



COLORADO
Department of Public
Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

HEALTH ALERT NETWORK BROADCAST

MESSAGE ID: 02082019 14:30

FROM: CO-CDPHE

SUBJECT: HAN Advisory - Mumps outbreaks in Colorado

RECIPIENTS: Local Public Health Agencies / IPs / Clinical Labs / EDs / ID Physicians / Coroners

RECIPIENT INSTRUCTIONS: Local Public Health Agencies - please forward to healthcare providers

HEALTH ADVISORY | Mumps outbreaks in Colorado | Feb. 8, 2019

Health care providers: Please distribute widely in your office

Key points

- The Colorado Department of Public Health and Environment (CDPHE) is investigating multiple mumps outbreaks, including a multi-state outbreak among people associated with a community that is opposed to vaccination and reports travel to Chihuahua, Mexico, and an unrelated outbreak in federal and local detention facilities in Colorado.
- Health care providers are urged to consider a diagnosis of mumps in patients who present with parotid or salivary gland swelling and in adult male patients who experience acute orchitis without other apparent cause.
- If mumps is suspected, buccal swabs for PCR testing and/or a serum specimen for mumps IgM testing should be collected as soon as possible.
- Despite high vaccination rates and an effective vaccine, cases can occur among vaccinated individuals, especially in congregate settings because the vaccine is not 100 percent effective (the estimated effectiveness for mumps for two doses of MMR is 88 percent), and vaccine-induced immunity can wane.

Background information

The Colorado Department of Public Health and Environment (CDPHE) is investigating multiple mumps outbreaks, including a multi-state outbreak of mumps among unvaccinated people who regularly travel to Chihuahua, Mexico. Since September 2018, 11 cases of mumps among three households have been identified in Colorado. All 11 cases report not being vaccinated. An additional 13 cases have been reported from other states, including North Dakota, Utah, and Arizona who report travel to Chihuahua, Mexico and associations with the same community.

In addition, a nationwide outbreak of mumps in detention centers is being investigated in multiple states, including Colorado. Three cases have been identified among detainees in Colorado and several more are under investigation.

These two multi-state outbreaks are thought to be unrelated.

Mumps is a viral infection that can cause painful swelling of one or more of the salivary glands, typically the parotid glands. Other symptoms may include low-grade fever, malaise, loss of appetite, and headache. Approximately one third of infected people do not have clinically apparent illness, so cases often go undetected. Severe complications from mumps are rare, but can include inflammation of the brain and/or tissue covering the brain and spinal cord, inflammation of the ovaries and/or breast, sterility, orchitis (testicular inflammation), spontaneous abortion, or deafness. Despite high vaccination rates and an effective vaccine, cases occur among vaccinated individuals, especially in congregate settings such as college dormitories, large households, and prisons because the vaccine is not 100 percent effective (estimated effectiveness for mumps for two doses of MMR is 88 percent), and vaccine-induced immunity can wane.

Mumps can be transmitted by direct contact with respiratory droplets or saliva from an infected person. The average incubation period is 16-18 days (range 12-25 days). A person with mumps is infectious from two days before through five days after onset of salivary gland swelling.

Recommendations / guidance

Health care providers are urged to consider a diagnosis of mumps in patients who present with parotid or salivary gland swelling. People suspected of having mumps should be instructed to stay home until five days after onset of salivary gland swelling. In hospitals and detention centers, people suspected of having mumps should be placed on droplet precautions.

Testing

- Health care providers who suspect mumps should collect a buccal swab specimen using a synthetic swab (similar to what is used for flu testing) for PCR testing and a serum specimen (red top tube or separator tube) for mumps IgM and IgG. False positive and false negatives for mumps serology are not uncommon, especially in vaccinated individuals. Testing for mumps is available at some commercial labs.
- Consult with CDPHE Communicable Disease Branch staff at 303-692-2700 if you have questions about testing or problems obtaining specimens for testing. Buccal swab specimens from highly suspect cases may be referred to the CDPHE laboratory for PCR testing.
- More information on mumps testing is available at <https://www.colorado.gov/cdphe/mumps-information-health-care-and-public-health-professionals>.

Prevention/vaccination

- There is no prophylaxis for mumps infection. Receiving mumps vaccine after exposure will not prevent infection from that exposure but is recommended for susceptible people, as it may prevent infection from future exposures.
- For prevention of mumps, two doses of MMR vaccine are recommended routinely for children, with the first dose at 12-15 months of age and the second dose at 4-6 years of age (school entry). Two doses of MMR vaccine are also recommended for adults at high risk, including international travelers, college and other post-high school students, and health care personnel born during or after 1957. All other adults born during or after 1957

without other evidence of mumps immunity should be vaccinated with one dose of MMR vaccine. During outbreaks among fully vaccinated people, an additional dose of MMR vaccine may be recommended.

Childcare/school exclusion

- Children who are diagnosed with mumps should be excluded for five days after the day of swelling onset.

Infection control

- In **hospital** settings, patients with suspected mumps should be placed on droplet precautions.
In **clinic** settings, patients with suspected mumps should be quickly placed in a private room with the door closed and asked to wear a surgical mask, if tolerated.
- Only health care personnel with presumptive evidence of mumps immunity should have contact with the patient.
- All health care personnel should have presumptive evidence of mumps immunity documented and on file at their work location.
- For health care personnel, presumptive evidence of mumps immunity includes two doses of live MMR vaccine, serologic evidence of immunity to mumps (i.e., positive mumps IgG titer), or documentation of physician-diagnosed mumps. Healthcare personnel without evidence of immunity may be excluded from work in the event of a mumps exposure.

Reporting

- Report suspect mumps cases to your local health agency or CDPHE at 303-692-2700. Do not wait until laboratory results are available before reporting suspect cases.

For more information

- **Contact a vaccine-preventable disease epidemiologist:** 303-692-2700.
- **CDPHE Mumps web page:** <https://www.colorado.gov/cdphe/mumps>
- **CDPHE Disease Reporting Line:** 303-692-2700 or 303-370-9395 (after hours)

4300 Cherry Creek Drive S, Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe
Jared Polis, Governor | Jill Hunsaker Ryan, MPH, Executive Director





Mumps Laboratory Testing Guidance

When to test for mumps?

Consider laboratory testing for patients who meet the clinical case definition for mumps, regardless of immunization status:

- Parotitis or swelling of the sublingual or submandibular salivary glands without another more likely diagnosis.

How to test for mumps

Mumps PCR testing

- PCR testing detects mumps RNA.
- Preferred method of testing.
- Available on a fee-for-service basis at the Colorado Department of Public Health and Environment (CDPHE) laboratory and available at some commercial laboratories. PCR results from CDPHE lab are usually available quicker than results from commercial labs.
- Specimen: buccal swab (see below)

Mumps IgM serology testing

- Tests for mumps antibodies and can indicate an acute mumps infection.
- Available at most commercial laboratories and can be requested from the CDC after consultation with a CDPHE epidemiologist.
- The CDPHE laboratory **does not** perform mumps serology testing.
- Specimen: serum

Viral culture

- Available at some commercial laboratories but has a long turnaround time and is generally **not recommended**.
- Specimen: buccal swab

*Clinically compatible mumps cases may not be ruled out by negative laboratory results and additional testing may be needed.

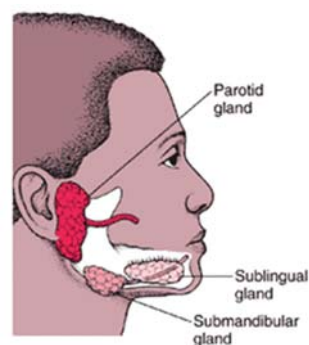
How to collect a specimen for mumps testing

Before collecting a mumps specimen:

- Wash hands before and after touching the patient and after contact with respiratory secretions and contaminated objects/materials.
- Put on personal protective equipment consistent with droplet precautions (e.g. gloves and a facemask; if substantial spraying of respiratory fluids is likely, gloves, a gown and goggles or face shield should be worn).

Buccal swab for mumps PCR (*Preferred*):

- Collect buccal swab as soon as mumps is suspected, preferably within 1-3 days after onset of symptoms (parotitis).
- Massage the parotid gland area for 30 seconds prior to swabbing the area around parotid duct.
- Swab the parotid duct using a synthetic swab (e.g., Dacron tip) with an aluminum or plastic shaft. Swabs with calcium alginate or cotton tips and wooden shafts are unacceptable (Amies swabs are unacceptable).
- Detailed instructions for collecting a buccal swab are located on CDC's [website: https://www.cdc.gov/mumps/lab/detection-mumps.html](https://www.cdc.gov/mumps/lab/detection-mumps.html).
- Place swab into 2-3ml of liquid viral or universal transport medium.
- Ream the swab around the rim of the tube to retain cells and fluid in the tube. The swab can be broken off and left in the tube or discarded.



If viral transport medium is unavailable, use one of the following: Universal Transport Medium, cell culture medium (minimal essential medium or Hanks' balanced salt solution) or other sterile isotonic solution (e.g. phosphate buffered saline). Amies transport medium is not accepted. Please call us if you have specimen questions at 303-692-2700.

Serum for mumps IgM:

- Collect 7-10 ml of serum for IgM as soon as mumps is suspected using a red top or serum separator tube.
- Send serum for mumps IgM to your facility's usual reference laboratory.
 - Follow your reference lab's instructions for serum collection and submission.

How to store and send mumps specimens

- Samples should be maintained at 4°C (in a refrigerator) and shipped on cold packs (4°C) within 24 hours.
 - If shipping is delayed, store the specimen at -70°C. Frozen specimens should be shipped on dry ice.
- Label all tubes/containers with: patient name, date of birth, specimen collection date, and specimen type.

How to submit mumps specimen to CDPHE Laboratory

- Call CDPHE at 303-692-2700 to arrange for mumps PCR testing.
- Fill out CDPHE's state lab requisition form provided to you by CDPHE for each specimen.
 - All specimens must be accompanied by a CDPHE specific lab requisition form.
- Mumps specimens can either be:
 - dropped off at the CDPHE lab directly at 8100 Lowry Blvd, Denver, CO 80230
 - dropped off at an existing courier pick up location
 - picked up directly at your facility by courier
- Results can usually be expected within 2 business days and will be faxed to the listed provider on the requisition form.

Contact us: Colorado Department of Public Health and Environment (CDPHE)

Vaccine Preventable Disease Unit

303-692-2700