

PUBLIC HEALTH REFERENCE SHEET

Mumps



Name	Mumps virus (<i>Rubulavirus</i>)
Reservoir & Transmission	Humans Droplet transmission
Incubation Period	16–18 days on average (range of 12–25 days)
Common Symptoms	Acute swelling of parotid or other salivary glands lasting at least 2 days, fever, headache, muscle aches, tiredness, loss of appetite
Gold Standard Diagnostic Test	Real-time reverse transcription polymerase chain reaction (rRT-PCR)
Risk Groups	Non-immunized individuals
Geographic Significance	Worldwide

What is mumps?

Mumps is a contagious viral illness caused by paramyxovirus, of genus *Rubulavirus*.

How is mumps transmitted?

The mumps virus replicates in the upper respiratory tract and spreads from person-to-person through direct contact with respiratory droplets, or saliva or mucus from the mouth, nose, or throat of an infected person, usually when the person coughs, sneezes, or talks. The virus may also be spread indirectly when someone with mumps touches items or surfaces without washing their hands and then someone else touches the same surface and rubs their mouth or nose. The infectious period is considered from 2 days before to 5 days after parotitis onset, although the virus has been isolated from saliva as early as 7 days prior to and up to 9 days after parotitis onset. Mumps virus has also been isolated up to 14 days in urine and semen.

Who is at risk for mumps?

Mumps can occur in a person who is fully vaccinated, but vaccinated patients are less likely to present severe symptoms or complications than under- or unvaccinated cases. People who have had mumps are usually protected for life against another mumps infection. However, second occurrences of mumps do rarely occur.

What are the signs and symptoms of mumps?

The incubation period of mumps is usually 16–18 days but can range from 12 to 25 days. Mumps usually involves pain, tenderness, and swelling in one or both parotid salivary glands (parotitis). Swelling is first visible in front of the lower part of the ear. It then extends downward and forward as fluid builds up in the skin and soft tissue of the face and neck. Swelling usually peaks in 1 to 3 days and then subsides during the next week.

Nonspecific prodromal symptoms may precede parotitis by several days, including low-grade fever which may last 3 to 4 days, myalgia, anorexia, malaise, or headache. Parotitis usually lasts an average of 5 days, and most cases resolve after 10 days. Mumps infection may also present only with nonspecific or primarily respiratory symptoms or may be asymptomatic.

What are possible complications from mumps?

Especially in adults, complications can include inflammation of the testicles (orchitis) in males who have reached puberty; inflammation of the ovaries (oophoritis) and/or breast tissue (mastitis); inflammation in the pancreas (pancreatitis); inflammation of the brain (encephalitis);

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inflammation of the tissue covering the brain and spinal cord (meningitis); or deafness. Death from mumps is exceedingly rare.

How is mumps diagnosed?

Mumps is diagnosed by a combination of symptoms, physical signs, and laboratory confirmation of the virus, as not all cases develop characteristic parotitis and not all cases of parotitis are caused by mumps.

Mumps should be suspected in all patients with parotitis or mumps complications, regardless of age, vaccination status, and travel history.

If it has been <3 days since symptom onset, collect a buccal swab specimen for detection of viral RNA by real-time (rRT-PCR). If it has been >3 days since symptom onset, collect a buccal swab specimen for rRT-PCR and a serum specimen for IgM detection.

A patient's vaccination status and timing of specimen collection are important for interpreting laboratory results. A negative test result does not rule out mumps infection.

How is mumps treated?

There is no cure. Supportive treatment includes bed rest, hydration, and fever reduction.

How can mumps be prevented?

Mumps can be prevented with the combination measles-mumps-rubella (MMR) and measles-mumps-rubella-varicella (MMRV) vaccines.

The MMR vaccine is very safe and effective. Two doses are 88% (range: 32–95%) effective; one dose is 78% (range: 49%–91%) effective.

Children who are 12 months through 12 years of age may receive MMRV vaccine, which protects against measles, mumps, rubella, and varicella (chickenpox).

People identified by public health authorities as being part of a group at increased risk for acquiring mumps because of a mumps outbreak should receive a third dose of MMRV vaccine to improve protection against mumps disease and mumps-related complications.

What are some public health considerations?

- Document relevant travel and deployment history occurring within the incubation period.
- Note the patient's mumps immunization history.
- The CDC recommends isolating mumps patients for 5 days after their glands begin to swell.

References:

Defense Health Agency. 2022. *Armed Forces Reportable Medical Events Guidelines and Case Definitions*

<https://www.health.mil/Reference-Center/Publications/2022/11/01/Armed-Forces-Reportable-Medical-Events-Guidelines>

Heymann, David L. ed. 2022. *Control of Communicable Diseases Manual*. 21st Edition. Washington DC: APHA Press.

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