



Disease Control and Epidemiology

Update: Mumps Cases Identified in Chapman University Students

March 31, 2017

Nine cases of mumps have been reported in students of Chapman University in the city of Orange. Six of nine cases have been confirmed by laboratory testing; the other three had symptoms consistent with mumps infection and known contact to a confirmed case. Six are law school students, three are undergraduate students. Cases ages range from 19-34, and symptom onset dates extend from January 26 to March 26. The Orange County Health Care Agency is working with the University to identify any additional cases. Multiple mumps outbreaks have been seen in college and university campuses around the country in the last several years.

Actions Requested

- **The Orange County Health Care Agency, in consultation with the California Department of Public Health, recommends a third MMR dose to all Chapman University students who previously received two doses of MMR vaccine. This third dose is recommended to increase protection for potential future exposures.**
- **All students who have received zero or one dose of MMR vaccine should receive catch up vaccination.**
- **Chapman University will be arranging for on campus immunization clinics next week for students in need of vaccination.**
- **Providers should consider the diagnosis of mumps in patients with an appropriate clinical presentation, particularly in college students, those with a history of international travel, or exposure to a known mumps case. Notify the Orange County Health Care Agency Epidemiology Program immediately at 714-834-8180 with any suspect cases.**
- **Providers are encouraged to ask patients with parotitis whether they have had contact with other cases of mumps or parotitis. Mumps should be considered in all patients with parotitis, but testing is particularly important when multiple cases of parotitis are identified in a school, family, work site, or other social group.**

Background

Symptoms

- Mumps' most characteristic symptom is parotid swelling. Parotitis is unilateral at first but eventually becomes bilateral in 70% of cases. Parotitis can initially manifest as earache and tenderness on palpation of the angle of the jaw. Symptoms generally resolve over 7-10 days.
- A nonspecific prodrome often occurs 1-2 days before the onset of parotid swelling, and can include muscle aches, loss of appetite, malaise, headache, or fever.
- Complications include orchitis (testicular swelling), which occurs in 14-35% of postpubertal males, and aseptic meningitis, which is found in 1-10% of cases.
- The incubation period ranges from 12 to 25 days.
- Treatment is supportive.



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Laboratory Testing

- The preferred method of diagnosis is mumps PCR testing of a buccal swab specimen. Collection of a buccal specimen within 1 to 3 days of parotitis onset is optimal, but virus may be detected for up to 9 days after parotitis onset. The Orange County Health Care Agency Laboratory can perform mumps PCR testing.
- Testing can also include serum mumps IgM and IgG. However, the mumps IgM response may be absent in immunized patients, and patients with detectable mumps IgG can still develop infection.
- Detailed descriptions of specimen collection procedures can be found at:
https://www.cdph.ca.gov/programs/vrdl/Documents/Mumps_Testing_VRDL_Quicksheet.pdf

Infection Control

- Mumps virus is transmitted by direct exposure to respiratory secretions of infected persons.
- Infectiousness is highest from 2 days before until 5 days after onset of parotitis. **Persons with mumps should stay home from work, school and other activities until at least 5 days after the onset.**
- Healthcare providers should use droplet and standard precautions when caring for suspect or confirmed cases.
- Healthcare workers should have two documented MMR doses or documented immunity.

Vaccination

- Mumps vaccine is given as part of the Measles, Mumps and Rubella (MMR) vaccine.
- All children are recommended to receive a first MMR at 12-15 months and a second MMR at 4-6 years of age.
- All adults without evidence of immunity to measles, mumps, and rubella should have at least one dose of MMR. Certain high risk groups should have two MMR doses, including healthcare professionals, international travelers and students at post-high school educational institutions.
- The CDC estimates an effectiveness of two doses of MMR for preventing mumps of 88%.
- Vaccination does not provide post-exposure prophylaxis for mumps, but should prevent illness after future exposures.
- Breakthrough infection can occur despite vaccination, and most cases seen in college outbreaks have occurred in fully vaccinated patients. However, high vaccination coverage can help to limit the spread, duration, and magnitude of mumps outbreaks.

Contact Information

If you have any questions or concerns please contact the **Epidemiology and Assessment Program at 714-834-8180**. For more information go to: <http://www.ochealthinfo.com/phs/about/dcepi/epi>