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**LAC DPH Health Advisory:  
Human Case of St. Louis Encephalitis in  
Los Angeles County**  
October 1, 2018



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*This message is intended for internal medicine, infectious disease, neurology, family medicine, emergency, and urgent care providers.  
Please distribute as appropriate.*

### **Key Messages**

- The first human case of Saint Louis encephalitis in Los Angeles County since 1997 has been identified.
- The clinical presentation of Saint Louis encephalitis is similar to West Nile virus infection. Clinicians should include Saint Louis encephalitis in the differential diagnosis of aseptic meningitis and encephalitis, particularly in patients over 50 years of age.
- Encourage patients to prevent mosquito bites and eliminate mosquito breeding sites in their homes and yards.

### **Situation**

Saint Louis encephalitis, a mosquito-borne viral illness, has been confirmed in an elderly resident of the San Fernando Valley. The patient is the first human case in Los Angeles County (LAC) since a resident died of the illness in 1997 and it is the first human case in California this year. Environmental monitoring for Saint Louis encephalitis virus (SLEV) in LAC began in early spring, and one mosquito sample has tested positive for the virus this year.

SLEV is native to California and was commonly detected in the environment prior to the emergence of West Nile virus (WNV) in the region. WNV may have caused a cross-immunity in the bird reservoir and the virtual disappearance of SLEV in 2003. SLEV reappeared in the environment in 2015 and there have been sporadic detections in mosquitoes, chickens, and humans in California every year since then.

As WNV and SLEV are transmitted by the same species of mosquitoes, the prevention and control efforts targeting WNV are also effective in preventing SLEV.

### **Actions Requested of Providers**

- Suspect SLEV, in addition to WNV, in patients presenting with aseptic meningitis and encephalitis, particularly in patients over 50 years of age. Consider ordering SLEV-IgM in addition to testing for WNV in these patients.

- Counsel all patients to prevent mosquito bites and eliminate mosquito breeding sites in their homes and yards.
- Report all cases of meningitis and encephalitis to the LAC Department of Public Health (DPH), including those without identifiable etiology. See Reporting Section below for how to report.

## **Clinical Presentation**

Infection with SLEV rarely results in clinical illness and most patients remain asymptomatic. When symptoms do occur, the onset is typically 5 to 15 days after infection. The spectrum of clinical illness includes non-specific fever with headache, aseptic meningitis, and fatal meningoencephalitis. Adults over the age of 50 are at greatest risk of developing severe neuroinvasive disease. SLEV cannot be distinguished from WNV based on clinical features.

## **Diagnosis**

The diagnosis of SLEV can be made by serology through SLEV-IgM antibody testing of CSF or serum. However, cross reactivity with WNV can be a problem. Serological tests for both SLEV and WNV are available at most commercial laboratories, and clinicians should consider obtaining both tests, if one is considered. Given immunological cross-reactivity between WNV and SLEV, specimens positive for either WNV or SLEV are sent by LAC DPH to the California State Public Health Laboratory to distinguish between the two viruses.

LAC DPH Public Health Laboratory provides SLEV-IgM testing in addition to WNV-IgM testing on serum samples from May to November. Testing in the months of December to April requires consultation with a LAC DPH physician at 213-240-7941. For more information on submitting specimens to PHL, see the laboratory testing guidelines on the LAC DPH [West Nile virus](#) and [Saint Louis encephalitis](#) webpages.

## **Treatment and Prevention**

There is no specific treatment for SLEV and clinical management is primarily supportive.

Providers should discuss the risk of WNV and SLEV and the importance of mosquito bite precautions with patients, particularly those older than 50 years of age. Patients should be encouraged to check for and remove mosquito breeding sources in their homes and yards once a week.

Visit the LAC DPH Saint Louis encephalitis [webpage](#) for FAQ, laboratory testing information, mosquito prevention tips, and information on local vector districts.

## **Transmission and Infection Control**

Humans are a dead-end host for SLEV. Person-to-person transmission does not occur. Standard precautions are indicated.

## Reporting

### *Los Angeles County DPH Acute Communicable Disease Control Program*

- Weekdays 8:30am-5pm: call 213-240-7941.
- After hours: call 213-974-1234, ask for the physician on call.

### *Long Beach Health and Human Services*

- Weekdays 8:00am - 5:00pm: call 562-570-4302.
- After hours: call 562-500-5537, ask for the Duty Officer.

### *Pasadena Public Health Department*

- Weekdays: 8:00am - 5:00pm (closed every other Friday): call the Communicable Disease Control Program at 626-744-6089.
- After hours: call 626-744-6043.

## Additional Resources

- Los Angeles County Department of Public Health Saint Louis Encephalitis webpage (including FAQs for patients in English and Spanish)  
[publichealth.lacounty.gov/acd/diseases/SLE.htm](http://publichealth.lacounty.gov/acd/diseases/SLE.htm)
- California Department of Public Health Saint Louis Encephalitis webpage  
[www.cdph.ca.gov/Programs/CID/DCDC/Pages/SLE.aspx](http://www.cdph.ca.gov/Programs/CID/DCDC/Pages/SLE.aspx)
- Centers for Disease Control and Prevention Saint Louis Encephalitis webpage  
[www.cdc.gov/sle](http://www.cdc.gov/sle)
- Find Your Local Vector Control District  
[www.socalmosquito.org](http://www.socalmosquito.org)

This message was sent by Dr. Sharon Balter, Director, Division of Communicable Disease Control and Prevention, Los Angeles County Department of Public Health.

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