

## **Think Twice Mosquito Control: Mosquito bites can cause other illness**

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While the mosquito-borne West Nile virus has been in the news recently, it is not the only disease transmitted by mosquitoes that threatens Florida residents.

Saint Louis encephalitis (SLE) and Eastern Equine encephalitis (EEE) are both regularly found in Florida, generally at low levels. But epidemics do occur. Malaria, dengue fever and yellow fever were also serious problems through the mid-1900's. Many public health and mosquito control officials are concerned with the potential for these diseases to re-establish themselves in Florida. Malaria is considered the most devastating of these diseases. The World Health Organization (WHO) estimates that world-wide there are more than 300 million cases of malaria annually -- more than the entire population of the USA -- with more than 1 million deaths. Most of these deaths are children younger than age five.

In Florida there are about 50 to 75 cases of malaria diagnosed every year. While most of these cases are imported (that is, the patient was infected outside the United States), there are also locally transmitted cases. This year there have been eight cases of malaria in Palm Beach County that were acquired locally.

Malaria is transmitted by mosquitoes in the genus *Anopheles*. There are six species of *Anopheles* found in Collier County, but only two of them are considered to be important in transmitting malaria; *Anopheles quadrimaculatus* and *Anopheles crucians*.

It is quite possible that local transmission of malaria could occur here because mosquitoes that transmit malaria are here, as well as immigrants from countries where malaria is endemic. All it would take is for an infected immigrant to be bitten by the right mosquito to enable local transmission of malaria.

Dengue fever, also known as break-bone fever because of the terrible pain associated with it, has reached epidemic level in many parts of Central and South America. The severe form of the disease, dengue hemorrhagic fever (DHF), is also increasing in many countries.

The WHO estimates that there were 609,000 cases of dengue and 15,000 cases of DHF in Latin America in 2001. The DHF form of the disease causes massive internal bleeding, in addition to the pain. While normal dengue fever is seldom fatal -- although the pain caused by the disease is excruciating -- DHF is often fatal without proper treatment and blood transfusions.

Dengue is transmitted by *Aedes aegypti* and *Aedes albopictus*, both found in Collier County. These species breed in artificial containers and tree holes and can be controlled very effectively by homeowners. As with malaria, there is the potential for a local outbreak of dengue fever, starting with transmission from an infected immigrant to local residents by local mosquitoes.

Malaria, dengue fever, dengue hemorrhagic fever, West Nile virus, Saint Louis encephalitis, and Eastern Equine encephalitis are all mosquito-borne diseases that could cause health problems in the Naples area. As a result, residents should always take precautions to avoid being bitten by mosquitoes.

Along with avoiding being outdoors at dawn and dusk, wearing appropriate clothing and draining standing water around the home, insect repellents containing DEET should be used to protect against mosquito bites.

A recent letter to the editor of the Naples Daily News may have led some readers to question the safety of using repellents containing DEET. Instances of adverse reactions to DEET are very few and are generally the result of misuse of the product. Both the American Academy of Pediatrics and the American Medical Association support the proper use of DEET-based repellents to prevent West Nile virus and other mosquito-borne diseases.

For more information on DEET visit [www.aap.org](http://www.aap.org) (American Academy of Pediatrics) and [www.annals.org](http://www.annals.org) (American Medical Association) and type DEET in the search/keyword box. Both of these sites have several articles discussing the safety and use of DEET-based repellents.



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