

Western Equine Encephalitis Fact Sheet

What is Western equine encephalitis?

- Western equine encephalitis (WEE) is a viral illness transmitted to people and horses through the bite of an infected mosquito.
- WEE is normally maintained between *Culex tarsalis* mosquitoes (1 of 50 species in Minnesota) and birds. People and horses are bitten by *Cx. tarsalis* during the late summer months (mid-July through early September) in wet years when this mosquito is produced in abundance.

How serious is Western equine encephalitis?

- Most people infected with WEE virus will have either no symptoms or a very mild illness. A small percentage of people, especially infants and elderly people to a lesser extent, may develop encephalitis (inflammation of the brain). Approximately 5-15% of these encephalitis cases are fatal, and about 50% of surviving infants will have permanent brain damage.
- Most of the severe human cases begin with a sudden onset of fever, headache, stiff neck, vomiting, and lethargy. Within two to four days, the illness may progress into disorientation, irritability, seizures and coma. There is no treatment for WEE other than supportive care until the acute phase of the illness is over.
- Approximately 20-50% of symptomatic horses are put down or die from WEE infections.
- Horses and humans are often referred to as "dead-end" hosts for WEE, as the virus does not build to high enough levels in our blood to infect other mosquitoes that bite us.

What is the risk of a Western equine encephalitis outbreak in Minnesota?

- During 1941 there was a large regional outbreak (including several states and Canada) of WEE. There may have been as many as 791 cases in Minnesota that year with 90 deaths. In recent years, Minnesota has had infrequent and smaller outbreaks of WEE (15 human cases in 1975, single cases in 1983 and 1999).
- WEE is most commonly reported from states and Canadian provinces west of the Mississippi River. During past Minnesota outbreaks, the virus has been found over much of western and southern Minnesota. *Culex tarsalis* mosquitoes are often abundant in this area because they are able to use semi-permanent grassy wetlands in agricultural parts of the state as breeding sites.

How can people prevent Western equine encephalitis?

- People can reduce their risk of WEE significantly by avoiding outdoor activities at dusk and dawn (the primary feeding period of *Culex tarsalis* mosquitoes).
- If people engage in outdoor activities at dusk and dawn they can wear long sleeved shirts and long pants. They can also use mosquito repellents containing DEET (less than 30% DEET is sufficient for adults, and no more than 10% for children) according to label instructions.
- A WEE vaccine is available for horses. Please contact your veterinarian for vaccine recommendations.

