

Mumps

Why is Mumps Important?

Outbreaks continue to occur in the United States where patients may have severe complications. It is important to consider mumps when evaluating any patient who presents with acute orchitis, parotitis, or other salivary gland swelling, even a vaccinated patient. Appropriate specimens must be collected to confirm a mumps diagnosis and prevent further disease transmission. Inform a patient suspected to have mumps to remain home and away from public spaces for 5 days after parotitis onset and promptly report suspect cases to Public Health.

Mumps Overview

Communicability

- Transmission: Contact with airborne respiratory secretions or saliva or through fomites
- Infectious Period: 2 days before through 5 days after parotitis/orchitis.
- Incubation Period: 12-25 days

Treatment

There is no specific antiviral therapy for mumps.

Clinical Presentation

Consider mumps in any patient who has acute orchitis, parotitis, or other salivary gland swelling, even with an MMR vaccination history.

Prevention

- Best prevention is timely vaccinations. See [vaccine schedule](#).
- Person with mumps should self-isolate for 5 days after parotitis onset.

Testing

Laboratory confirmation is essential to confirm mumps.

- PCR 1) Buccal swab within 3 days of parotitis/orchitis onset but may be collected up to 9 days after onset
2) Urine to accompany the buccal specimen
- IgM/IgG Serology at least 4 days after parotitis onset.
See *Laboratory Testing*.

Symptoms

Prodromal Symptoms:

- Typically begins with a few days of fever, headache, myalgia, fatigue, and anorexia

Parotid Swelling:

- Symptoms are then usually followed by salivary gland swelling, pain and tenderness within 48 hours of prodrome onset
- May involve one or both parotid/other salivary glands.
- 10% of cases may have symptoms in other salivary glands (submandibular and sublingual).

Mumps Symptoms by Vaccination Status

- Unvaccinated persons are at highest risk for infection.
- Vaccinated patients may have non-specific symptoms.
- Mumps can occur in previously vaccinated persons and persons with positive mumps IgG antibody results.
- 20-30% of infections are asymptomatic.

Suspect and Test for Mumps in the event...

- Patient presents with parotid or other salivary gland swelling in the jaw/cheek area or
- Patient presents with Orchitis or
- Positive mumps IgM antibody or PCR result.
A negative mumps IgM antibody result does not rule out mumps.

Complications

Complications may include:

- Orchitis
- Oophoritis
- Neurologic manifestations (including meningitis, encephalitis, and deafness).

Orchitis can occur in as many as 50% of post-pubertal males without prior presentation of parotitis/other salivary gland swelling. During your evaluation, inquire about scrotal or testicular pain in men with fever and other non-specific symptoms.

Report Cases Promptly

Under the California Code of Regulations, medical providers are mandated to report all patients suspected of having mumps to the local health department.

Do not wait for lab confirmation to report.

Call **888-397-3993** or fax a [Confidential Morbidity Report](#) to **888-397-3778**

Laboratory Testing

Timing of specimen collection in relation to clinical presentation is important to yield reliable results.

Do not test asymptomatic patients.

A reverse-transcriptase polymerase chain reaction (PCR) test of the parotid duct (buccal swab) is the preferred method of confirming acute mumps infection.

Table 1: Laboratory Tests for Mumps Diagnosis

Buccal Swab for PCR	<ul style="list-style-type: none">• Optimal timing for specimen collection: within 3 days of parotitis/orchitis onset but may be collected up to 9 days after onset• Massage salivary gland area for ~30 seconds• Use a viral culturette/sterile synthetic swab to vigorously swab parotid gland• Place swab in 2-3mLs of liquid viral transport media (VTM) or universal transport media (UTM)
Serum for Serology IgM / IgG	<ul style="list-style-type: none">• Test in addition to PCR• Optimal Time for Specimen collection: 4 or more days after parotitis/orchitis onset as earlier tests may be false negative• Draw 8-10mL of blood in a gold top serum separator tube• An IgM negative result does not rule out mumps.
Urine for PCR	<ul style="list-style-type: none">• Submit a urine specimen (at least 50mL) in a sterile container

* For more details: <https://www.cdc.gov/mumps/hcp/index.html>

Call the Public Health Laboratory courier to arrange for specimen pick-up weekdays 8:00am – 5:00pm: **562-658-1460**. All specimens should be stored at 4°C/39 °F until pick-up. Complete mumps-specific lab forms located at http://publichealth.lacounty.gov/ip/VPDspecimen_collection.htm

Questions

Call the Los Angeles County Department of Public Health Vaccine Preventable Disease Control Program from 8:30am – 5:00pm Monday-Friday: **(213) 351-7800** and ask to speak to the **Epidemiologist on duty**. After business hours, weekends, holidays: Call **(213) 974-1234**, Option 8 - Administrative Officer on Duty http://publichealth.lacounty.gov/ip/VPD_mumps.htm

Prevention

Vaccination is the best way to prevent mumps.

- Although mumps IgG serum antibody testing can be performed to gauge immunity, mumps disease still occurs in patients with positive mumps IgG antibody results.
- Two doses of MMR are ~ **88%** effective at protecting against mumps.
- Instruct patients suspected to have mumps to isolate through infectious period (5 days after parotitis/orchitis onset).

There is no treatment for mumps.

ACIP Recommendation for 3rd Dose MMR During Mumps Outbreaks

In October 2017, the Advisory Committee on Immunization Practices (ACIP) recommended that persons previously vaccinated with two doses of a mumps-virus containing vaccine who are identified by public health authorities as being part of a group or population at increased risk for acquiring mumps because of a mumps outbreak, should receive a third dose of a mumps-virus containing vaccine to improve protection against mumps disease and related complications. Mumps outbreaks in Los Angeles County have impacted communities such as college students, men-who-have-sex-with-men, recreational facility patrons/staff, etc.