The clinical features of the disease in man include a sudden onset with headache, high fever, neck stiffness, nausea, mental confusion, and tremors. This is usually followed in 1 to 4 days by encephalitis (inflammation of the brain), with depression and sleepiness in some or excitement and sleeplessness in others. The disease may become complicated by pneumonia, bacterial blood infection, pulmonary embolism, or gastrointestinal hemorrhage. The severity of the disease increases with advancing age, with persons over 60 years of age most severely affected. The length of time from when a SLE virus infected mosquito bites a person to when clinical signs of disease appear varies from 4 to 21 days. Domestic animals including the dog, cat, horse, chicken, etc. do not develop clinical signs of disease after being bitten by a SLE virus infected mosquito.
The incidence of SLE is seasonal as described earlier. The method of “overwintering” of the virus has not been clearly defined. The virus has been isolated from hibernating adult Culex mosquitoes. Serologic surveys show evidence for early springtime infections in wild bird populations. There is also evidence that female Culex mosquitoes can pass the virus to their offspring by way of the mosquito egg (transovarian transmission). The virus has also been shown to be present for long periods of time in the blood of bats. However, for the SLE virus to cause outbreaks in the human population, several conditions have to be present. As one studies the epizootiology of SLE, it becomes clear that many factors influence the rate of spread of the virus and determine the cause and extent of epidemics. An amplified transmission of the SLE virus begins in the springtime and early summer with the re-emergence of the Culex mosquitoes. Remember, the SLE virus is always present, but if conditions are favorable for the development of large populations of mosquitoes, a rapid increase in the virus transmission cycle follows. The virus may then enter the human population and cause an epidemic. Wild birds serve as the main virus carriers (in the blood) in the cycle. If the rate of virus transmission between wild birds and mosquitoes is sufficiently high, humans and other mammals may become infected. However, the blood virus level in man and domestic mammals is low. Thus, they do not serve as hosts for further virus spread.

Presently, no vaccine for the prevention of SLE is available. Reduction of the mosquito population remains the most widely used method for the prevention and control of SLE outbreaks. Surveillance programs focusing on early detection of increased virus activity using serologic testing of avian sera are also beneficial. In addition, avoiding contact with mosquitoes is recommended.