac.uk/travel-medicine.aspx>)

<sup>a</sup>These organizations aim to improve travellers' health by providing guidance and setting standards for health professionals in settings ranging from primary care to specialized travel clinics.

### Box 1

100–106 of this issue). The risk of malaria is greatest in sub-Saharan Africa (particularly West Africa), to a lesser extent in South Asia (India), and lowest in Central and South America and South East Asia. However, the risk can vary widely within countries depending on location. In the UK each year there are

## Prevention of malaria (The 'ABC' of malaria prevention)

### Awareness of risk

- Review of geographic risk areas
- Review of malaria transmission cycle

### Bite (vector) avoidance

- Protective clothing
- Repellents – N,N-diethyl-meta-toluamide (DEET)<sup>a</sup> and picaridin are the most effective
- Netting – impregnated with a residual insecticide such as permethrin
- Limiting exposure during transmission time (dusk to dawn)

### Antimalarial chemoprophylaxis<sup>b</sup>

- Chloroquine (only where there is no resistant *Plasmodium falciparum*)
- Chloroquine plus proguanil (only where there is little resistant *P. falciparum*, or where *P. vivax* predominates)
- Atovaquone plus proguanil (Malarone<sup>®</sup>)
- Doxycycline
- Mefloquine

<sup>a</sup> A 20–50% concentration is usually recommended and is safe for all travellers >2 months of age; manufacturer's guidelines for use should be followed.

<sup>b</sup> Before prescribing an antimalarial agent, the prevalence and species of malaria found in the travel destination as well as potential resistance must be determined, as should any medical contraindications. See Public Health England malaria (previously HPA) guidelines: [http://www.hpa.org/web/HPAweb&HPAwebStandard/HPAweb\\_C/1195733823080](http://www.hpa.org/web/HPAweb&HPAwebStandard/HPAweb_C/1195733823080).

**Table 2**

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