

Mumps Alert

To: Vermont Health Care Providers, Hospitals, Ambulatory Care Centers, and College Health Centers

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State Epidemiologist

- A case of mumps has been confirmed in a student at Middlebury College.
- Consider mumps in the differential diagnosis of patients presenting with compatible clinical and epidemiological features. Secondary cases would be expected to occur on or after September 20.
- People who have mumps can be asymptomatic or may not be aware of any exposure to mumps. Mumps may also occur in fully vaccinated people (two doses of the vaccine is only about 90% effective).
- **Report suspected cases of mumps to the Vermont Department of Health Infectious Disease Section by calling 802-863-7240 or 1-800-640-4374 [in Vermont]. An epidemiologist is available 24/7.**
- **Contact the Infectious Disease Section to arrange for mumps testing through the Vermont Department of Health Laboratory for cases meeting the clinical case definition and epidemiologic criteria described below.**
- Two doses of a mumps-containing vaccine is the most effective way of preventing mumps. Please assess the vaccination status of your health care workforce and ensure they are appropriately protected. Specific recommendations can be found at:
<http://www.immunize.org/catg.d/p2017.pdf>

Background

A student at Middlebury College has a laboratory-confirmed case of mumps. The student developed disease as a result of exposure out of country. The student was on campus for one day at the end of the infectious period. The Department of Health is working closely with Middlebury College officials to identify close contacts who are at higher risk for disease, and to encourage vaccination of all unvaccinated or under-vaccinated students, faculty and staff. Although the risk is low, it is possible for people who had more casual contact to contract mumps.

Mumps Disease

Early symptoms are nonspecific, and include myalgia, lack of appetite, malaise, headache, and low-grade fever. Parotitis is the most common manifestation and occurs in 30% to 40% of infected persons. Parotitis may be unilateral or bilateral, and any combination of single or multiple salivary glands may be affected. Parotitis tends to occur within the first 2 days and may first be noted as earache and tenderness on palpation of the angle of the jaw. Symptoms tend to decrease after 1 week. The symptoms usually start 16 to 18 days after a person has been exposed to the mumps virus, but can start anywhere from 12 to 25 days after exposure. As many as 20% of mumps infections are asymptomatic, and 40% to 50% may have non-specific or only respiratory symptoms. A single dose of mumps vaccine is estimated to be 80% effective, while two doses are about 90% effective.

Mumps diagnosis

Laboratory testing is recommended when there is a suspicion that a patient may have mumps:

- Clinical case definition: acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting 2 or more days, and without other apparent cause.

and

- Epidemiologic criteria: travel to an area experiencing mumps and/or direct contact with a person with known or suspected mumps.

Less strict epidemiologic criteria may be considered for unvaccinated individuals.

Information on collection and testing of clinical specimens for mumps is available at <http://www.cdc.gov/vaccines/vpd-vac/mumps/outbreak/faqs-lab-test-infect.htm>

Mumps virus: Viral culture is the recommended test for the confirmation of mumps virus. Optimal specimen collection is within 5 days of symptom onset. The clinical sample preferred for mumps virus isolation or for viral detection by reverse transcriptase-polymerase chain-reaction (RT-PCR) methods is fluid collected from the buccal cavity (the space near the upper rear molars between the cheek and the teeth). Massage the parotid glands for 30 seconds prior to swabbing the buccal cavity. Place the swab in a tube containing 2-3 ml of viral transport medium or other sterile isotonic solution (phosphate buffered saline or cell culture medium) and keep cold (4°C). Ship the specimen with cold packs.

Serology: IgM antibodies usually become detectable within 3 to 4 days of clinical illness and reach a peak about 1 to 2 weeks after onset. However, IgM may be transient or missing in persons who have had one or more doses of mumps-containing vaccine. As a result, a negative IgM does not rule out mumps. Serum should be collected at least 4 days after onset of clinical illness for IgM testing.

NOTE: At present there is no FDA-approved IgM antibody test available; commercial and in-house developed tests are available, but results must be reported with a disclaimer. IgG testing is

also available. Serum for the acute-phase IgG can be taken at the initial patient visit and held to be compared to the convalescent-phase serum. Convalescent-phase serum should be collected 2 to 5 weeks later. In the absence of recent vaccination, a four-fold rise in titer is considered diagnostic for mumps. For serologic testing, collect 7-10 ml blood in a red top or serum separator tube (SST) and ship cold or at ambient temperature.

Serum for IgM and viral specimens should be handled as per facility routine. Under certain circumstances, with prior arrangement, specimens for serology and viral culture may be submitted through the Vermont Department of Health Laboratory to be sent to CDC for diagnostic testing. Mumps virus immune status (IgG) testing can also be performed by the Health Department Laboratory to determine immune status in asymptomatic persons. Laboratory specimens must be accompanied by a Clinical Test Request Form (Micro 220). http://healthvermont.gov/enviro/ph_lab/documents/VDHclinical_form.pdf

For additional information about this Advisory, please call (802) 863-7240 [1-800-640-4374 in Vermont].