



Medihealth Pathology

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Assessing fever in the returned traveller

Key Points

- Careful assessment of travellers with fever involves a detailed history, a thorough examination and targeted laboratory investigations.
- Priorities for management are to identify conditions that are life-threatening, treatable, or have public health implications.
- Malaria is especially important to exclude promptly in any febrile person who has travelled to a malaria transmission area.
- While most travel-related infections present soon after return, some important chronic infections may present months or years later (eg, strongyloidiasis, schistosomiasis, tuberculosis).
- Travellers who have been bitten by an animal require evaluation for rabies and herpes B virus.
- Patients with undifferentiated fever should be discussed with an Infectious Diseases Physician.

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As many as 43%–79% of travellers to low- and middle-income countries become ill with a travel-related health problem. Febrile illnesses (temperature > 38C) account for about a quarter of post-travel presentations for medical care. Fever after travel may be due to a wide range of causes ranging from minor and self-limiting to serious, rapidly progressive or potentially fatal. While most travel-related infections present within a few weeks of return, some infections can present many months or years after exposure. (Table 1) Equally, diseases unrelated to travel can also occur after exotic travel.

Causes of fever such as malaria or meningococcal disease are treatable with early recognition and specific management. Travel-related infections may be of public health concern and require specific intervention to prevent spread (e.g. Typhoid / Paratyphoid fever).

The management of post-travel fever should therefore be directed at identifying treatable causes, especially for potentially fatal or rapidly progressive disease, and managing any potential for communicable spread through the community.

The assessment of the returned traveller depends on a good history, including exposures during travel, and careful examination. (Table 2 and 3) Laboratory testing is crucial in establishing a proper diagnosis and may include drug susceptibility where relevant. Many exotic or tropical illnesses present similarly yet establishing the exact diagnosis and circumstances of infection can be important to both the patient and others. Immigrants and their children who return to their country of origin to visit friends and relatives (VFR) are at increased risk of acquiring infectious diseases compared to other travellers.

Pre-travel advice is often not sought before VFR travel. This type of travel is more often last-minute, more likely to be undertaken whilst pregnant or with pre-existing chronic medical conditions and is associated with more risk-taking behaviour (e.g. consumption of local food and beverage).

Patients with undifferentiated fever warrant discussion with an Infectious Diseases Physician.

Table 1: Incubation periods

Short (< 10 days)	Intermediate (10–21 days)	Long (> 21 days)
Influenza	Malaria	Malaria
Dengue	Viral haemorrhagic fevers	Hepatitis A, B, C, E
Yellow fever	Typhoid fever	Rabies
Plague	Scrub typhus	Schistosomiasis
Paratyphoid fever	Q fever	Leishmaniasis
Mediterranean spotted fever	Relapsing fever (Borrelia spp.)	Amoebic liver abscess
African tick-bite fever	African trypanosomiasis	Tuberculosis
Rocky Mountain spotted fever		Filariasis
		Brucellosis



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Table 2: Key elements of history

QUESTION	EXAMPLES
Chief complaint	Main symptoms, Date of onset, Location where symptoms started (while away, in transit, or after return), Health care received for this problem (such as medications or hospitalizations) while abroad and after return
Trip details	Countries visited, Itinerary in country, Duration of travel Date of return from travel, Reason for travel, Recreational activities, Type of accommodations and sleeping arrangements, Modes of transportation
Use of travel precautions	Effective insect repellent, Bed nets, Adherence to malaria prophylaxis
Past medical history	Chronic medical conditions, Recent illnesses or surgeries
Medications	Routine medications, Malaria prophylaxis, Antibiotics, Over-the-counter medications, Herbal, complementary, and alternative medicines
Immunisation history	Hepatitis A, Hepatitis B, Influenza, Japanese encephalitis Meningococcal disease, Measles-mumps-rubella (MMR) Polio, Rabies, Tetanus-diphtheria-acellular pertussis (Tdap) Typhoid, Varicella, Yellow fever
Additional information	Smoking, alcohol, and illicit drug use, Recent domestic travel or prior international travel, especially within the prior 6 months, Family history

Table 3: Exposures associated with particular infections

EXPOSURE	DISEASE
Drinking unclean water	Viral diarrhoea, shigella, salmonella, hepatitis A and E, giardia, polio, cryptosporidium, Guinea-worm
Skin contact in unclean water	Leptospirosis, schistosomiasis, free-living amoeba
Eating raw or improperly cooked food	Food-borne viruses and bacteria, wide range of parasites, brucellosis, listeriosis
Animal bites	Rabies, rat-bite fever, wound infections, simian herpes B-virus, cat-scratch fever
Animal contact	Q-fever, anthrax, toxoplasma, Hanta viruses, Nipah/Hendra viruses, severe acute respiratory syndrome, plague
Bird contact	Psittacosis, avian influenza
Mosquito bites	Malaria, dengue, yellow fever, arboviruses, viral encephalitis, filariasis
Tick bites	Rickettsia, borrelia, tick-born encephalitis, Q-fever, Crimean-Congo haemorrhagic fever, tularaemia, babesiosis
Fly bites	African trypanosomiasis, onchocerciasis, leishmaniasis, loa loa, sandfly fever, bartonella
Flea bites	Plague, murine typhus, tungiasis
Lice bites	Relapsing fever, epidemic typhus, trench fever
Mite bites	Scrub typhus, rickettsial pox
Triatomine bug bite	Chagas disease
Soil-skin contact	Hookworm, strongyloides, melioidosis, fungal infections, mycobacteria
Sexual contact	HIV, hepatitis A, B and C, sexually transmitted diseases
Injections, body-piercing	Hepatitis B and C, HIV, malaria, mycobacteria, leishmaniasis

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