

## **Saint Louis encephalitis (SLE)**

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### **Background**

Saint Louis encephalitis (SLE) is a rare illness caused by the Saint Louis encephalitis virus (SLEV). The virus is spread to people through the bite of an infected mosquito. It belongs to a family of viruses called flaviviruses, which also includes West Nile virus and Japanese encephalitis virus.

Most people who become infected with SLEV do not become seriously ill. In fact, many people never develop any symptoms at all.

Most cases occur in the eastern and central United States during the summer and early autumn, when mosquitoes are most active. However, the virus has been found across much of the Americas, from southern Canada to Argentina.

The disease gets its name from an outbreak that occurred in St. Louis, Missouri, in 1933, when doctors first identified the virus.

### **What are the symptoms of Saint Louis encephalitis?**

Most people infected with SLEV have no symptoms or only a mild illness that feels similar to the flu. Symptoms may include:

- Fever
- Headache
- Feeling tired
- Muscle and body aches
- Nausea or vomiting

These symptoms usually improve on their own.

In a small number of people, the virus can spread to the brain and cause encephalitis, which means inflammation (swelling) of the brain. This is much more serious.

## **Symptoms of encephalitis may include:**

- A severe headache
- High fever
- A stiff neck
- Confusion or difficulty thinking clearly
- Shaking (tremors)
- Trouble walking or keeping your balance
- Seizures (fits)
- Weakness or paralysis
- Becoming very sleepy or difficult to wake
- Loss of consciousness (coma)

Symptoms usually begin 4 to 14 days after being bitten by an infected mosquito.

Older adults, especially those over 75 years of age, are more likely to develop severe illness. People with weakened immune systems may also be at higher risk.

## **How is Saint Louis encephalitis diagnosed?**

Your healthcare provider will ask about your symptoms, medical history, travel, and possible mosquito exposure before carrying out a physical examination.

To confirm the diagnosis, blood tests are used to look for antibodies. Antibodies are proteins made by your immune system to help fight infection. If encephalitis is suspected, a lumbar puncture (spinal tap) may also be performed. During this procedure, a small sample of the fluid surrounding the brain and spinal cord (called cerebrospinal fluid or CSF) is collected and tested for signs of infection.

Your doctor may also recommend a brain scan (MRI or CT) or an EEG, a test that records the brain's electrical activity, to help assess the illness and rule out other causes.

## **How is Saint Louis encephalitis treated?**

There is currently no medicine that specifically treats Saint Louis encephalitis virus. People with mild symptoms usually recover at home with plenty of rest, fluids, and medicines to help relieve fever, headaches, or nausea.

People who develop encephalitis usually need to be treated in hospital. Treatment focuses on supporting the body while it fights the infection. This may include:

- Fluids given by mouth or through a drip (intravenous fluids)
- Medicines to reduce pain, fever, nausea, or vomiting
- Medicines to control seizures if they occur
- Intensive care and breathing support if the illness becomes severe

## **What are the outcomes of Saint Louis encephalitis?**

Most people with mild illness recover completely. Recovery from encephalitis can take weeks or even months. Some people recover fully, while others continue to have symptoms after leaving the hospital.

These may include:

- Problems with memory or concentration
- Feeling unusually tired
- Difficulty with balance or walking
- Tremors
- Anxiety, depression, or irritability

Saint Louis encephalitis can be life-threatening, especially in older adults. The risk of death varies between outbreaks but has been reported to range from 4% to 27%. Deaths early in the illness are usually caused by severe brain inflammation, while later deaths are often related to complications such as pneumonia.

### **Can Saint Louis encephalitis be prevented?**

There is currently no vaccine to prevent Saint Louis encephalitis. The best way to protect yourself is to avoid mosquito bites. You can reduce your risk by:

- Wearing long-sleeved shirts and long trousers, especially during dawn and dusk when mosquitoes are most active
- Using an insect repellent containing at least 30% DEET or another recommended mosquito repellent
- Sleeping under a mosquito net if you are in an area where mosquitoes are common
- Using window and door screens to keep mosquitoes out of your home
- Removing standing water from around your home, such as from buckets, flowerpots, birdbaths, and old tyres, where mosquitoes breed

These simple steps can help reduce your chance of being bitten by an infected mosquito.

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## **FS086V1 Saint Louis Encephalitis**

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**Thank you!**

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