



## Department of Health

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December 16, 2016

**TO: Hospitals, Local Health Departments (LHDs), Providers, Universities**

**FROM: New York State Department of Health (NYSDOH), Bureau of Immunization**

**HEALTH ADVISORY: MUMPS OUTBREAKS - UNIVERSITY SETTINGS, WINTER BREAK:  
MUMPS DIAGNOSIS, TESTING AND REPORTING**

Please distribute to the Infection Control Department, Emergency Department, Employee Health Service, Infectious Disease Department, Director of Nursing, Medical Director, Laboratory Service, University Health Services and all patient care areas.

### SUMMARY

- Cases of mumps have been identified in increasing numbers on college campuses in New York and across the United States. As students return home for winter break there is the potential that exposed students will develop mumps and present to local healthcare providers for evaluation.
- Currently, the State Universities of New York (SUNY) at New Paltz and Geneseo are experiencing mumps outbreaks. Sixty-one individuals who have been diagnosed with mumps are epidemiologically linked to the SUNY New Paltz Campus outbreak and 16 cases of mumps have been diagnosed that are associated with SUNY Geneseo. Suspect cases are under investigation at both institutions. More cases are expected to occur.
- All students at both SUNY New Paltz and SUNY Geneseo who have not received any mumps-containing vaccine are considered susceptible and have been excluded from campus at this time. Those students who have received only one dose of mumps-containing vaccine have been advised to receive a second dose of measles, mumps, rubella (MMR) vaccine to complete the recommended two-dose series.
- The vast majority of cases have been immunized with two doses of MMR vaccine. The median age of case patients is 20 years. Symptoms include swelling of the salivary glands (parotid, sub-mandibular or sub-lingual), malaise, headache, myalgia, fever, anorexia and jaw pain. Patients have also reported sore throat, earache and upper respiratory symptoms prior to onset of parotitis.
- NYSDOH is requesting that all medical providers consider and test for mumps in patients with symptoms that are clinically consistent with mumps without an alternative diagnosis, regardless of a patient's vaccination status. Please refer to the NYSDOH Vaccine Preventable Disease Control Guidelines for more information at: [www.health.ny.gov/prevention/immunization/providers/outbreak\\_control\\_guidelines.htm](http://www.health.ny.gov/prevention/immunization/providers/outbreak_control_guidelines.htm)

- **Any suspected case of mumps should be reported promptly to the LHD where the patient resides.** LHDs should notify the NYSDOH Bureau of Immunization to assist in arranging for both viral and serologic testing for laboratory confirmation of disease.
- Patients suspected to have mumps should be placed on isolation for five days after onset of parotitis. Appropriate infection precautions should be taken to minimize exposure to household contacts.
- Family and friends of mumps cases may be up-to-date with two mumps containing vaccines and may not recognize their personal risk for infection or the potential for further spread of disease within close-contact settings. Individuals who are at risk of being exposed to mumps and who are not fully immunized, should be offered MMR vaccination.
- In response to the outbreak of mumps at SUNY New Paltz, the NYSDOH, Ulster County Department of Health, and SUNY New Paltz have recommended that all SUNY New Paltz students receive a third dose of MMR. The Centers for Disease Control and Prevention (CDC) has provided guidance for use of a third dose of MMR as a control measure to consider during mumps outbreaks in settings where people are in close contact with one another and when traditional control measures, including high 2-dose coverage have failed to slow the spread of disease. There is evidence suggesting that a third dose of the MMR vaccine may boost immunity among students and help prevent further spread of mumps on campus. MMR vaccination clinics were held on campus December 13<sup>th</sup> and 14<sup>th</sup> for all students to provide a third dose of vaccine, or second dose for those who had not yet completed the recommended two-dose series. Students from SUNY New Paltz who did not receive a third dose of MMR during these vaccination clinics may choose to discuss the recommendation for a third dose of MMR vaccine with their healthcare provider during winter break. A third dose is not currently being recommended for students attending other colleges or universities in New York State, nor for the general public.

## MUMPS EPIDEMIOLOGY

Mumps is an illness characterized by the acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary glands and lasting two or more days, not explained by another more likely diagnosis. Rare complications of mumps include orchitis, mastitis, oophoritis, deafness, and encephalitis. The infectious period for mumps is from two days before onset of symptoms through five days after symptoms appear. The incubation period for mumps from exposure to onset of illness ranges from 12-25 days.

Mumps is spread via large respiratory droplets. A contact is defined as an individual who had face-to-face contact, within three feet of a presumed mumps case, or an individual who had direct contact with the case's respiratory secretions.

Individuals who are not fully vaccinated against mumps are at the highest risk of infection. Vaccine post-licensure studies have shown that one dose of mumps containing vaccine is 78% effective and two doses are 88% effective. Individuals who receive two doses of MMR vaccine are about nine times less likely to get mumps than unvaccinated people who have the same exposure to mumps virus. Some people who receive two doses of MMR can still get mumps, especially if they have prolonged, close contact with someone who has the disease. Outbreaks

have been seen in groups such as schools, colleges and camps. When infected, persons who are vaccinated against mumps have less severe illness than unvaccinated persons.

Please note that there are several other etiologies for parotitis such as parainfluenza virus types 1 and 3, influenza A virus, coxsackie A virus, echovirus, Epstein-Barr virus (EBV), enterovirus, lymphocytic choriomeningitis virus, human immunodeficiency virus, and other non-infectious causes such as drugs, tumors, immunologic diseases, and obstruction of the salivary duct. However, in light of recent outbreaks, it is important to rule out and report suspect mumps cases.

## **MUMPS DIAGNOSIS**

The diagnosis of mumps is usually suspected based on clinical manifestations, in particular the presence of parotitis. Though other viruses can cause parotitis, in an outbreak setting the cause is almost always mumps.

**Lab specimens should always be collected and tested to confirm mumps. The local health department should contact the NYSDOH Bureau of Immunization to arrange for appropriate viral and serologic laboratory testing for disease confirmation.**

- **PCR testing** from fluid collected from the parotid duct or other affected salivary gland ducts is the preferred method to help establish a mumps diagnosis. **Parotid duct swabs (buccal swabs) yield the best viral sample.** This is done by massaging the parotid gland or other affected salivary gland for approximately 30 seconds prior to swabbing the parotid duct or other salivary duct, so that the specimen contains the secretions from the parotid or other salivary duct glands. Please refer to the CDC link below for specimen collection techniques. Efforts should be made to obtain the specimen using viral medium as soon as possible after onset of parotitis. Clinical specimens should ideally be obtained within three days and not more than eight days after parotitis onset.
- **Serology specimens for mumps IgM** should be collected at the acute presentation. Please note, serum IgM may be negative in up to 50-60% of acute serum samples among patients who have been previously immunized. A diagnosis of mumps in a vaccinated person should not be ruled out on the basis of a negative IgM alone. A repeat specimen for IgM can be drawn 5 - 10 days after parotitis onset and may improve the ability to detect IgM in previously vaccinated persons. However, patients with a history of mumps vaccination may not have detectable IgM regardless of the timing of specimen collection.

## **REPORTING**

**Clinically suspect cases of mumps must be reported to the LHD.** Reports should be made at the time of initial clinical suspicion. If you are considering the diagnosis of mumps and are ordering diagnostic testing for mumps, then you should report the case at that time. The LHD will also assist in arranging for appropriate laboratory testing for disease confirmation.

## **RESOURCES**

NYSDOH Outbreak Control for Vaccine Preventable Disease (this includes “When Mumps is Mumps”)

[http://www.health.ny.gov/prevention/immunization/providers/outbreak\\_control\\_guidelines.htm](http://www.health.ny.gov/prevention/immunization/providers/outbreak_control_guidelines.htm)

Centers for Disease Control and Prevention – Clinical Questions and Answers

<http://www.cdc.gov/mumps/hcp.html>

Illustration of Parotid Gland and Instructions for Collection of Buccal Fluid

<http://www.cdc.gov/mumps/lab/detection-mumps.html>