

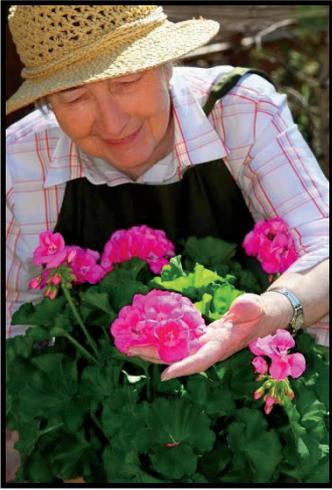
# Mosquito-borne Disease in Central Massachusetts:

How You Can Keep Safe This Summer



Attention:  
Older Adults!!

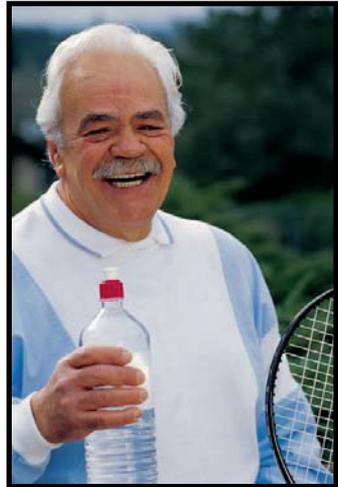




While enjoying the outdoors this summer, please remember to be aware of mosquitoes. Everyone should try to reduce their exposure to mosquitoes and their bites.

*But why?*

The reason this is important is because these insects have the potential to carry several diseases. The two primary mosquito-borne diseases in the Northeast are *West Nile virus* and *Eastern Equine Encephalitis*.



Both of these diseases can have significant health impacts, but your risk can be reduced by learning about the issue...

## What are the symptoms of WNV?

The majority of people who are infected with WNV will have no symptoms. Around 20% of people who become infected will have symptoms such as fever, headache, body aches, nausea, vomiting, and sometimes swollen lymph glands.

The symptoms of severe illness can include high fever, headache, neck stiffness, disorientation, coma, tremors, convulsions, muscle weakness, vision loss, numbness and paralysis.

**On West Nile virus, the CDC says...**



## How common is WNV in Massachusetts?

Because most people who are exposed to WNV have no symptoms, it is difficult to know exactly how many people have been infected. People who develop severe illness with WNV are most often reported. Between 2012 and 2016, 72 people were reported with WNV infection in Massachusetts.

## What are the symptoms of EEE?

Although relatively rare, Eastern Equine Encephalitis is a very serious viral disease. Symptoms can include high fever, stiff neck, and headache, occurring three to ten days after the bite from an infected mosquito. Inflammation and swelling of the brain may cause neurological complications and/or damage. EEE causes mortality in approximately 50% of those who become infected with it, while commonly leaving survivors with permanent neurological impairment.



(James Gathany, CDC.gov)

## How common is EEE in Massachusetts?

Most cases have been concentrated in the southeastern portion of Massachusetts, although human infection elsewhere is possible. Between 2012 and 2016, 8 Massachusetts residents were reported with EEE infection, with multiple fatalities.

## Simple personal protection measures to use this summer

- Avoid outdoor activities around dusk and dawn when mosquitoes are most active
- Wear long sleeves, pants and hats while outdoors to give mosquitoes less exposed skin to bite
- Repair any damaged window or door screens around the house
- Remove or monitor items that may trap standing water and develop mosquitoes, such as old tires, wheel barrows, loose tarps, and birdbaths\*



\*some mosquitoes take only 7-10 days  
to develop in standing water!!

- Use recommended mosquito repellents that contain ingredients such as *DEET*, permethrin, picaridin, or oil of lemon eucalyptus

## Insect Repellents

The Center for Disease Control and Prevention recommends repellents containing *DEET*. These are considered the most effective products against a variety of biting insects. *DEET* products will vary in concentrations, with high concentrations generally providing longer lasting protection. There are additional non-*DEET* repellents that vary in effectiveness.

## IMPORTANT!!

Whatever repellent is chosen, it is vital for effectiveness and safety that it be used only as directed on the label.



Proper use of repellent, according to the label

## Mosquito Facts

- Only female mosquitoes require blood, male mosquitoes seek solely plant nectar
- There are approximately 2,700 species of mosquitoes, with 176 found in the United States
- Mosquitoes are attracted to carbon dioxide in our breath at distances of 100 feet
- Dark clothing attracts mosquitoes

## Ticks

Deer Tick (*Ixodes scapularis*)



Adult female



Adult male



Nymph



Larva



(CDC.gov)

While protecting yourself against mosquitoes this summer, be aware that ticks may also be lurking. Luckily, many of the same personal protection techniques that work for mosquitoes also will work against ticks. For example, insect repellents with DEET will also work against ticks.

## Zika Virus

Many symptoms of this virus are similar to WNV and can include fever, headache and body aches. For pregnant women infected with Zika virus, birth defects can occur, including microcephaly and other fetal brain defects. For most people however, Zika is asymptomatic and they will never feel sick.

### How common is Zika in Massachusetts?

It is very unlikely residents of Massachusetts will become infected with Zika virus from local mosquitoes. The species associated with Zika are not typically present in Massachusetts. Residents who travel to Zika endemic areas may contract the virus and become diagnosed locally.

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