Malaria

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Malaria in humans is caused by four species of protozoan parasites of the genus *Plasmodiu*m: *P. viva*x, *P. falcipariu*m, *P. malariae* and *P. ovale*. These parasites are transmitted from person to person by *Anopheles* mosquitoes throughout tropical and subtropical regions throughout the world.[1] Symptoms vary depending on the malaria species, but generally start with lassitude, headache, anorexia, occasional nausea and vomiting. Typically, recurring attacks of intermittent fever and chills, which last several hours, end with profuse sweating.

Historically, *P. vivax* and *P. falciparium* malaria occurred throughout Florida before the turn of the century. Although cases were reported in all 67 counties, some of the highest rates were found in counties along the upper gulf coast and panhandle.[1] With the advent of extensive mosquito spraying, household screening, use of repellents and improved agricultural drainage practices, cases began to decrease in the late 1930's. The use of DDT after W.W. II improved the situation dramatically and malaria was considered eradicated in Florida by 1948. Thereafter, Florida's reported cases of malaria were found to be imported from endemic regions of the world, with most occurring in immigrants from the Caribbean, Mexico, and Central and South America.[2]

Travelers to malaria-endemic areas should prevent mosquito bites by staying indoors during dusk and dawn, using insect repellents on clothing and exposed skin as appropriate, wearing long pants and long-sleeved shirts, and sleeping under a mosquito bednet that has been treated with permethrin insecticide. Drugs to prevent malaria (antimalarials) are available by prescription through a travel medicine provider and are based on travel itinerary and medical history. Some antimalarials are to be taken 4-6 weeks before foreign travel without missing doses, through travel and even after returning from a foreign country.

In Florida, an average of 47 imported cases were reported annually during the 1980's[2], compared with 74 imported cases reported annually during the 1990's. During 1990, Florida had its first locally-acquired case of human malaria in 42 years when a white female, with a history of mosquito bites while fishing in the panhandle, developed a *P. vivax* infection.[1,3] In 1996, four of the 93 confirmed cases reported were found to have acquired infection in the state. In February 1996, the Broward County Health Department (CHD) reported apparent transmission of *P. vivax* from a hospitalized patient to two other patients in adjacent rooms. A follow-up investigation suggested that the infection in these patients was probably due to a break in standard precautions at the hospital rather than by mosquito transmission.[4] In July 1996, two locally-acquired cases

of *P. vivax* malaria were reported by the Palm Beach CHD in adult males with no history of travel, IV drug use or transfusion. Environmental investigation found *Anopheles* mosquitoes in the involved area.[5] Surveys to identify probable sources of infection and additional cases were inconclusive.

Fortunately, Florida has not yet experienced malaria outbreaks such as those reported in California where *Anopheles* mosquitoes have transmitted malaria from migrant workers to susceptible human populations.[6] Because malaria vectors are found throughout Florida and because imported cases may infect these mosquitoes, autochthonous transmission remains a concern. Reports of locally-acquired cases in south Florida emphasizes the importance of CHDs thoroughly investigating all reported cases of malaria as soon as possible.

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References

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