

# Japanese encephalitis virus alert

Information for hospital clinicians

Updated 11 March 2022 (key changes in red)

## Key Points

- **Japanese encephalitis virus (JEV) has been declared a Communicable Disease Incident of National Significance.**
- **Clinicians should consider a diagnosis of JEV in patients presenting with unexplained symptoms and signs consistent with encephalitis, take appropriate specimens for testing, and urgently notify the Health Protection Service at ACT Health.**

## Background

- Japanese encephalitis is an arboviral disease and notifiable condition caused by a RNA flavivirus
- **JEV had been confirmed in pigs at an increasing number of commercial piggeries across NSW, SA, QLD and VIC.**
- **There have been recent confirmed cases in humans in these areas, with additional cases in these areas under investigation.**
- **There are currently no confirmed cases in the ACT.**
- Suitable vector mosquitoes (*Culex* genus) and hosts in the form of waterbirds are widespread across the mainland, as well as wild and commercial pigs that act as amplifier hosts for JEV.

## High risk groups:

- **People visiting areas where there are significant mosquito populations or engaging in outdoor activities (e.g. camping, fishing, hiking) near significant mosquito populations, particularly near waterways, may be at increased risk.**

## Clinical Features

- 99% of JEV infections are asymptomatic
- If symptoms occur, they develop 5 – 15 days after being bitten by an infected mosquito.
- Some infected people experience fever, headache, arthralgia and rash; more severe infections may manifest as an acute neurological illness characterised by:
  - focal neurological signs
  - depressed level of consciousness
  - convulsions

- acute flaccid paralysis
- Encephalitis is the most serious manifestation of JEV infection and has a mortality of 20-30%, with 30-50% of survivors having significant neurological sequelae.

### **Clinical recommendations:**

- Have a heightened awareness for clinical presentations in children and adults.
  - In cases of suspected encephalitis/viral meningoencephalitis without another pathogen diagnosis (e.g. Herpes Simplex Virus (HSV), Varicella Zoster Virus (VZV) and enteroviral PCR from CSF) and/or with suggestive CT/MRI findings (inflammatory changes of the deep grey matter - basal ganglia and thalami - and brainstem<sup>1</sup>), the following specimens should be collected:
    - Blood (Serum **and** EDTA tube – 2 – 5mLs from children, 5 – 8mLs from adults):
      - Serum tube: Acute and convalescent (3 – 4 weeks post onset) for flavivirus and JEV IgG, IgM and Total Ab
      - EDTA tube: Culture/PCR on acute sample
- AND**
- CSF (at least 1mL in addition to standard testing):
    - Flavi/JEV PCR and culture
    - Flavi/JEV IgG, IgM and Total Ab
- AND**
- Urine (2 – 5mL in sterile urine jar):
    - Flavi/JEV PCR and culture
  - **Take a relevant travel, recreational and occupational history.**
  - If you plan to request these tests, please discuss with the Clinical Microbiologist at ACT Pathology on **0413 518 581**.

**Please urgently contact the Health Protection Service (CDC Section) on (02) 5124 9700 if you suspect or confirm a case of Japanese encephalitis, as this is a notifiable condition.**

Dr Miranda Harris  
On behalf of Dr Vanessa Johnston  
Acting Chief Health Officer  
ACT Health  
11 March 2022

---

<sup>1</sup> [Consensus guidelines for the investigation and management of encephalitis in adults and children in Australia and New Zealand](#)