

Yellow Fever

Last updated: 19 September 2016

Public health priority: Urgent

PHU response time: Respond to cases on day of notification

Enter confirmed cases on NCIMS within 1 working day

Case management: Notify the Communicable Diseases Branch. Determine source of infection

Contact management: Unimmunised contacts who shared an exposure with the case should be placed under surveillance

Quarantine: Yellow fever is subject to the Biosecurity Act 2015. From June 2016, international yellow fever vaccination certificates presented at Australia's border are accepted even if the vaccination was given more than ten years ago.

1. Reason for surveillance

To identify cases and prevent infection of mosquitoes in susceptible areas (e.g. Northern Queensland).

2. Case definition

Only a confirmed case should be notified.

Confirmed case

A confirmed case requires either laboratory definitive evidence AND clinical evidence OR laboratory suggestive evidence AND clinical evidence AND epidemiological evidence.

Laboratory definitive evidence

- Isolation of yellow fever virus, **OR**
- Detection of yellow fever virus by nucleic acid testing, **OR**
- Seroconversion or a four-fold or greater rise in yellow fever virus-specific serum IgM or IgG levels between acute and convalescent serum samples in the absence of vaccination in the preceding 3 weeks, **OR**
- Detection of yellow fever virus antigen in tissues by immunohistochemistry.

Laboratory suggestive evidence

- Yellow fever virus-specific IgM detected in the absence of IgM to other relevant flaviviruses, in the absence of vaccination in the preceding 3 months
- Confirmation of laboratory results by a second arbovirus reference laboratory is required in the absence of travel history to areas with known endemic or epidemic activity.

Clinical evidence

A clinically compatible illness.

Epidemiological evidence

History of travel to a yellow fever endemic country in the week preceding the onset of illness.

3. Notification criteria and procedure

Yellow fever is to be notified by:

- Hospital CEOs on diagnosis (ideal reporting by telephone within 1 hour of diagnosis)
- Laboratories on diagnosis (ideal reporting by telephone within 1 hour of diagnosis).

Only confirmed cases should be entered onto NCIMS. Yellow fever is subject to the Commonwealth *Biosecurity Act 2015*.

4. The disease

Infectious agent

The Yellow Fever virus, a Flavivirus.

Mode of transmission

Urban yellow fever is transmitted from person to person by the *Aedes aegypti* mosquito. Jungle yellow fever is a zoonosis transmitted among non-human hosts (mainly monkeys) by various forest mosquitoes that may also bite and infect humans. *Aedes aegypti* do not live in NSW. Rarely, yellow fever can follow as an idiosyncratic reaction to the yellow fever vaccination.

Timeline

The typical incubation period is 3 to 6 days. The blood of cases is infective for mosquitoes shortly before onset of fever and up to five days after onset.

Clinical presentation

The usual clinical presentation is as an acute viral disease of short duration and varying severity. The mildest cases are clinically indeterminate; typical attacks are characterised by sudden onset, fever, chills, headache, backache, generalised muscle pain, prostration, nausea and vomiting. The majority of infections resolve at this stage. Approximately 15% infected people go on to experience jaundice, haemorrhagic symptoms and melena.

5. Managing single notifications

Response time

Investigation

On same day of notification begin follow-up investigation and notify the Communicable Disease Branch of the details of the case.

Data entry

Within 1 working day of notification enter confirmed cases on NCIMS.

Response procedure

The response to a notification will normally be carried out in collaboration with the case's health carers. But regardless of who does the follow-up, PHU staff should ensure that action has been taken to:

- Confirm the onset date and symptoms of the illness
- Confirm results of relevant pathology tests, or recommend the tests be done
- Find out if the case or relevant care-giver has been told what the diagnosis is before beginning the interview
- Seek the doctor's permission to contact the case or relevant care-giver
- Identify the likely source of infection and ensure proper control measures are in place.

Case Management

Investigation and treatment

Identify the source of the infection, such as a location visited and exposures during recent overseas travel, and vaccination history.

Education

The case or relevant care-giver should be informed about the nature of the infection and the mode of transmission and the reason for and duration of quarantine. Provide the Yellow Fever fact sheet.

Isolation and restriction

Standard precautions. Prevent access to the patient by mosquitoes for 5 days after onset (care for case in a screened room, or using a mosquito net and insect spray).

Environmental evaluation

None usually required.

Contact management**Identification of contacts**

Any unimmunised person who has travelled through a Yellow Fever-endemic country with the case.

Identification of contacts

Contacts should be placed under surveillance.

Education

Advise susceptible contacts (or parents/guardians) of the risk of infection and the reason for and duration of quarantine. Provide the Yellow Fever fact sheet.

Isolation and restriction

Unimmunised travellers are routinely placed under quarantine surveillance on entry into Australia by Biosecurity officers for 6 days since last staying overnight in a country where yellow fever may be present. During this period they are required to notify the Chief Quarantine Medical Officer if suffering from a febrile illness.

Note that in June 2016 the requirements for yellow fever vaccination were changed.

The Australian Government has adopted the World Health Organization amendment to the International Health Regulations (2005) regarding the period of protection afforded by yellow fever vaccination, and the term of validity of the certificate. The period of protection and term of validity has changed from 10 years to the duration of the life of the person vaccinated. This means that international yellow fever vaccination certificates presented at Australia's border will be accepted even if the vaccination was given more than ten years ago