

Mumps

Merlin reporting code = 07290
Case report form (CRF): N/A
MERLIN EXTENDED DATA REQUIRED

Clinical description

An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland(s), lasting at least 2 days; acute illness characterized by a mumps-associated complication such as aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, parotitis or other salivary gland swelling, mastitis, or pancreatitis.

Laboratory criteria for case classification

Confirmatory:

- Isolation of mumps virus in cell culture from clinical specimen
- OR
- Detection of mumps nucleic acid (e.g., standard or real-time polymerase chain reaction [RT-PCR]).

Presumptive:

Positive test for serum anti-mumps IgM antibody.

Epidemiologic Linkage

A case can be epidemiologically linked to person with a clinically compatible illness or to a laboratory-confirmed case or be a member of a risk group defined by public health authorities during an outbreak. To be considered a confirmed case based on epidemiologic linkage, there must be a laboratory-confirmed case in the chain of transmission.

Case classification

Confirmed:

A person with confirmatory laboratory evidence and an acute illness characterized by any of the following: Acute parotitis or other salivary gland swelling, lasting at least 2 days, aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, mastitis, or pancreatitis.

Probable:

A person with acute parotitis or other salivary gland swelling lasting at least 2 days, or orchitis or oophoritis unexplained by another more likely diagnosis:

- In a person with presumptive laboratory evidence
- OR
- In a person who is epidemiologically linked to another confirmed or probable case or to a group/community defined by public health during an outbreak of mumps.

Suspect:

- A person with parotitis, acute salivary gland swelling, orchitis, or oophoritis unexplained by another more likely diagnosis

OR

- A person with positive laboratory tests for mumps with no mumps symptoms (with or without epidemiological-linkage to a confirmed or probable case).

Epidemiologic Classification of Internationally-Imported and U.S.-Acquired

Internationally-imported case: An internationally-imported case is defined as a case in which mumps results from exposure to mumps virus outside the U.S. as evidenced by at least some of the exposure period (12–25 days before onset of parotitis or other mumps-associated complications) occurring outside the U.S. and onset of parotitis or other mumps-associated complications within 25 days of entering the U.S. and no known exposure to mumps in the U.S. during that time. All other cases are considered U.S.-acquired cases.

U.S.-acquired case: A U.S.-acquired case is defined as a case in which the patient had not been outside the U.S. during the 25 days before onset of parotitis or other mumps-associated complications or was known to have been exposed to mumps within the U.S.

U.S.-acquired cases are sub-classified into four mutually exclusive groups:

- **Import-linked case:** Any case in a chain of transmission that is epidemiologically linked to an internationally-imported case.
- **Imported-virus case:** A case for which an epidemiologic link to an internationally-imported case was not identified but for which viral genetic evidence indicates an imported mumps genotype, i.e., a genotype that is not occurring within the U.S. in a pattern indicative of endemic transmission. An endemic genotype is the genotype of any mumps virus that occurs in an endemic chain of transmission (i.e., lasting ≥ 12 months). Any genotype that is found repeatedly in U.S.-acquired cases should be thoroughly investigated as a potential endemic genotype, especially if the cases are closely related in time or location.
- **Endemic case:** A case for which epidemiological or virological evidence indicates an endemic chain of transmission. Endemic transmission is defined as a chain of mumps virus transmission continuous for ≥ 12 months within the U.S.
- **Unknown source case:** A case for which an epidemiological or virological link to importation or to endemic transmission within the U.S. cannot be established after a thorough investigation. These cases must be carefully assessed epidemiologically to assure that they do not represent a sustained U.S.-acquired chain of transmission or an endemic chain of transmission within the U.S.

Notes

Internationally imported, import-linked, and imported-virus cases are considered collectively to be import-associated cases.

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.

Currently, there is insufficient information to determine whether any mumps strains are endemic to the U.S. or to distinguish endemic from non-endemic strains.

Questions about mumps follow-up should be directed to the Department of Health Immunization Program at (850) 245-4342.

[Return to Table of Contents](#)