Mumps

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Epidemiology in New Zealand

The incidence of mumps in New Zealand has been stable in recent years. The last mumps epidemics in New Zealand occurred in 1989 and 1994. Before the introduction of the measles–mumps–rubella (MMR) vaccine in 1990, mumps epidemics occurred every 3–5 years.

More detailed epidemiological information is available on the Institute of Environmental Science and Research (ESR) surveillance website at www.surv.esr.cri.nz.

Case definition

Clinical description

An illness with acute onset of fever and unilateral or bilateral tenderness and swelling of the parotid or other salivary gland/s, lasting more than 2 days, and without other apparent cause.

Laboratory tests for diagnosis

If the case received a vaccine containing the mumps virus in the 6 weeks prior to symptom onset then laboratory confirmation requires:

- evidence of infection with a wild-type virus strain obtained through genetic characterisation.¹

If the case did not receive a vaccine containing the mumps virus in the 6 weeks prior to symptom onset, then laboratory confirmation requires at least one of the following:

- detection of IgM antibody specific to the virus
- IgG seroconversion or a significant rise (four-fold or greater) in antibody level for the virus between paired sera tested in parallel where the convalescent serum was collected 10 to 14 days after the acute serum
- isolation of mumps virus by culture
- detection of mumps virus nucleic acid.

Consult a reference laboratory if testing is unavailable locally.

Case classification

- Under investigation: A case that has been notified, but information is not yet available to classify it as probable or confirmed.
- Probable: A clinically compatible illness.

¹ In New Zealand, genetic characterisation is generally only performed for measles virus.
**Confirmed**: A clinically compatible illness that is laboratory confirmed or epidemiologically linked to a confirmed case.

**Not a case**: A case that has been investigated and subsequently found not to meet the case definition.

### Spread of infection

#### Incubation period
About 16–18 days, ranging from 12–25 days.

#### Mode of transmission
By droplet spread or by direct contact with saliva or fomites from an infected person.

#### Period of communicability
From 7 days before the onset of parotitis until 9 days after the onset of illness. However, the level of infectivity significantly drops off from day 4 after the onset of parotitis.

Asymptomatic cases also can be infectious.

### Notification procedure
Attending medical practitioners or laboratories must immediately notify the local medical officer of health of suspected cases. Notification should not await confirmation.

### Management of case

#### Investigation
Ascertain whether there is a history of vaccination and travel and identify any possible contacts, including travellers from overseas.

Ensure laboratory confirmation by serology or viral detection in saliva, cerebrospinal fluid or urine has been attempted.

#### Restriction
In a health care facility, take droplet precautions for 5 days after the onset of glandular swelling.

Exclude cases from school, early childhood services or health care work and from close contact with other susceptible people for 5 days from onset of glandular swelling.
Counselling
Advise the case and their caregivers of the nature of the infection and its mode of transmission.

Management of contacts

Definition
Any person with close contact (for example, through household, early childhood service, school, workplace, camp, transportation or social mixing) with the case during the period of communicability.

Susceptible contact
Anyone born after 1981 who has not had mumps infection or has not been fully vaccinated for their age.\(^2\)

Investigation
In an outbreak, obtain a history of previous immunisation or natural illness with mumps to identify susceptible contacts. Serological screening to identify susceptible contacts is impractical and unnecessary.

Restriction
Consider advising exclusion of susceptible contacts from school, early childhood services or work for 25 days after last exposure to the infectious case, if there are other susceptible people present. Immunised contacts are not excluded.

Prophylaxis
Passive immunisation is not effective. Active immunisation with MMR vaccine is not considered effective against incubating infection, but a single dose of MMR should be offered to susceptible contacts for protection against future exposure.

Counselling
Advise all contacts of the incubation period and typical symptoms of mumps. Encourage them to seek early medical attention if symptoms develop.

\(^2\) Mumps vaccine was first offered in the 1992 schedule as MMR at 15 months and 11 years.
Other control measures

Identification of source
Check for other cases in the community.

Disinfection
Clean and disinfect surfaces and articles soiled with saliva or urine. For more details, refer to Appendix 1: Disinfection.

Health education
Encourage complete childhood vaccination with MMR vaccine. This currently involves two doses, the first at 12–15 months of age and the second at 4 years of age, before school entry.

Encourage early childhood services to keep up-to-date immunisation records.

Reporting
Ensure complete case information is entered into EpiSurv.

If a cluster of cases occurs, inform the Ministry of Health Communicable Diseases Team and outbreak liaison staff at ESR, and complete the Outbreak Report Form.