

QUICK LINKS**Arboviral Infections—TRAVELER INFORMATION**

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Traveler Information

ARBOVIRAL INFECTIONS

This article includes **Rift Valley fever**, **Ross River fever**, and **Equine Encephalitis**.

See also the articles: *Chikungunya*, *Yellow Fever*, *Dengue*, *Japanese encephalitis*, *Tick-borne Encephalitis*, *West Nile Virus*, and *Viral Hemorrhagic Fevers*.

INTRODUCTION

Arboviral infections are transmitted by mosquitoes, sandflies, and ticks. Most human infections are mild but some can cause serious disease. Many of these infections cause small, localized epidemics that occasionally involve travelers; others may be transported accidentally from one geographical area to another, such as the West Nile virus that was introduced into the eastern seaboard of the United States. Immunity after human infection is usually life-long, though infection by one dengue serotype may increase sensitivity and the risk of complications to infection with another serotype.

TRANSMISSION

Arboviruses live in birds, rodents, and monkeys, as well as the mosquitoes, sandflies, and ticks that transmit the infection. Humans are incidental hosts. Outbreaks of human infections are often local and seasonal and are affected by climate change such as the El Niño effect. The risk of infection to travelers is therefore extremely difficult to predict. Risk to travelers is normally low, patchy, and seasonal; the risk of serious complications is slight. The clinical incubation period is usually less than 1 week.

SYMPTOMS

Features common to most arboviral infections include fever, redness of the conjunctiva, pain in the orbit of the eye, muscle and joint pain, photophobia, rash, and enlarged lymph glands. Jaundice, confusion, convulsions, and shock may occur.

DISEASE INFORMATION**Ross River Fever**

Ross River fever virus is spread by mosquitoes, especially during the daytime. This virus is present in most areas of Australia. Cases have been reported among tourists. Symptoms include arthritis, especially in the knees, ankles, and wrists. Joint pain persists for more than 1 year in 50% of cases and headache and depression in 25%, especially in the elderly. Barmah Forest Virus causes a similar illness, primarily in the Northern Territory and the states of Queensland and Western Australia. .

Rift Valley Fever

Rift Valley fever is a viral disease of sheep, goats, and cattle and is transmitted to humans through contact with the blood or tissue of infected animals (e.g., during slaughter, meat preparation, or while on hunting safaris) or through the bite of an infected mosquito. Risk is low for most travelers, but higher for travelers sleeping outdoors in areas where animal cases are occurring. Risk is also higher for hunters, veterinarians, slaughter house workers, and herdsmen. Rift Valley fever occurs chiefly in southern and eastern Africa, Madagascar, Mauritania, Chad, Sudan, the Nile Valley and Delta, and Israel. Many times human cases are asymptomatic or mild (fever, muscle aches, headache) and brief. Severe disease is rare but can cause encephalitis, hemorrhagic fever, or retinal

damage with about 1% suffering permanent vision loss or neurologic damage. Travelers to risk areas (especially if visiting rural areas or game preserves) should employ daytime insect precautions and avoid consuming unpasteurized milk and raw meat.

Equine Encephalitis

Mosquitoes transmit this virus, which is found in rodents and birds. Outbreaks of the disease occur in horses and donkeys, and humans can become infected. Residents are at risk rather than travelers, except during periods of outbreaks among animals. The virus is found in the U.S., Central America, the Caribbean islands, and northwestern South America. Encephalitis is especially severe in children and has a 1 to 10% mortality rate.

PREVENTION STRATEGIES

General prevention advice for most travelers includes the following:

- Avoid places where there is known disease occurring or where recent flooding and high temperatures encourage mosquito breeding.
- Take the usual precautions of insect repellents and permethrin-impregnated bed nets to avoid mosquito bites.
- Campers should look for engorging ticks, paint them with kerosene, and remove them by the mouthparts with forceps, without squeezing the body.

NEED FOR MEDICAL ASSISTANCE

The majority of arboviral infections require no medical attention. Severe general symptoms or specific symptoms will require hospitalization and investigation. Treatment is supportive.

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