

**TO:** Vermont Health Care Providers, Hospitals, Ambulatory Care Centers, and College and University Student Health Centers

**FROM:** Laura Ann Nicolai, Deputy State Epidemiologist for Infectious Disease

## **MUMPS ADVISORY**

### **Mumps Outbreaks at Saint Michael's College & the University of Vermont**

This is an update to a previous mumps advisory, sent on January 25, 2018:  
<http://www.healthvermont.gov/response/alerts/health-alerts-advisories>.

#### **Saint Michael's College**

Health Department and Saint Michael's College staff are working together to respond to an outbreak of mumps among college students. A small number of symptomatic students have been reported since January 20. In accordance with outbreak control guidance from the Centers for Disease Control & Prevention, the Health Department is recommending Saint Michael's students receive a third dose of mumps vaccine (administered as MMR).

#### **University of Vermont (UVM)**

An outbreak of mumps has also been identified at UVM, again with small numbers. At this time cases are limited to students in three dorms: Living/Learning, University Heights, and Davis Hall. The Health Department is recommending a third dose of MMR vaccine for UVM students who reside in these dorms and their overnight guests. If the outbreak expands, vaccine may be recommended more broadly to additional UVM students who are not currently symptomatic.

A child care center, Campus Children's Center, is also located in the Living/Learning building. No cases of mumps have been identified among enrolled children, staff or UVM student-volunteers. Routine vaccination is recommended for this population.

**Report all suspected and confirmed cases** – to the Health Department by calling the Infectious Disease/ Epidemiology (ID-Epi) program at 802-863-7240 (24/7). Health Department staff are available to provide guidance and answer questions.

#### **Mumps Transmission**

Mumps spreads from person to person by contact with infectious respiratory droplets or saliva. The incubation period is 16 to 18 days (range 12-25 days) from exposure to onset of parotitis. Individuals are contagious from two days before through five days after onset of parotitis. Mumps outbreaks are more likely in congregate settings, such as colleges, where people have close, prolonged contact. In recent U.S. outbreaks, few cases were reported in communities surrounding an affected college or university, most likely due to high two-dose vaccination coverage and limited instances of exposure.

**Consider and test for mumps when evaluating clinically compatible illnesses.**

The preferred method for confirming acute mumps infection is detection of mumps virus from a buccal specimen by reverse transcriptase-polymerase chain reaction testing (RT-PCR). Collecting a buccal specimen within one to three days of parotitis onset is optimal. Before obtaining the specimen, the parotid gland, which extends from in front of the ear to the angle of the jaw, should be massaged for 30 seconds.

- A short video on CDC's website demonstrates how to correctly collect and transport a buccal swab: <https://www.cdc.gov/mumps/lab/specimen-collect.html>.
- Using a flocked polyester fiber or other synthetic product, swab the area around the Stenson's duct on both sides of the mouth. Place swabs in 2ml of standard viral transport medium.
- Following collection, maintain buccal specimens at 4°C and ship on cold packs within 24 hours.
- Specimens shipped more than 24 hours after collections should be frozen at -70°C and shipped on dry ice.

Acute infection may also be laboratory confirmed by the presence of mumps IgM antibody or a significant rise in mumps IgG antibody titer between acute- and convalescent-phase serum specimens. However, interpretation of mumps IgM results should be made with caution, as the serologic response may be attenuated or absent in vaccinated persons, and false-positive IgM results are possible due to cross-reactivity with other viruses.

- The first (acute-phase) serum sample should be collected as soon as possible upon suspicion of mumps illness. Collect 7–10 ml of blood in a red-top or serum-separator tube. If the acute-phase serum sample collected  $\leq 3$  days after parotitis onset is negative, and the case has a negative (or not done) result for RT-PCR, a second serum sample collected five to 10 days after symptom onset is recommended because, in some cases, the IgM response is not detectable until five days after symptom onset.
- Serum should be sent to a reference lab; IgM testing is not available through the Vermont Department of Health Laboratory.

**Consider other etiologies if a more likely cause of illness is possible.**

Not all cases of parotitis, especially sporadic ones, are due to mumps infection. Parotitis can be caused by parainfluenza virus types 1 and 3, Epstein Barr virus, influenza A virus, Coxsackie A virus, echovirus, lymphocytic choriomeningitis virus, human immunodeficiency virus, and noninfectious causes such as drugs, tumors, immunologic diseases, and obstruction of the salivary duct. However, other causes do not produce parotitis on an epidemic scale.

Influenza has been confirmed in some students presenting with parotitis. Consider testing for influenza, in addition to mumps virus, for patients with compatible illness. Testing for both viruses is available through the Vermont Department of Health Laboratory Monday-Friday. Weekend testing is available only after consultation with the Health Department/ ID-Epi.

- Collect a throat swab. Using a polyester swab and avoiding the tongue, swab the posterior pharynx and tonsillar area.
- Place the throat swab in the same tube as the buccal specimen and cut off the applicator tip. Both the buccal and throat specimens may be transported in the same tube containing viral transport medium. Request both mumps and influenza PCR testing on the VDHL - Clinical Test Order Form: <http://www.healthvermont.gov/lab/forms>. Specimen collection instructions may also be found at this link.
- A surgical mask and gloves are recommended at a minimum for both collection procedures.
- Contact Health Department Laboratory Customer Service at 802-338-4724 to request mumps and influenza specimen collection kits.

**Vaccination is the best protection against mumps.**

Two doses of MMR vaccine are recommended for all children, with the first dose given at 12 to 15 months of age and the second dose at 4 to 6 years of age, but before kindergarten entry.

Vaccination with two doses of MMR is also required for school entry for grades K-12 and all full-time college students. For routine and catch up recommendations for vaccination:

<https://www.cdc.gov/vaccines/schedules/index.html>.

For providers participating in the Vermont VFC/VFA program, order MMR vaccine as usual.

Contact the Health Department's Immunization program at 802-863-7240 with any questions.