



ALERT FOR CLINICIANS

Risk of flavivirus encephalitis following early detections in northern WA

KEY POINTS

- Flavivirus activity has been detected through the sentinel chicken surveillance program in the East and West Kimberley regions of Western Australia (WA) in the past three weeks.
- This is unusual for this time of year and indicates an earlier start to the flavivirus season.
- **Ask about exposure and travel** history in patients with clinically compatible symptoms of encephalitis, and **consider testing for flaviviruses**, including Japanese encephalitis virus (JEV), Murray Valley encephalitis (MVE) virus and Kunjin virus.
- **Urgently notify** flavivirus cases to [Public Health](#).

Background

- Flaviviruses are transmitted to humans and other animals by the bite of an infected mosquito.
- Recent flavivirus activity has been detected in chicken flocks in the East and West Kimberley as part of the [sentinel chicken surveillance program](#), which is unusual for this time of year.
- Widespread flavivirus activity in the first half of 2024 across northern WA resulted in four human cases of MVE, two of whom died. In 2023 there were five cases of MVE acquired in WA, with previous high case numbers not seen since 2011.

Clinical presentation

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

Testing and management

- Test for flaviviruses in patients with a clinically compatible presentation, particularly if they live in or have worked or travelled to flavivirus-prone areas (i.e. Kimberley, Pilbara, and Midwest).
- Recommended laboratory testing:

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 (request 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

- Exclude other causes of encephalitis (herpes simplex virus, varicella-zoster virus, enteroviruses).
- Consult Infectious Diseases and/or Clinical Microbiology regarding testing and management.

Prevention and vaccination

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

Notification of cases

- **Urgently** notify confirmed flavivirus cases to your local [Public Health Unit](#).

Dr Paul Armstrong

DIRECTOR, COMMUNICABLE DISEASE CONTROL DIRECTORATE

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

Subscribe to Infectious Diseases Health Alerts via the [CDCD subscription page](#)