Murray Valley encephalitis virus infection

Australian national notifiable diseases case definition

This document contains the surveillance case definition for Murray Valley encephalitis virus infection, which is nationally notifiable within Australia. State and territory health departments use this definition to decide whether to notify the Australian Government Department of Health and Aged Care of a case.

Version	Status	Last reviewed	Implementation date
2.0	Confirmed case Remove need for clinical evidence Add requirement for laboratory with “extensive experience in the diagnostic testing of arbovirus” Revise laboratory definitive evidence. Add Probable case definition requiring laboratory suggestive evidence and clinical evidence.	December 2023	1 January 2024
1.1	Change all references to Kunjin on lines 15 and 18 to West Nile virus/Kunjin. Change the numbering under clinical evidence, number 2. is to be replaced with a number 3.	CDWG 4 November 2009	1 July 2010
1.0	Initial case definition	2004	2004

Reporting

Only **confirmed cases** and **probable cases** should be notified.

Confirmed case

A confirmed case requires **laboratory definitive evidence**[i] from a laboratory with extensive experience in the diagnostic testing of arbovirus.

Laboratory definitive evidence

1. Isolation of Murray Valley encephalitis virus by culture.

OR

2. Detection of Murray Valley encephalitis virus by nucleic acid testing (NAT).

OR

3. IgG seroconversion or a diagnostically significant increase in antibody level or a fourfold or greater rise in Murray Valley encephalitis virus-specific IgG titre to Murray Valley encephalitis virus, with no history of recent vaccination against Japanese encephalitis virus[ii].

OR

4. Detection of Murray Valley encephalitis virus-specific IgM in cerebrospinal fluid (CSF), without the detection of other flavivirus-specific IgM[iii].

Probable case

A probable case requires **laboratory suggestive evidence** from a laboratory with extensive experience in the diagnostic testing of arbovirus AND **clinical evidence.**

Laboratory suggestive evidence

1. Detection of Murray Valley encephalitis virus-specific IgM in CSF which is significantly greater[iv] than other flavivirus-specific IgM levels, (if also detected)[iii].

OR

2. Detection of Murray Valley encephalitis virus-specific IgM in serum, with no history of recent Japanese encephalitis virus vaccination[ii], and either:
   - without detection of other flavivirus-specific IgM in serum or CSFiii ; OR
   - which is significantly greater[iv] than other flavivirus-specific IgM levels (if also detected)[iii].

OR

3. Detection of Murray Valley encephalitis virus-specific IgG in CSF:
   - without detection of other flavivirus-specific IgG[iii]; OR
   - which is significantly greater[iv] than other flavivirus-specific IgG levels (if also detected)[iii].

AND

- with no history of recent Japanese encephalitis vaccination[ii] unless the case also has encephalitic illness compatible with Murray Valley encephalitis virus infection in the absence of a known alternative cause[v].

Clinical evidence

1. Encephalitic disease: acute meningoencephalitis characterised by one or more of the following:
   - focal neurological disease, or seizures, or acute impairment in level of consciousness;
   - an abnormal computerised tomogram or magnetic resonance image or electroencephalogram consistent with flavivirus encephalitis;
   - presence of pleocytosis in cerebrospinal fluid[vi].

OR

2. Non-encephalitic illness: acute febrile illness with headache, with or without myalgia or rash.

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[i] Non-encephalitic cases detected as part of a serosurvey should not be notified.
[ii] Recent vaccination is considered to be 28 days; however advice should be sought from the authorising pathologist and the clinician regarding individual circumstances. Convalescent serum should be collected where possible.
[iii] E.g., West Nile/Kunjin encephalitis, Japanese encephalitis, and/or dengue virus.
[iv] Public health units should seek advice from the responsible authorising pathologist with regard to the interpretation of West Nile/Kunjin virus positive serology results in the presence other flaviviruses.
[v] Including but not limited to other flaviviruses (such as Japanese encephalitis virus, West Nile/Kunjin and dengue viruses), Herpes Simplex Virus, Varicella Zoster Virus and enteroviruses.
[vi] Not definitive, but ≥5 leucocytes/µl is indicative.