



ALERT FOR CLINICIANS: Flavivirus risk in WA

KEY POINTS

- There is an increase in flavivirus activity detected through mosquito and sentinel chicken surveillance programs in northern Western Australia (WA).
- Three cases of Murray Valley encephalitis (MVE) have been detected with exposures in the Pilbara and Midwest year to date.
- Ask about exposure history, including travel, and consider testing for flaviviruses (MVE virus, Japanese encephalitis virus (JEV) and Kunjin) for patients with clinically compatible symptoms.
- **Urgently** notify flavivirus cases to [Public Health](#).

Epidemiology

- Flaviviruses are transmitted to humans and animals by infected mosquitoes.
- There have been widespread detections of Murray valley encephalitis virus (MVEV) and other flaviviruses in mosquitoes and/or sentinel chickens in the Kimberley, Pilbara and Midwest in 2024.
- Three cases of MVE have been detected in 2024, with exposures in the Pilbara and Midwest. In 2023 there were five cases of MVE acquired in WA, with previous high case numbers not seen since 2011.
- In early 2023, JEV was detected in sentinel chickens and feral pigs in the east Kimberley and Newman in the Pilbara. There have not been any human cases of JE in WA.

Clinical presentation

- Most infections are asymptomatic, however, around 1 in 250 people will develop a severe infection, including encephalitis, and 20-30% of severe infections are fatal.
- Initial symptoms may include fever, anorexia, headache, nausea, vomiting, muscle aches and dizziness.
- More severe infections may cause neurological dysfunction with photophobia, lethargy, irritability, drowsiness, neck stiffness, confusion, ataxia, aphasia, intention tremor, convulsions, coma and death. Seizures are common in children. Long term neurological sequelae are common.

Testing and management

- Test for flaviviruses (MVEV and JEV) in patients with clinically compatible illness, if they live in or have visited the Kimberley, Pilbara or Midwest.
- Rule out common causes of encephalitis (herpes simplex virus, varicella-zoster virus, enteroviruses).
- Recommended testing for patients with encephalitis, especially with compatible MRI or CT findings:

Blood	CSF	Urine
<ul style="list-style-type: none"> • Serum tube: 2mL from children, 8mL from adults for acute and convalescent (3-4 weeks post-onset) serology for flavivirus (JEV, MVEV) • Whole blood EDTA sample for flavivirus PCR 	<ul style="list-style-type: none"> • At least 1mL • Request flavivirus (JEV, MVEV) PCR and serology 	<ul style="list-style-type: none"> • 2-5mL in sterile urine jar • Request flavivirus (JEV, MVEV) PCR

- Consult Infectious Diseases and/or Clinical Microbiology regarding testing and management.

Vaccination and prevention

- Advise on the importance of mosquito-borne disease prevention; avoid outdoor exposure especially at dawn and early evening, wear long, loose-fitting, light-coloured clothing when outdoors, apply effective personal repellent containing diethyltoluamide (DEET), picaridin or oil of lemon eucalyptus, use insect screens, mosquito nets and coils, remove water-holding containers from around the home.
- Vaccination against JE is available for Kimberley and Pilbara residents in areas at highest risk. See eligibility at https://www.healthywa.wa.gov.au/Articles/J_M/Japanese-encephalitis.

Notification of cases

- **Urgently** notify cases to your local [Public Health Unit](#); if after hours call 9328 0553.

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Infectious Diseases Health Alerts: https://ww2.health.wa.gov.au/Articles/F_I/Health-alerts-infectious-diseases

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