Public Health

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HEALTH ADVISORY

St. Louis Encephalitis (SLE) Virus Detected in a Burleson (Johnson County) Mosquito Pool

This message is intended for clinicians, including those working in emergency medicine, urgent care, clinics, infectious diseases, and clinical laboratories, in Tarrant County. Please distribute as appropriate within your facility.

Key Message:

- St. Louis Encephalitis (SLE) virus has been detected from one mosquito trap in Burleson, Texas.
- SLE can cause mild to severe illness, including meningitis and encephalitis, especially in older adults and immunocompromised people.
- West Nile Virus (WNV) is more prevalent than SLE, however, clinicians should consider both SLE and West Nile Virus (WNV) in patients presenting with febrile or neurological illness.

Background

St. Louis Encephalitis (SLE) virus is a mosquito-borne flavivirus maintained in an enzootic cycle between mosquitoes and birds, with humans serving as incidental hosts. The epidemiology and disease presentation of SLE and West Nile Virus are similar. Less than 1% of infected people will have symptoms. For those who do become symptomatic, severity can range from mild febrile disease to neuroinvasive disease.

- **Mild illness:** fever, headache, fatigue, nausea.
- **Severe illness:** meningitis, encephalitis, or meningoencephalitis. Symptoms include high fever, stiff neck, confusion, seizures, or paralysis.
- **Incubation period**: 5–15 days.
- **Treatment:** supportive care only; no antiviral therapy exists

One Burleson mosquito trap tested in the past week was positive for St. Louis Encephalitis (SLE) virus. Detecting SLE activity in North Central Texas is uncommon. While no human or other mammal cases have been reported, the finding highlights the

importance of clinical vigilance and community prevention efforts. Based on area mosquito surveillance, West Nile Virus activity remains ongoing and is more prevalent than SLE.

So far in the 2025 West Nile Virus season, TCPH has reported 10 human cases of WNV and 234 positive WNV mosquito pools across the county. These numbers are consistent with seasonal activity observed in past years.

For updated mosquito activity surveillance data, see the TCPH Dashboard of Mosquito Surveillance.

Recommendations for Healthcare Providers

- **Maintain suspicion** for both SLE and WNV in patients with fever, headache, or neurological symptoms.
- **Testing:**
  - Order serology (IgM) for both SLE and WNV in serum or CSF.
  - Consider PCR for early detection of viral RNA.
  - Be aware of cross-reactivity between flaviviruses: a single positive IgM may not distinguish between SLE and WNV. Confirmatory testing (e.g., PRNT at state or CDC labs) may be required.
- **Management**: supportive care, with hospitalization for severe disease.
- **Reporting:** Report suspected or confirmed cases to TCPH via the reporting web portal at www.tarrantcountytx.gov/diseasereport or call (817) 321-5350.

Laboratory Information

- **Positive IgM (serum or CSF):** Indicates recent infection but may cross-reaction between SLE and WNV occurs.
- **Negative IgM (serum or CSF):** Does not rule out infection; repeat testing may be required if suspicion remains high.
- **PCR (serum or CSF):** Detects viral RNA and confirms active infection; most useful early in disease.
- **Plaque Reduction Neutralization Test (PRNT):** Can differentiate between SLE and WNV antibodies. Serology specimen submission to CDC is coordinated with the local and state health department.
- **Recommendation:** Clinicians should test **both serum and CSF** when available, and request testing for **both SLE and WNV**, especially in patients with suspected neuroinvasive disease.

Recommendations for patients

Take preventive measures to reduce their risk of SLE and WNV infection. Key recommendations include:

- **Use insect repellent**: Use Environmental Protection Agency (EPA)-registered insect repellents. Choose repellents containing DEET, picaridin, oil of lemon eucalyptus, or IR3535.

- **Wear protective clothing**: Wear loose-fitting long-sleeved shirts and long pants outdoors, especially during peak mosquito activity times from dusk to dawn.
- **Control mosquitoes indoors and outdoors**: Ensure that windows and doors have intact screens to keep mosquitoes out. Outdoors eliminate standing water in items such as flowerpots, gutters, buckets, pool covers, birdbaths, and pet water dishes where mosquitoes can breed.

Conclusion

The detection of the first St. Louis Encephalitis-positive mosquito pool in Burleson, alongside ongoing WNV activity in Tarrant County, highlights the need for both clinical vigilance and public prevention efforts.

TCPH continues to conduct countywide mosquito surveillance and will provide updates in the weekly Arbovirus Report and through the online Mosquito Dashboard.

References:

- CDC: Saint Louis Encephalitis Virus
- CDC: West Nile Virus
- Texas DSHS: Arbovirus Surveillance
- TCPH: Mosquito Dashboard
- TCPH: Arbovirus Report, Week 36, 2025
- Ardakani, R., Chauhan, L., Piquet, A. L., Tyler, K. L., & Pastula, D. M. (2024). An Overview of Saint Louis Encephalitis. *The Neurohospitalist*, *14*(2), 230–231. https://doi.org/10.1177/19418744241228006

Alert:	Conveys the highest level of importance; warrants immediate action or attention
Advisory:	Provides important information for a specific incident or situation; may not require immediate action.
Update:	Provides update information regarding an incident or situation; unlikely to require immediate action.
Information:	Provides general information that is not necessarily considered to be of an emergent nature.

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