

4. Identify contacts who are susceptible to mumps infection. These are individuals without proof of immunity, including those with medical or religious exemptions to immunization. Proof of immunity is defined as:

Proof of Immunity to Mumps

Individuals meeting one of the criteria below are considered immune to mumps:

- Birth before January 1, 1957 (unless health care personnel)
- OR
- Serologic proof of immunity
- OR
- Documentation of adequate vaccination with live mumps vaccine:
 - one dose for preschool-aged children and adults not at high risk of infection
 - two doses for school-aged children (grades K-12) and for adults at high risk (health care personnel, international travelers, and students at post-high school educational institutions)

5. Immunize all who do not have proof of immunity to mumps who are ≥ 12 months of age and who do not have a contraindication for mumps vaccination. Note: Vaccination is not expected to prevent illness or development of disease after infection in someone recently exposed to mumps. Exposed individuals should be vaccinated to protect against subsequent exposures.
6. Keep in mind the following:
- a. MMR should not be given to children < 12 months of age.
 - b. Vaccinating an exposed individual who may be incubating mumps virus is not harmful.
 - c. The minimum recommended interval between doses of MMR is 28 days.
 - d. Immune globulin (IG) is of no value as post-exposure prophylaxis and is not recommended.
7. In the school setting, exclude school-aged contacts from school and public activities according to the following guidelines (requirements for health care personnel are more rigorous. See Section 4C for more details):
- a. Individuals with zero doses of mumps-containing vaccine should be excluded from school. Individuals who receive their first dose of mumps-containing vaccine post-exposure may be readmitted to school.
 - b. Individuals with one dose of mumps-containing vaccine should be recommended to receive a second dose of mumps-containing vaccine. Those who do not receive a second dose may be subject to exclusion.
 - c. Exclude all remaining susceptible persons (including those with medical or religious exemptions) on days 12–25 after exposure, or if there are multiple cases, for 25 days after onset of parotitis in the last reported case in the outbreak setting. They may return on the 26th day.
8. Ideally, in the work setting (non-health care) also exclude contacts from work and public activities according to the following guidelines:
- a. Individuals with zero doses of mumps-containing vaccine should be excluded from work. Individuals who receive their first dose of mumps-containing vaccine post-exposure may be readmitted to work.
 - b. Individuals with one dose of mumps-containing vaccine should be recommended to receive a second dose of mumps-containing vaccine and are allowed to remain at work regardless of receipt of a second dose.
 - c. Exclude all remaining susceptible persons (including those with medical or religious exemptions) on days 12–25 after exposure, or if there are multiple cases, for 25 days after onset of parotitis in the last reported case in the outbreak setting. They may return on the 26th day.
9. Conduct active surveillance for mumps for two incubation periods (50 days) after onset of the last case.

C. Managing Mumps in Health Care Settings

1. Assess immune status of health care personnel (HCP). HCP (regardless of age) are considered immune by any *one* of the following:
 - a. Laboratory evidence of immunity, i.e., a positive IgG antibody titer; or
 - b. Documentation of two doses of a mumps-containing vaccine given after the age of 12 months and at least 28 days apart.

2. Vaccinate susceptible, medically eligible HCP with a mumps-containing vaccine.
 - a. The second dose must be given at least 28 days after the first dose.
 - b. Because tests for immunity following vaccination may not detect low levels of protective IgG antibody, post-vaccine antibody tests to assess vaccine effectiveness are not recommended.
3. Exclude HCP with active mumps illness.
 - a. All HCP should report any signs and symptoms of mumps, regardless of immune status.
 - b. HCP with active mumps illness should be excluded from work and remain on home isolation until five days after onset of parotitis or other illness onset if parotitis does not occur.
 - c. While positive laboratory results can confirm mumps infection, negative results cannot rule out mumps, and therefore cannot be the basis for removing a symptomatic HCP from isolation.
 - d. A diagnosis of mumps should be considered in an exposed HCP with non-specific respiratory illness, even in the absence of parotitis.
4. Exclude susceptible HCP exposed to cases of mumps.
 - a. An exposure is defined as being within three feet of someone with mumps in which either the HCP were not wearing a surgical or procedural mask or the infected person was not wearing a surgical or procedural mask.
 - b. HCP should be excluded from work from day 12 after the first exposure through day 25 after the last exposure. Exclusion from other public activities during this time period is recommended.
 - c. HCP who receive their first dose of vaccine after an exposure are not considered immune and still need to be excluded from work from days 12 through 25 following exposure, since post-exposure vaccination does not prevent mumps disease in the exposed person. See Table 1 below. Exclusion from other public activities during this time period is recommended.
 - d. HCP who have received one dose of vaccine prior to exposure do not need to be furloughed or quarantined after exposure but should receive a second dose as soon as possible (no sooner than 28 days after the first dose), and should be monitored for signs and symptoms of mumps illness. See Table 1 below.

Table 1. Assessing Immunity/Susceptibility to Mumps among Exposed Health Care Personnel, by Number of Doses Received of Mumps-Containing Vaccine

Number of Pre-Exposure Doses of Mumps-Containing Vaccine	Number of Post-Exposure Doses of Mumps-Containing Vaccine	Considered Immune/Susceptible to Mumps
0	0	Susceptible
0	1	Susceptible
1	0	Susceptible
1	1	Immune
2	0	Immune

5. Emphasize use of appropriate infection control measures of affected patients.
 - a. All patients presenting with signs and symptoms of mumps should be managed with droplet (use of surgical or procedural mask when within three feet of the patient) and standard precautions.
 - b. Inpatients suspected of having mumps should be placed on droplet precautions in addition to standard precautions for five days after onset of parotitis.
6. Conduct active surveillance for mumps for two incubation periods (50 days) after onset of the last case.

ADDITIONAL INFORMATION

The following is the formal Centers for Disease Control and Prevention (CDC) surveillance case definition for mumps. It is provided for your information only and should not affect the investigation and reporting of a case that fulfills the criteria in Section 2A of this guidance document. (The CDC and the WDPH use the CDC case definitions to maintain uniform standards for national reporting.) For reporting to the WDPH, always use the criteria outlined in Section 2A.

Note: The most up-to-date CDC case definitions are available on the CDC website at:

<http://wwwn.cdc.gov/NNDSS/script/casedef.aspx?CondYrID=783&DatePub=1/1/2012%2012:00:00%20AM>.

Case Definition for Mumps (As Defined by CSTE, 2011)

Clinical Case Definition

An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland(s), lasting ≥ 2 days and without other apparent cause.

Clinically Compatible Illness

Infection with mumps virus may present as aseptic meningitis, encephalitis, hearing loss, orchitis, oophoritis, parotitis or other salivary gland swelling, mastitis or pancreatitis.

Laboratory Criteria for Diagnosis

- Isolation of mumps virus from clinical specimen, or
- Detection of mumps nucleic acid (e.g., standard or real time RT-PCR assays), or
- Detection of mumps IgM antibody, or
- Demonstration of specific mumps antibody response in absence of recent vaccination, either a four-fold increase in IgG titer as measured by quantitative assays, or a seroconversion from negative to positive using a standard serologic assay of paired acute and convalescent serum specimens.

Case Classification

Confirmed

A positive mumps laboratory confirmation for mumps virus with RT-PCR or culture in a patient with an acute illness characterized by any of the following:

- Acute parotitis or other salivary gland swelling, lasting at least two days
- Aseptic meningitis
- Encephalitis
- Hearing loss
- Orchitis
- Oophoritis
- Mastitis
- Pancreatitis

Probable

Acute parotitis or other salivary gland swelling lasting at least two days, or orchitis or oophoritis unexplained by another more likely diagnosis, in:

- A person with a positive test for serum anti-mumps IgM antibody, or
- A person with epidemiologic linkage to another probable or confirmed case or linkage to a group/community defined by public health during an outbreak of mumps.

Suspect

- Parotitis, acute salivary gland swelling, orchitis, or oophoritis unexplained by another more likely diagnosis, or
- A positive laboratory result with no mumps clinical symptoms (with or without epidemiological linkage to a confirmed or probable case).

Case Classification for Import Status

Internationally imported case: An internationally imported case is defined as a case in which mumps results from exposure to mumps virus outside the United States 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 United States and the onset of parotitis or other mumps-associated complications within 25 days of entering the United States 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 has not been outside the United States during the 25 days before onset of parotitis or other mumps-associated complications or was not known to have been exposed to mumps within the United States.

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 United States 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 United States.

Unknown source case: A case for which an epidemiologic or virologic 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.

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

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