

**Boston Children's Hospital**

# Conditions

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## Eastern Equine Encephalitis (EEE)

### What is eastern equine encephalitis (EEE)?

Eastern equine encephalitis (EEE) belongs to a category of viruses known as arboviruses, or arthropod-borne viruses. Arboviruses are spread by the bite of blood-sucking insects, such as mosquitos and ticks. EEE is spread by the bite of certain kinds of mosquitoes.

### What are the risk factors of EEE?

The overall risk of becoming infected with EEE depends on:

- Exposure to mosquitoes: People who spend a lot of time outdoors or live in wooded areas have a greater chance of being bitten by mosquito.
- Time of year and day: In the United States, cases of EEE tend to occur from late spring to early fall.. Many kinds of mosquitoes are most active during dusk and dawn and during the early evening hours.
- Geographic region: Most cases of EEE have been reported in Atlantic and Gulf coast states. Southeastern Massachusetts, particularly Plymouth and Bristol counties, have historically been "hot spots" for EEE. The Massachusetts Dept of Public Health (<http://westnile.ashtonweb.com/>) monitors mosquito populations, tests mosquitoes for virus and calculates risks for each town.

Some people with EEE may develop a severe infection that causes brain tissue to become inflamed (encephalitis).The factors that increase one's risk of getting a severe EEE infection include:

- Age: Although people of any age can develop a serious infection, the risk is higher for adults older than 50 and children younger than 15.
- Immune system: People who have a weakened immune system due to cancer treatments, or organ transplantation are more at risk of developing a severe infection.

## EEE: A worried parent's questions, answered

Boston Children's infectious disease specialist answers questions about EEE.



## What are the symptoms of EEE?

Symptoms of EEE generally occur four to 10 days after a person has been infected and include:

- high fever
- headache
- tiredness
- nausea/vomiting
- neck stiffness

The symptoms of encephalitis depend on the part of the brain that is inflamed, the amount of inflammation and the person's age and overall health.

Some of the most common symptoms of encephalitis include:

- seizures
- confusion (disorientation)
- coma

In one-third of cases, encephalitis can be fatal or lead to permanent brain damage.

Because the initial symptoms of EEE resemble those caused by many illnesses, it may be difficult to determine if a child's symptoms are related to encephalitis. In general, you should take your child to see a doctor if your child has a bad headache, nausea and vomiting, fever or any worrisome change in behavior (confusion, extreme sleepiness, acting very different, listlessness, lethargy, seizures).