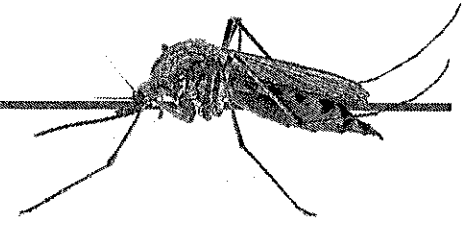




EEE (Eastern Equine Encephalitis) Fact Sheet



What is Eastern Equine Encephalitis?

Eastern equine encephalitis (EEE) is a rare but serious disease caused by a virus.

How is the EEE virus spread?

The virus that causes EEE is spread through the bite of an infected mosquito. In Rhode Island, the virus is most often identified in mosquitoes found in and around freshwater, hardwood swamps.

EEE virus particularly infects birds, often with no evidence of illness in the bird. Mosquitoes become infected when they bite infected birds. Although humans and several other types of mammals, particularly horses and llamas, can become infected, they do not spread disease.

How common is EEE in Rhode Island?

EEE is a very rare disease. Rhode Island has only had two human cases since 2010.

What are the symptoms of EEE?

The first symptoms of EEE are fever (often 103° to 106°F), stiff neck, headache, and lack of energy. These symptoms show up four to ten days after a bite from an infected mosquito. Inflammation and swelling of the brain, called encephalitis, is the most dangerous and frequent serious complication. The disease gets worse quickly and some patients may go into a coma within a week.

What is the treatment for EEE?

There is no treatment for EEE. People who survive this disease will often be permanently disabled. Few people recover completely.

What can you do to protect yourself from EEE?

Since the virus that causes EEE is spread by mosquitoes, here are some things you can do to reduce your chances of being bitten:

- Schedule outdoor events to avoid the hours between dusk and dawn, when mosquitoes are most active.
 - When you are outdoors, wear long pants, a long-sleeved shirt and socks. This may be difficult to do when the weather is hot, but it will help keep mosquitoes away from your skin.
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- Use a repellent with **DEET** (N, N-diethyl-m-toluamide), **permethrin**, **picaridin** (KBR 3023), **IR3535** (3-[N-butyl-N-acetyl]-aminopropionic acid) or **oil of lemon eucalyptus** [p-menthane 3, 8-diol (PMD)] according to the instructions given on the product label. DEET products should not be used on infants under two months of age and should be used in concentrations of 30% or less on older children. Oil of lemon eucalyptus should not be used on children under three years of age. Permethrin products are intended for use on items such as clothing, shoes, bed nets and camping gear and should not be applied to skin.
 - Keep mosquitoes out of your house by repairing any holes in your screens and making sure they are tightly attached to all your doors and windows.
 - Remove areas of standing water around your home. Here are some suggestions:
 - Look around outside your house for containers and other things that might collect water and turn them over, regularly empty them, or dispose of them.
 - Drill holes in the bottom of recycling containers that are left outdoors so that water can drain out.
 - Clean clogged roof gutters; remove leaves and debris that may prevent drainage of rainwater.
 - Turn over plastic wading pools and wheelbarrows when not in use.
 - Change the water in birdbaths every few days; aerate ornamental ponds or stock them with fish.
 - Keep swimming pools clean and properly chlorinated; remove standing water from pool covers.
 - Use landscaping to eliminate standing water that collects on your property.
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Did you know?

Mosquitoes can begin to multiply in any puddle or standing water that lasts for more than four days! Mosquito breeding sites can be anywhere. **Take action** to reduce the number of mosquitoes around your home and neighborhood. Organize a neighborhood clean up day to pick up containers from vacant lots and parks and to encourage people to keep their yards free of standing water. Mosquitoes don't care about fences, so it's important to remove areas of standing water throughout the neighborhood.

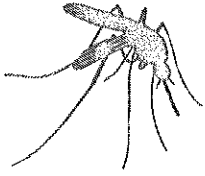
Where can I get more information?

- Your doctor, nurse, or health care clinic, the Rhode Island Department of Health at **401-222-5960** or health.ri.gov/mosquito.



Rhode Island Department of Health
401-222-5960 / RI Relay 711
www.health.ri.gov/mosquito

Help Control Mosquito Breeding Grounds and Stop the Spread of Disease



Mosquitoes are carriers of many diseases, including West Nile Virus (WNV), Eastern Equine Encephalitis (EEE), and Zika virus. Mosquitoes that carry WNV and EEE are found in Rhode Island and bite until the first heavy frost (usually the end of October). Mosquitoes that carry Zika are not known to be in Rhode Island any time of year.

- Female mosquitoes lay several hundred eggs on the walls of water-filled containers. Eggs stick to containers like glue and remain attached until they are scrubbed off. When water covers the eggs, they hatch and become adults in about a week.
- The species of mosquito that carries WNV or EEE bite mostly at sunrise and sundown.
- If you are traveling to an area with Zika, the species of mosquito that carries Zika prefer to bite during the day, but can also bite at night.

Protect Yourself, Your Family, and Community from Mosquitoes

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Eliminate standing water in and around your home:

- Once a week, empty and scrub, turn over, cover, or throw out items that hold water, such as tires, buckets, planters, toys, pools, pool covers, birdbaths, flowerpots, or trash containers. Check inside and outside your home.
- Tightly cover water storage containers (buckets, cisterns, rain barrels) so that mosquitoes cannot get inside to lay eggs.
- For containers without lids, use wire mesh with holes smaller than an adult mosquito.

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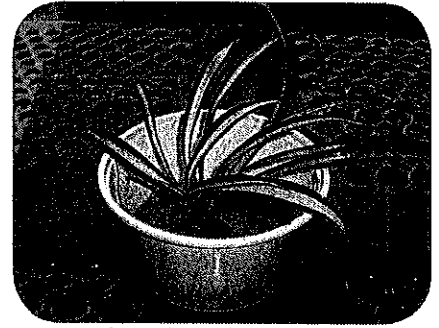
If you have a septic tank, follow these steps:

- Repair cracks or gaps.
- Cover open vent or plumbing pipes. Use wire mesh with holes smaller than an adult mosquito.

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Keep mosquitoes out of your home.

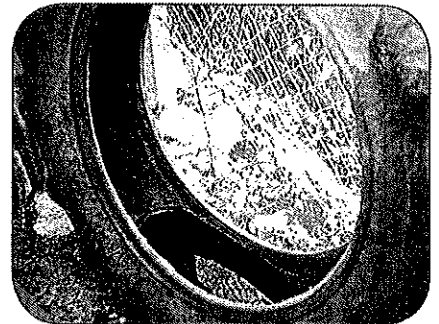
- Use screens on windows and doors.
- Repair holes in screens.
- Use air conditioning when available.



Put plants in soil, not in water.



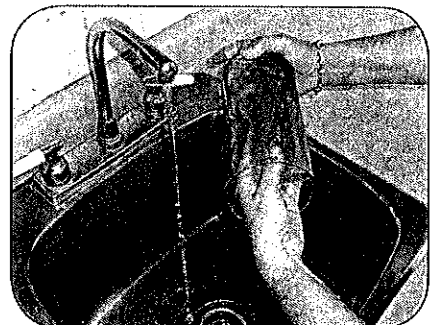
Drain water from pools when not in use.



Recycle used tires or keep them protected from rain.



Drain and dump any standing water.



Scrub vases and containers weekly to remove mosquito eggs.

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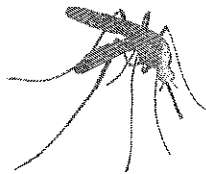
Prevent mosquito bites:

- Use an Environmental Protection Agency (EPA)-registered insect repellent with one of the following active ingredients:
 - DEET (20-30% strength);
 - Picardin;
 - IR3535; or
 - Oil of eucalyptus or para-menthan-diol (Do not use on children younger than 3 years old).

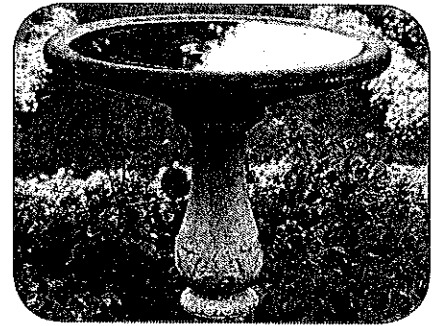
- Do not use insect repellent on babies younger than 2 months old. All EPA-registered insect repellents are evaluated to make sure they are safe and effective.
 - Always follow the product label instructions.
 - Reapply insect repellent every few hours, depending on which product and strength you choose.
 - Do not spray repellent on the skin under clothing. If you are also using sunscreen, apply sunscreen first and insect repellent second.

- Treat clothing and gear (such as boots, pants, socks, and tents) with permethrin or purchase permethrin-treated clothing and gear.
 - Treated clothing remains protective after multiple washings. See product information to find out how long the protection will last.
 - If treating items yourself, follow the product instructions carefully.
 - Do not use permethrin products, intended to treat clothing, directly on skin.

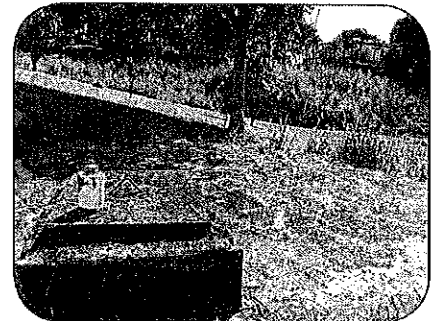
- Wear long-sleeved shirts and long pants.



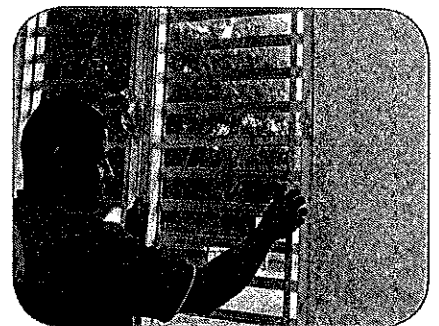
Keep rain barrels covered tightly.



Empty standing water from fountains and bird baths weekly.



Keep septic tanks sealed.



Install or repair window and door screens.



www.health.ri.gov/disease/carriers/mosquitoes