

IDRS Infectious Disease Reporting System

Disease Reporting 24 Hours a Day

Columbus Public Health and Franklin County Public Health

QUICK FACTS FOR PROVIDERS: Mumps

Reporting Information

Class B1: Report by the end of the next business day after the case or suspected case presents and/or a positive laboratory result to the local public health department where the patient resides. If patient residence is unknown, report to the local public health department in which the reporting health care provider or laboratory is located.

Agent

Mumps virus, a member of the genus paramyxovirus.

Source

Humans are the only known host.

Transmission

By direct contact with the saliva of an infected person and by droplet spread.

Incubation Period

Usually 16-18 days, but may range from 14-25 days.

SIGNS AND SYMPTOMS

Approximately 20% - 40% of mumps infections are either subclinical or unrecognized due to the lack of salivary gland swelling. The most recognizable symptoms of mumps are the unilateral or bilateral swelling of the parotid glands and a moderately elevated temperature. Parotitis tends to occur within the first two days and may first be noted as earache and tenderness on palpation of the angle of the jaw. Other symptoms include anorexia, abdominal pain and headache. Orchitis is a complication that occurs in up to 20% of postpubertal males, but sterility rarely occurs. The onset of orchitis may occur prior to or in the absence of parotitis. Females may experience oophoritis and/or mastitis with mumps infection. Other complications include pancreatitis, arthritis, deafness, meningitis and encephalitis. The possible relationship between mumps and diabetes is not well understood.

CLINICAL SPECIMENS PROTOCOL:

The following recommendations should be followed for suspected mumps cases:

Serum specimens

- An acute serum sample should be drawn at the time of clinical diagnosis.
- If the acute IgM is positive, a convalescent specimen is not necessary. If the acute IgM is negative, a second serum specimen should be collected 2-3 weeks later. The convalescent specimen should be tested for IgM, as well as IgG paired with the acute specimen.
- In the absence of recent vaccination, a four-fold increase in IgG titer as measured by quantitative assays, or a seroconversion from negative to positive using a standard serologic assay on acute to convalescent serum specimens is considered a positive diagnostic result for mumps.



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Buccal swab specimens:

- Specimens should be collected for RT-PCR detection (i.e. viral culture) of mumps virus.
- The preferred viral specimen is a parotid (or other salivary gland) duct swab, following massage of the salivary glands for 30 seconds.
- Viral mumps specimens should be collected as close to symptom onset as possible, preferably within 1-3 days of onset of parotitis.

Comment

With previous contact with mumps virus either through vaccination (particularly with 2 doses) or natural infection, serum mumps IgM test results may be negative; IgG test results may be positive at initial blood draw and viral detection in RT-PCR or culture may have low yield. Therefore, mumps cases should not be ruled out by negative laboratory results. Serologic tests should be interpreted with caution, as false positive and false negative results are possible with IgM tests.

Period of Communicability

The patient may be infectious for five days after overt parotitis (count the day of onset as day 0). The most infectious period is two days prior to onset of parotitis. No carrier state is thought to exist although individuals experiencing asymptomatic infection are capable of spreading the virus.

Isolation

The Ohio Administrative Code (OAC 3701-3-13, (P)) states that "a person with mumps shall be isolated, including exclusion from school or child care center, for five days after the onset of parotid swelling."

Contacts

Contacts born prior to 1957 are considered immune. Unvaccinated healthcare workers born prior to 1957 are not considered immune unless they have evidence of mumps immunity. Those born in 1957 or later should have proof of mumps immunization or have a history of physician-diagnosed disease. All other contacts should be immunized for mumps. Mumps vaccine administered after exposure will not prevent or modify the disease, but may possibly avert later disease if the exposure did not result in infection.

Prevention and Control

A live attenuated mumps vaccine was licensed in the United States in 1967. Protective and long-lasting immunity develops in 90% of the recipients. Susceptible children, adolescents and adults should be immunized unless the vaccination is contraindicated. Mumps vaccine may be given to individuals >12 months of age in combination with measles and rubella vaccines. For details, consult the ODH Vaccine Protocol Manual.

References:

Ohio Infectious Disease Control Manual <http://www.odh.ohio.gov/pdf/IDCM/mumps.pdf>



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