



Preventing Mosquito-Borne Illness

(Eastern Equine Encephalitis & West Nile Virus)

HARDWICK BOARD OF HEALTH

West Nile Virus is the first of the two mosquito-borne illnesses. It is more common than EEE, but typically does not cause serious disease. Symptoms are often: fever, headache, body ache and potentially a skin rash. Few people may develop severe illnesses that can present with: stiff neck, confusion, muscle weakness, tremors, convulsions, coma, encephalitis, paralysis or death.

What diseases can a mosquito cause?

Mosquitos are not only the cause of irritation and annoyance in the humid summer months, they can also transmit disease. In Massachusetts, mosquitoes cause two primary diseases, **West Nile Virus** and **Eastern Equine Encephalitis (EEE)**.

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Eastern Equine Encephalitis (EEE) is the more serious, but also more rare type of mosquito-borne disease. Since its discovery over 80 years ago, there have been just over 100 cases in Massachusetts. EEE can cause fever, stiff neck, headache and lack of energy. In serious cases EEE can cause swelling of the brain, called encephalitis, which can cause coma or death. In short, EEE is not something anyone wants to get. If an individual develops symptoms it often can become serious.

How does a virus get from a mosquito to a person?

It may seem a little strange that such a small nuisance could actually cause disease in humans. So how does that happen? Mosquitoes pick up viruses from an infected animal and then bite a human, passing it on through their bite. Let's take the example of Eastern Equine Encephalitis. Despite what you might think based on the name, EEE is not passed directly from horses to humans. Instead, mosquitoes bite infected birds which carry the virus, then can pass EEE on to humans or horses as they continue to feed.

What role do humans play in mosquito transmitted disease?

While mosquitoes are numerous and have a habit of being sneaky, through preventing bites personally and working to prevent mosquito breeding, the community of Hardwick holds the power to prevent mosquito-borne illness more than just itching and scratching.

HOW TO PREVENT BITES

- **Wear mosquito repellent when you go outside**
- **Try to avoid being outside at dusk and dawn as these are peak mosquito biting times.**
In the summer months dusk is about 8-9pm and dawn is about 4:30-5:30 am
- **Wear long sleeves, long pants and socks when outdoors.**
- **Repair and tightly attach any door or window screens in your house.**

Repair tip: Use mesh tape or stuff cotton to repair holes in screens

- **Remove standing water.**

This helps cut down on mosquito breeding sites. Some of the common spots are old tires, wheelbarrows, ditches and gutters. Mosquitoes can breed in water that has been standing for more than four days, so even tipping over standing water twice a week can greatly impact the mosquito population around your house.

Mosquito Repellents

There are several different types of mosquito repellents available. There are also your own personal preferences that you want to consider. Also, it can be time consuming to read through the ingredients list on a label. The good news is there are several options to choose from that can fit easily into your daily routine and there are a few tips to help ease the selection process.

If you don't want to read the whole label, just look at the active ingredient. Look for products that contain ONE of the following:

COMMON ACTIVE INGREDIENTS IN MOSQUITO REPELLENT

- *DEET*
- *Picardin*
- *Lemon Eucalyptus oil*
- *IR3535*
- *Para-methane-diol (PMD)*
- *2-Undecanone*

How do I make sure I apply repellent correctly?

Once you have found a repellent that you like, how do you make sure you are benefiting from it? Again, a small amount of effort goes a long way. Here are some tips for application:

- ***Follow label instructions***
- ***If using in combination with sunscreen, apply sunscreen first***
- ***Apply only to areas not covered by clothing***
If you want to treat your clothes as well there are additional products designed to be applied to clothing
- ***Less is actually more***
It only takes a light layer to ward off sensitive mosquitos. Apply enough to cover exposed skin, but you don't have to layer it on all at once

Remember: Whether it's mild or serious, rare or common, preventing mosquito-borne illness is possible through a few simple actions. By themselves, each of these efforts may not completely eradicate the risk of catching illness from mosquitos, but when combined they greatly reduce the risk of transmission. Regardless, you should always be aware and conscious of these risks and prepare accordingly.